T-A® Drill Insert Item Number

1	8	2	T	-	0031
Insert	**Material**	**Series**	**Coating**		**Diameter**
	3 - HSS	Y 4	H - AM200®		Inch - 0017
	5 - Super Cobalt	Z 5	A - TiAlN		Decimal - .515
	8 - Premium Cobalt	0 6	N - TiCN		Metric - 13
	C1 - Carbide (K35)	1 7	T - TiN		
	C2 - Carbide (K20)	2 8			
	C3 - Carbide (K10)	3			
	C5 - Carbide (K40)				

GEN2 T-A® Drill Insert Item Number

4	5	3	H	-	0115
Insert	**Material**	**Series**	**Coating**		**Diameter**
	5 - Super Cobalt	Y 4	H - AM200®		Inch - 0017
	C1 - Carbide (K35)	Z 5	A - TiAlN		Decimal - .515
	C2 - Carbide (K20)	0 6	N - TiCN		Metric - 13
		1 7	T - TiN		
		2 8			
		3			

T-A® Holder Item Number

2	30	20	S	-	004		I
Holder	**Length**	**Series**	**Flute**		**Shank Designator**		**Shank Code**
	10 - Stub	Y 2	H - Helical		002 - 2MT	175 - 1-3/4”	I - Imperial Morse Taper
	20 - Short	Z 2.5	S - Straight		003 - 3MT	200 - 2”	M - Metric Morse Taper
	30 - Intermediate	0 3			004 - 4MT	300 - 3”	L - Lathe Shank
	40 - Standard	0.5 4			005 - 5MT	16 - 16mm	F - Flanged Shank
	50 - Extended	1 5			063 - 5/8”	20 - 20mm	F - Flanged Metric Shank
	60 - Long	1.5 7			075 - 3/4”	25 - 25mm	
	70 - XL				100 - 1”	32 - 32mm	
	80 - 3XL				125 - 1-1/4”	40 - 40mm	
					150 - 1-1/2”	50 - 50mm	

Y Series T-A® HSS Drill Inserts

Range: 0.374 to 0.436 inch (9,5mm to 11,07mm)

T-A® Drill Inserts

(supplied in 2 piece packages)

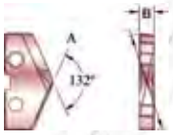
Material	A (Diameter) Fractional Equivalent	(mm)	(Inch)	B Thickness	Item Number, Coating and Availability TiN	❶	TiAlN	❶	TiCN	❶
Super Cobalt		9,50	0.3740	3/32”	15YT-9.5	❍	15YA-9.5	❍	15YN-9.5	❍
	3/8”	9,53	0.3750		15YT-0012	❍	15YA-0012	❍	15YN-012	❍
	W	9,80	0.3860		15YT-.386	❍	15YA-.386	❍	15YN-.386	❍
	25/64”	9,92	0.3906		15YT-.390	❍	15YA-.390	❍	15YN-.390	❍
		10,00	0.3937		15YT-10	❍	15YA-10	❍	15YN-10	❍
		10,20	0.4016		15YT-10.2	❍	15YA-10.2	❍	15YN-10.2	❍
	13/32”	10,32	0.4063		15YT-0013	❍	15YA-0013	❍	15YN-0013	❍
		10,50	0.4134		15YT-10.5	❍	15YA-10.5	❍	15YN-10.5	❍
	27/64”	10,72	0.4219		15YT-.421	❍	15YA-.421	❍	15YN-.421	❍
		10,80	0.4252		15YT-10.8	❍	15YA-10.8	❍	15YN-10.8	❍
		11,00	0.4331		15YT-11	❍	15YA-11	❍	15YN-11	❍
Premium Cobalt		9,50	0.3740		18YT-9.5	❍	18YA-9.5	❍	18YN-9.5	❍
	3/8”	9,53	0.3750		18YT-0012	❍	18YA-0012	❍	18YN-0012	❍
	W	9,80	0.3860		18YT-.386	❍	18YA-.386	❍	18YN-.386	❍
	25/64”	9,92	0.3906		18YT-.390	❍	18YA-.390	❍	18YN-.390	❍
		10,00	0.3937		18YT-10	❍	18YA-10	❍	18YN-10	❍
		10,20	0.4016		18YT-10.2	❍	18YA-10.2	❍	18YN-10.2	❍
	13/32”	10,32	0.4063		18YT-0013	❍	18YA-0013	❍	18YN-0013	❍
		10,50	0.4134		18YT-10.5	❍	18YA-10.5	❍	18YN-10.5	❍
	27/64”	10,72	0.4219		18YT-.421	❍	18YA-.421	❍	18YN-.421	❍
		10,80	0.4252		18YT-10.8	❍	18YA-10.8	❍	18YN-10.8	❍
		11,00	0.4331		18YT-11	❍	18YA-11	❍	18YN-11	❍

Geometries available (see page 151 for details): -CI, -SK, -CR, -HI, -HR, -BR, -CP, -NP, -IN, -RN, -CN, -NC, -WC, -AN.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.

GEN2 T-A®

(supplied in 2 piece packages)

U.S. Patent No.: 6,685,402 & 6,986,628 & 7,011,478
& 7,018,145 & 7,144,893 & 7,241,089 & 7,371,035
Euro Patent No.: 1 372 894 DE, GB, IT, FR
Other U.S. & International Patents Pending



Material	A (Diameter) Fractional Equivalent	(mm)	(Inch)	B Thickness	Item Number, Coating and Availability AM200®	❶
Super Cobalt		9,50	0.3740	3/32”	45YH-9.5	❍
	3/8”	9,53	0.3750		45YH-0012	❍
	W	9,80	0.3860		45YH-.386	❍
	25/64”	9,92	0.3906		45YH-.390	❍
		10,00	0.3937		45YH-10	❍
		10,20	0.4016		45YH-10.2	❍
	13/32”	10,32	0.4063		45YH-0013	❍
		10,50	0.4134		45YH-10.5	❍
	27/64”	10,72	0.4219		45YH-.421	❍
		10,80	0.4252		45YH-10.8	❍
		11,00	0.4331		45YH-11	❍

GEN2 T-A® Provides:
- Lower drilling forces
- Increased drill stability
- Smoother breakouts on through holes
- Improved chip formation
- Supplied with AMEC’s exclusive AM200® coating for increased tool life

Can be supplied with other coatings as a non-stocked standard. Process fee applies. Example:

TiN	XXXT-XXXX
TiAlN	XXXA-XXXX
TiCN	XXXN-XXXX
AM200®	XXXH-XXXX

Y Series T-A® Carbide Drill Inserts

Range: 0.374 to 0.436 inch (9,5mm to 11,07mm)

T-A® Carbide Drill Inserts

(supplied in 2 piece packages)

Material	A (Diameter) Fractional Equivalent	A (Diameter) (mm)	A (Diameter) (Inch)	B Thickness	Item Number, Coating and Availability TiN	❶	TiAIN	❶
C2 (K20)		9,50	0.3740	3/32”	1C2YT-9.5	❍	1C2YA-9.5	❍
	3/8”	9,53	0.3750		1C2YT-0012	❍	1C2YA-0012	❍
	W	9,80	0.3860		1C2YT-.386	❍	1C2YA-.386	❍
	25/64”	9,92	0.3906		1C2YT-.390	❍	1C2YA-.390	❍
		10,00	0.3937		1C2YT-10	❍	1C2YA-10	❍
		10,20	0.4016		1C2YT-10.2	❍	1C2YA-10.2	▲
	13/32”	10,32	0.4063		1C2YT-0013	❍	1C2YA-0013	❍
		10,50	0.4134		1C2YT-10.5	❍	1C2YA-10.5	❍
	27/64”	10,72	0.4219		1C2YT-.421	❍	1C2YA-.421	❍
		10,80	0.4252		1C2YT-10.8	❍	1C2YA-10.8	❍
		11,00	0.4331		1C2YT-11	❍	1C2YA-11	❍
C5 (P40)		9,50	0.3740		1C5YT-9.5	❍	1C5YA-9.5	❍
	3/8”	9,53	0.3750		1C5YT-0012	❍	1C5YA-0012	❍
	W	9,80	0.3860		1C5YT-.386	❍	1C5YA-.386	❍
	25/64”	9,92	0.3906		1C5YT-.390	❍	1C5YA-.390	❍
		10,00	0.3937		1C5YT-10	❍	1C5YA-10	❍
		10,20	0.4016		1C5YT-10.2	❍	1C5YA-10.2	❍
	13/32”	10,32	0.4063		1C5YT-0013	❍	1C5YA-0013	❍
		10,50	0.4134		1C5YT-10.5	❍	1C5YA-10.5	❍
	27/64”	10,72	0.4219		1C5YT-.421	❍	1C5YA-.421	❍
		10,80	0.4252		1C5YT-10.8	❍	1C5YA-10.8	❍
		11,00	0.4331		1C5YT-11	❍	1C5YA-11	❍

Geometries available (see page 151 for details): -CI, -SK, -CR, -HI, -HR, -BR, -CP, -NP, -IN, -RN, -CN, -NC, -WC, -AN.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.

Cast Iron Geometry T-A® Carbide Drill Inserts

(supplied in 2 piece packages)

Material	A (Diameter) Fractional Equivalent	A (Diameter) (mm)	A (Diameter) (Inch)	B Thickness	Item Number, Coating and Availability TiAIN	❶	This insert is specifically designed for use in Grey Cast Iron. (Use standard T-A® geometry for Nodular Iron) • C3 Carbide offers high wear resistance for improved tool life. • Cast Iron (-CI) geometry provides a unique design to minimize chipping. • TiAIN offers exceptional wear resistance and high heat capabilities to increase tool life and penetration rates in Grey Cast Iron.
C3 (K10)		9,50	0.3740	3/32”	1C3YA-9.5-CI	❍	
	3/8”	9,53	0.3750		1C3YA-0012-CI	❍	
	W	9,80	0.3860		1C3YA-.386-CI	❍	
	25/64”	9,92	0.3906		1C3YA-.390-CI	❍	
		10,00	0.3937		1C3YA-10-CI	❍	
		10,20	0.4016		1C3YA-10.2-CI	❍	
	13/32”	10,32	0.4063		1C3YA-0013-CI	❍	
		10,50	0.4134		1C3YA-10.5-CI	❍	
	27/64”	10,72	0.4219		1C3YA-.421-CI	❍	
		10,80	0.4252		1C3YA-10.8-CI	❍	
		11,00	0.4331		1C3YA-11-CI	❍	

❶ Availability Codes
❍ Stocked
▲ Non-stocked

Sizes not shown (Non-Standard Diameters) are available. When ordering, please follow the examples shown below:

Decimals = 0.3745” TiAIN, Y Series, Super Cobalt, HSS	=15YA-.3745
Metric = 10,40mm TiCN, Y Series, Premium Cobalt, HSS	=18YN-10.40
Decimals = 0.3745” TiAIN, Y Series, Super Cobalt, GEN2 T-A®	=45YA-.3745
Metric = 10,40mm TiCN, Y Series, Super Cobalt, GEN2 T-A®	=45YN-10.40

Y Series T-A® Carbide Drill Inserts

Range: 0.374 to 0.436 inch (9,5mm to 11,07mm)

GEN2 T-A®

Supplied in 2-piece packages

U.S. Patent No.: 6,685,402 & 6,986,628 & 7,011,478
& 7,018,145 & 7,144,893 & 7,241,089 & 7,371,035
Euro Patent No.: 1 372 894 DE, GB, IT, FR
Other U.S. & International Patents Pending

Material	A (Diameter) Fractional Equivalent	A (Diameter) (mm)	A (Diameter) (Inch)	B Thickness	Item Number, Coating and Availability AM200®	❶
C2 (K20)		9,50	0.3740	3/32”	4C2YH-9.5	▲
	3/8”	9,53	0.3750		4C2YH-0012	❍
	W	9,80	0.3860		4C2YH-.386	▲
	25/64”	9,92	0.3906		4C2YH-.390	▲
		10,00	0.3937		4C2YH-10	▲
		10,20	0.4016		4C2YH-10.2	▲
	13/32”	10,32	0.4063		4C2YH-013	❍
		10,50	0.4134		4C2YH-10.5	❍
	27/64”	10,72	0.4219		4C2YH-.421	❍
		10,80	0.4252		4C2YH-10.8	▲
		11,00	0.4331		4C2YH-11	❍
C1 (K35)		9,50	0.3740		4C1YH-9.5	▲
	3/8”	9,53	0.3750		4C1YH-0012	❍
	W	9,80	0.3860		4C1YH-.386	▲
	25/64”	9,92	0.3906		4C1YH-.390	❍
		10,00	0.3937		4C1YH-10	❍
		10,20	0.4016		4C1YH-10.2	▲
	13/32”	10,32	0.4063		4C1YH-0013	❍
		10,50	0.4134		4C1YH-10.5	❍
	27/64”	10,72	0.4219		4C1YH-.421	❍
		10,80	0.4252		4C1YH-10.8	▲
		11,00	0.4331		4C1YH-11	❍

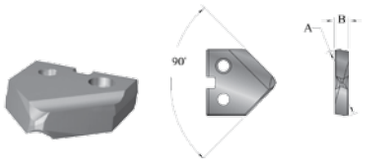
GEN2 T-A® Provides:
- Lower drilling forces
- Increased drill stability
- Smoother breakouts on through holes
- Improved chip formation
- Supplied with AMEC’s exclusive AM200® coating for increased tool life

Can be supplied with other coatings as a non-stocked standard. Process fee applies. Example:

TiN	XXXT-XXXX
TiAlN	XXXA-XXXX
TiCN	XXXN-XXXX
AM200®	XXXH-XXXX

Y Series T-A® HSS Drill Inserts

Range: 0.374 to 0.436 inch (9,5mm to 11,07mm)



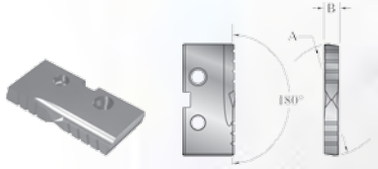
90º Spot and Chamfer T-A® Drill Inserts

(supplied in 2 piece packages)

U.S. Patent No.: 6,848,869

Material	A (Diameter) Fractional Equivalent	(mm)	(Inch)	B Thickness	Item Number, Coating and Availability TiN	❶	TiAlN	❶	TiCN	❶
Super Cobalt		9,50	0.3740	3/32”	15YT-9.5-SP	▲	15YA-9.5-SP	▲	15YN-9.5-SP	▲
	3/8”	9,53	0.3750		15YT-0012-SP	❍	15YA-0012-SP	❍	15YN-012-SP	❍
	W	9,80	0.3860		15YT-.386-SP	▲	15YA-.386-SP	▲	15YN-.386-SP	▲
	25/64”	9,92	0.3906		15YT-.390-SP	▲	15YA-.390-SP	▲	15YN-.390-SP	▲
		10,00	0.3937		15YT-10-SP	▲	15YA-10-SP	▲	15YN-10-SP	▲
		10,20	0.4016		15YT-10.2-SP	▲	15YA-10.2-SP	▲	15YN-10.2-SP	▲
	13/32”	10,32	0.4063		15YT-0013-SP	▲	15YA-0013-SP	▲	15YN-0013-SP	▲
		10,50	0.4134		15YT-10.5-SP	▲	15YA-10.5-SP	▲	15YN-10.5-SP	▲
	27/64”	10,72	0.4219		15YT-.421-SP	▲	15YA-.421-SP	▲	15YN-.421-SP	▲
		10,80	0.4252		15YT-10.8-SP	▲	15YA-10.8-SP	▲	15YN-10.8-SP	▲
		11,00	0.4331		15YT-11-SP	❍	15YA-11-SP	❍	15YN-11-SP	❍

Geometries available (see page 151 for details): -SW.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.



Flat Bottom T-A® Drill Inserts

(supplied in 2 piece packages)

U.S. Patent No.: 6,135,681
Euro Patent No.: 1 210 196 DE, GB, IT, FR
Canadian Patent No: 2,341,367
Other International Patents Pending

Material	A (Diameter) Fractional Equivalent	(mm)	(Inch)	B Thickness	Item Number, Coating and Availability TiN	❶
Super Cobalt		9,50	0.3740	3/32”	15YT-9.5-FB	▲
	3/8”	9,53	0.3750		15YT-0012-FB	❍
	W	9,80	0.3860		15YT-.386-FB	▲
	25/64”	9,92	0.3906		15YT-.390-FB	▲
		10,00	0.3937		15YT-10-FB	▲
		10,20	0.4016		15YT-10.2-FB	▲
	13/32”	10,32	0.4063		15YT-0013-FB	▲
		10,50	0.4134		15YT-10.5-FB	▲
	27/64”	10,72	0.4219		15YT-.421-FB	▲
		10,80	0.4252		15YT-10.8-FB	▲
		11,00	0.4331		15YT-11-FB	❍

Geometries available (see page 151 for details): -FN.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.

❶ Availability Codes

❍ Stocked
▲ Non-stocked

Sizes not shown (Non-Standard Diameters) are available. When ordering, please follow the examples shown below:
Decimals = 0.3745” TiAlN, Y Series, Super Cobalt, 90º Spot and Chamfer =15YA-.3745-SP
Metric = 10,40mm TiCN, Y Series, Premium Cobalt, Flat Bottom =18YN-10.40-FB

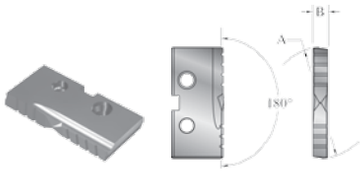
Y Series T-A® Carbide Drill Inserts

Range: 0.374 to 0.436 inch (9,5mm to 11,07mm)

Flat Bottom T-A® Carbide Drill Inserts

(supplied in 2 piece packages)

U.S. Patent No.: 6,135,681
Euro Patent No.: 1 210 196 DE, GB, IT, FR
Canadian Patent No: 2,341,367
Other International Patents Pending



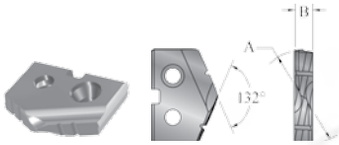
Material	A (Diameter) Fractional Equivalent	A (Diameter) (mm)	A (Diameter) (Inch)	B Thickness	Item Number, Coating and Availability TiN	❶
C2 (K20)		9,50	0.3740	3/32”	1C2YT-9.5-FB	▲
	3/8”	9,53	0.3750		1C2YT-0012-FB	▲
	W	9,80	0.3860		1C2YT-.386-FB	▲
	25/64”	9,92	0.3906		1C2YT-.390-FB	▲
		10,00	0.3937		1C2YT-10-FB	▲
		10,20	0.4016		1C2YT-10.2-FB	▲
	13/32”	10,32	0.4063		1C2YT-0013-FB	▲
		10,50	0.4134		1C2YT-10.5-FB	▲
	27/64”	10,72	0.4219		1C2YT-.421-FB	▲
		10,80	0.4252		1C2YT-10.8-FB	▲
		11,00	0.4331		1C2YT-11-FB	▲

Geometries available (see page 151 for details): -FN.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.

Diamond Coated T-A® Carbide Drill Inserts

(supplied in 1 piece packages)

U.S. Patent No.: 6,902,359
Other International Patents pending



Material	A (Diameter) Fractional Equivalent	A (Diameter) (mm)	A (Diameter) (Inch)	B Thickness	Item Number, Coating and Availability CVD Diamond	❶
N2		9,50	0.3740	3/32”	1N2YD-9.5	▲
	3/8”	9,53	0.3750		1N2YD-0012	▲
	W	9,80	0.3860		1N2YD-.386	▲
	25/64”	9,92	0.3906		1N2YD-.390	▲
		10,00	0.3937		1N2YD-10	▲
		10,20	0.4016		1N2YD-10.2	▲
	13/32”	10,32	0.4063		1N2YD-0013	▲
		10,50	0.4134		1N2YD-10.5	▲
	27/64”	10,72	0.4219		1N2YD-.421	▲
		10,80	0.4252		1N2YD-10.8	▲
		11,00	0.4331		1N2YD-11	▲

Crystalline, Diamond Film Coating produces:

- Increased hardness
- Increased Durability
- Increased Performance

Extends tool life 30-50 times versus uncoated carbide drill inserts

Used in non-ferrous / non-metallic applications

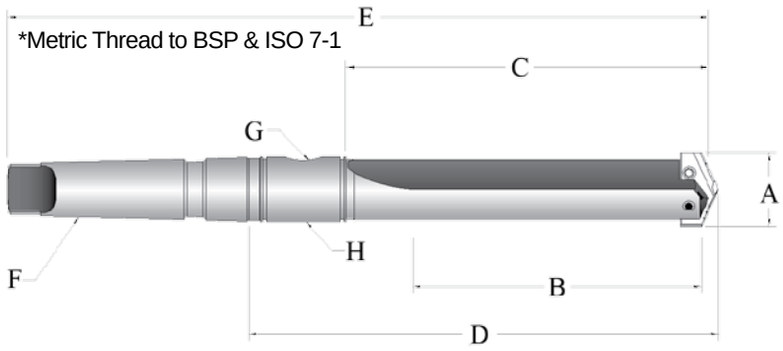
Patented Geometry

Can be supplied with other coatings as a non-stocked standard. Process fee applies. Example:

TiN	XXXT-XXXX
TiAlN	XXXA-XXXX
TiCN	XXXN-XXXX
AM200®	XXXH-XXXX

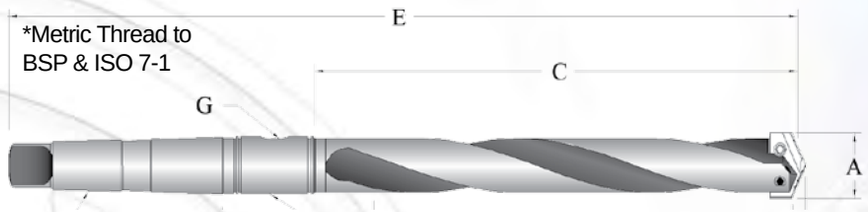
Y Series T-A® Holders

Range: 0.374 to 0.436 inch (9,5mm to 11,07mm)



Taper Shank Straight Flute Holders

Length	Item Number		A	B	C	D	E	F	G	H
	NEW	OLD	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	MT	Pipe Tap	RCA
Short	220Y0S-002I	21YT-0002	3/8”-27/64”	1-1/4”	2-1/32”	3-15/32”	6-5/16”	#2	1/16”	2T-2SR
Standard	240Y0S-002I	N/A	3/8”-27/64”	2-3/8”	3-5/32”	4-19/32”	7-7/16”	#2	1/16”	2T-2SR
Extended	250Y0S-002I	N/A	3/8”-27/64”	4-3/8”	5-5/32”	6-19/32”	9-7/16”	#2	1/16”	2T-2SR
***Metric (mm)**										
Short	220Y0S-002M	21YT-02	9,5-11,0	31,8	51,5	88,0	160,3	#2	1/16”	2T-2SRM

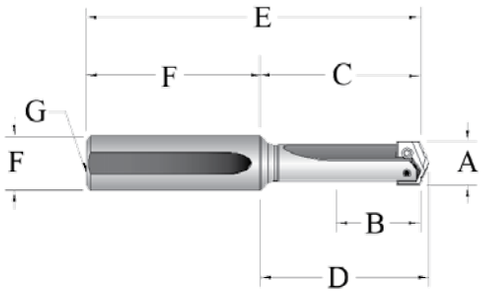


Taper Shank Helical Flute Holders

Length	Item Number		A	B	C	D	E	F	G	H
	NEW	OLD	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	MT	Pipe Tap	RCA
Standard	240Y0H-002I	22YT-0002	3/8”-27/64”	2-3/8”	3-5/32”	4-19/32”	7-7/16”	#2	1/16”	2T-2SR
Extended	250Y0H-002I	25YT-02	3/8”-27/64”	4-3/8”	5-5/32”	6-19/32”	9-7/16”	#2	1/16”	2T-2SR
***Metric (mm)**										
Standard	240Y0H-002M	22YT-02	9,5-11,0	60,3	80,2	116,7	188,9	#2	1/16”	2T-2SRM
Extended	250Y0H-002M	25YT-02	9,5-11,0	111,1	130,9	167,4	239,7	#2	1/16”	2T-2SRM

Y Series T-A® Holders

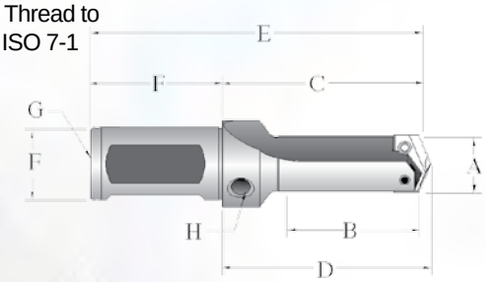
Range: 0.374 to 0.436 inch (9,5mm to 11,07mm)



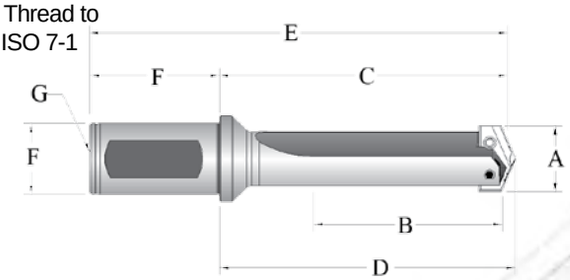
Straight Shank Straight Flute Holders

Length	Item Number		A	B	C	D	E	F		G
	NEW	OLD	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	Shank		Pipe Tap
								Dia	Length	
Short	220Y0S-075L	23YT-0750	3/8”-27/64”	1-1/4”	2-1/32”	2-1/8”	4-13/32”	3/4”	2-3/8”	1/8”
Standard	240Y0S-075L	24YT-0750	3/8”-27/64”	2-3/8”	3-5/32”	3-1/4”	5-17/32”	3/4”	2-3/8”	1/8”
Extended	250Y0S-075L	26YT-0750	3/8”-27/64”	4-3/8”	5-5/32”	5-1/4”	7-17/32”	3/4”	2-3/8”	1/8”
XL	270Y0S-075L	N/A	3/8”-27/64”	8-3/4”	9-17/32”	9-5/8”	11-29/32”	3/4”	2-3/8”	1/8”
3XL	290Y0S-075L	N/A	3/8”-27/64”	11-7/16”	12-7/32”	12-5/16”	14-19/32”	3/4”	2-3/8”	1/8”

*Metric Thread to BSP & ISO 7-1



*Metric Thread to BSP & ISO 7-1



*Metric Per ISO 296 Type BEK

Stub Length Flanged Shank Holder

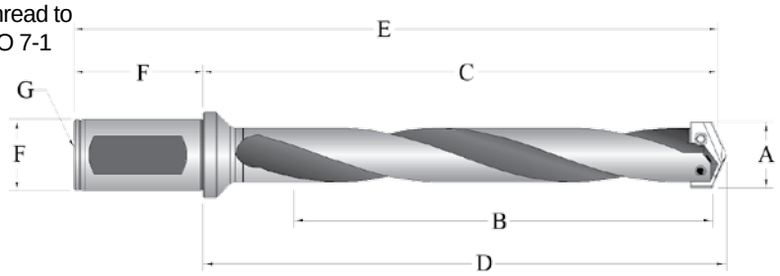
Flanged Shank Straight Flute Holders

Length	Item Number		A	B	C	D	E	F		G	H
	NEW	OLD	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	Shank		Pipe Tap	
								Dia	Length	Rear	Side
Stub	210Y0S-063F	N/A	3/8”-27/64”	3/4”	1-7/8”	1-31/32”	3-3/4”	5/8”	1-7/8”	1/16”	1/8”
Short	220Y0S-075F	27YT-0750	3/8”-27/64”	1-1/4”	2-13/32”	2-1/2”	4-7/16”	3/4”	2-1/32”	1/8”	N/A
Standard	240Y0S-075F	N/A	3/8”-27/64”	2-3/8”	3-17-32”	3-5/8”	5-9/16”	3/4”	2-1/32”	1/8”	N/A
Extended	250Y0S-075F	N/A	3/8”-27/64”	4-3/8”	5-17/32”	5-5/8”	7-9/16”	3/4”	2-1/32”	1/8”	N/A
*Metric (mm)											
Stub	210Y0S-16FM	N/A	9,5-11,0	19,1	47,6	50,0	89,5	16,0	41,9	1/16”	1/8”
Short	220Y0S-20FM	27YT-20	9,5-11,0	31,8	61,1	63,5	103,0	20,0	41,9	1/8”	N/A
XL	270Y0S-20FM	N/A	9,5-11,0	222	251,7	254,1	293,6	20,0	41,9	1/8”	N/A
3XL	290Y0S-20FM	N/A	9,5-11,0	290	319,9	322,3	361,8	20,0	41,9	1/8”	N/A

Y Series T-A® Holders

Range: 0.374 to 0.436 inch (9,5mm to 11,07mm)

*Metric Thread to BSP & ISO 7-1



Flanged Shank Helical Flute Holders

Length	Item Number		A	B	C	D	E	F		G
	NEW	OLD	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	Shank Dia	Shank Length	Pipe Tap
Standard	240Y0H-075F	28YT-0750	3/8”-27/64”	2-3/8”	3-17/32”	3-5/8”	5-9/16”	3/4”	2-1/32”	1/8”
Extended	250Y0H-075F	213YT-0750	3/8”-27/64”	4-3/8”	5-17/32”	5-5/8”	7-9/16”	3/4”	2-1/32”	1/8”
*Metric (mm)										
XL	240Y0H-20FM	28YT-20	9,5-11,0	60,3	89,7	92,1	131,6	20,0	41,9	1/8”
3XL	250Y0H-20FM	26YT-20	9,5-11,0	111,1	140,5	142,9	182,4	20,0	41,9	1/8”

Rotary Coolant Adapter (RCA) and Accessories

	Item Number	A I.D.	B O.D.	C Length	D Thread for Driving Rod	E Pipe Tap
Inch	2T-2SR	3/4”	1-3/4”	7/8”	5/16”-NC	1/8”
Metric	2T-2SRM	19,05	44,45	22,23	M8 X 1,25	❖1/8”

RCA Repair Kit Item Number **
2T1-2SR
2T1-2SR

RCA O-ring Replacements 10 Pieces
2T1-2OR-10
2T1-2OR-10

RCA Exploded View

❖ Thread to BSP & ISO 7-1

** RCA Repair Kit includes (2) O-rings, (2) snap rings and (2) thrust washers.

Replacement TORX Plus Screws

(supplied in 10 piece packages)

Holder Series	TORX Plus Screws 10 Pieces	Nylon Locking TORX Plus Screw 10 Pieces	TORX Plus Hand Driver	Preset Torque TORX Plus Hand Driver	Replacement TORX Plus Tips	INCH		METRIC	
						Drill Range Used With	TORX Plus Screw Admissible Tightening Torque (in.-lbs.)	Drill Range Used With	TORX Plus Screw Admissible Tightening Torque (N-cm)
Y	724-IP7-10	724N-IP7-10	8IP-7	8IP-7TL	8IP-7B	3/8”-27/64”	7.4	9,5mm-11,00mm	84

Z Series T-A® HSS Drill Inserts

Range: 0.437 to 0.510 inch (11,10mm to 12,95mm)

T-A® Drill Inserts

(supplied in 2 piece packages)

Material	A (Diameter) Fractional Equivalent	(mm)	(Inch)	B Thickness	Item Number, Coating and Availability TiN	❶	TiAlN	❶	TiCN	❶
Super Cobalt	7/16”	11,11	0.4375	3/32”	15ZT-0014	❍	15ZA-0014	❍	15ZN-0014	❍
		11,50	0.4528		15ZT-11.5	❍	15ZA-11.5	❍	15ZN-11.5	❍
	29/64”	11,51	0.4531		15ZT-.453	❍	15ZA-.453	❍	15ZN-.453	❍
	15/32”	11,91	0.4688		15ZT-0015	❍	15ZA-0015	❍	15ZN-0015	❍
		12,00	0.4724		15ZT-12	❍	15ZA-12	❍	15ZN-12	❍
	31/64”	12,30	0. 4844		15ZT-.484	❍	15ZA-.484	❍	15ZN-.484	❍
		12,50	0.4921		15ZT-12.5	❍	15ZA-12.5	❍	15ZN-12.5	❍
	1/2”	12,70	0.5000		15ZT-0016	❍	15ZA-0016	❍	15ZN-0016	❍
Premium Cobalt	7/16”	11,11	0.4375		18ZT-0014	❍	18ZA-0014	❍	18ZN-0014	❍
		11,50	0.4528		18ZT-11.5	❍	18ZA-11.5	❍	18ZN-11.5	❍
	29/64”	11,51	0.4531		18ZT-.453	❍	18ZA-.453	❍	18ZN-.453	❍
	15/32”	11,91	0.4688		18ZT-0015	❍	18ZA-0015	❍	18ZN-0015	❍
		12,00	0.4724		18ZT-12	❍	18ZA-12	❍	18ZN-12	❍
	31/64”	12,30	0. 4844		18ZT-.484	❍	18ZA-.484	❍	18ZN-.484	❍
		12,50	0.4921		18ZT-12.5	❍	18ZA-12.5	❍	18ZN-12.5	❍
	1/2”	12,70	0.5000		18ZT-0016	❍	18ZA-0016	❍	18ZN-0016	❍

Geometries available (see page 151 for details): -CI, -SK, -CR, -HI, -HR, -BR, -CP, -NP, -IN, -RN, -CN, -NC, -WC, -AN.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.

GEN2 T-A®

(supplied in 1 piece packages)

Material	A (Diameter) Fractional Equivalent	(mm)	(Inch)	B Thickness	Item Number, Coating and Availability AM200®	❶
Super Cobalt	7/16”	11,11	0.4375	3/32”	45ZH-0014	❍
		11,46	0.4510		45ZH-.451	❍
		11,50	0.4528		45ZH-11.5	❍
	29/64”	11,51	0.4531		45ZH-.453	❍
	15/32”	11,91	0.4688		45ZH-0015	❍
		12,00	0.4724		45ZH-12	❍
	31/64”	12,30	0. 4844		45ZH-.484	❍
		12,50	0.4921		45ZH-12.5	❍
	1/2”	12,70	0.5000		45ZH-0016	❍
		12,85	0.5060		45ZH-.506	❍
		12,95	0.5100		45ZH-.510	❍

GEN2 T-A® Provides:
- Lower drilling forces
- Increased drill stability
- Smoother breakouts on through holes
- Improved chip formation
- Supplied with AMEC’s exclusive AM200® coating for increased tool life

Geometries available (see page 151 for details): -HE
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.

Can be supplied with other coatings as a non-stocked standard. Process fee applies. Example:

TiN	XXXT-XXXX
TiAlN	XXXA-XXXX
TiCN	XXXN-XXXX
AM200®	XXXH-XXXX

Z Series T-A® Carbide Drill Inserts

Range: 0.437 to 0.510 inch (11,10mm to 12,95mm)

T-A® Carbide Drill Inserts

(supplied in 2 piece packages)

Material	A (Diameter) Fractional Equivalent	A (Diameter) (mm)	A (Diameter) (Inch)	B Thickness	Item Number, Coating and Availability TiN	❶	TiAIN	❶
C2 (K20)	7/16”	11,11	0.4375	3/32”	1C2ZT-0014	❍	1C2ZA-0014	❍
		11,50	0.4528		1C2ZT-11.5	❍	1C2ZA-11.5	❍
	29/64”	11,51	0.4531		1C2ZT-.453	❍	1C2ZA-.453	❍
	15/32”	11,91	0.4688		1C2ZT-0015	❍	1C2ZA-0015	❍
		12,00	0.4724		1C2ZT-12	❍	1C2ZA-12	❍
	31/64”	12,30	0. 4844		1C2ZT-.484	❍	1C2ZA-.484	❍
		12,50	0.4921		1C2ZT-12.5	❍	1C2ZA-12.5	❍
	1/2”	12,70	0.5000		1C2ZT-0016	❍	1C2ZA-0016	❍
C5 (P40)	7/16”	11,11	0.4375		1C5ZT-0014	❍	1C5ZA-0014	❍
		11,50	0.4528		1C5ZT-11.5	❍	1C5ZA-11.5	❍
	29/64”	11,51	0.4531		1C5ZT-.453	❍	1C5ZA-.453	❍
	15/32”	11,91	0.4688		1C5ZT-0015	❍	1C5ZA-0015	❍
		12,00	0.4724		1C5ZT-12	❍	1C5ZA-12	❍
	31/64”	12,30	0. 4844		1C5ZT-.484	❍	1C5ZA-.484	❍
		12,50	0.4921		1C5ZT-12.5	❍	1C5ZA-12.5	❍
	1/2”	12,70	0.5000		1C5ZT-0016	❍	1C5ZA-0016	❍

Geometries available (see page 151 for details): -CI, -SK, -CR, -HI, -HR, -BR, -CP, -NP, -IN, -RN, -CN, -NC, -WC, -AN.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.

Cast Iron Geometry T-A® Drill Inserts

(supplied in 2 piece packages)

Material	A (Diameter) Fractioanl Equivalent	A (Diameter) (mm)	A (Diameter) (Inch)	B Thickness	Item Number, Coating and Availability TiAIN	❶	
C3 (K10)	7/16	11,11	0.4375	3/32”	1C3ZA-0014-CI	❍	This insert is specifically designed for use in **Grey Cast Iron**. (Use standard T-A® geometry for Nodular Iron)
		11,50	0.4528		1C3ZA-11.5-CI	❍	
	29/64”	11,51	0.4531		1C3ZA-.453-CI	❍	
	15/32”	11,91	0.4688		1C3ZA-0015-CI	❍	• C3 Carbide offers high wear resistance for improved tool life.
		12,00	0.4724		1C3ZA-12-CI	❍	• Cast Iron (-CI) geometry provides a unique design to minimize chipping.
	31/64”	12,30	0.4844		1C3ZA-.484-CI	❍	• TiAIN offers exceptional wear resistance and high heat capabilities to increase tool life and penetration rates in Grey Cast Iron.
		12,50	0.4921		1C3ZA-12.5-CI	❍	
	1/2”	12,70	0.5000		1C3ZA-0016-CI	❍	

❶ Availability Codes
❍ Stocked
▲ Non-stocked

Sizes not shown (Non-Standard Diameters) are available. When ordering, please follow the examples shown below:
Decimals = 0.4450” TiAIN, Z Series, Premium Cobalt =18ZA-.4450
Metric = 11,45 mm AM200®, Z Series GEN2 T-A® HSS Super Cobalt =18YN-10.40-FB

Z Series T-A® Carbide Drill Inserts

Range: 0.437 to 0.510 inch (11,10mm to 12,95mm)

GEN2 T-A®

(supplied in 2 piece packages)

Material	A (Diameter) Fractional Equivalent	A (Diameter) (mm)	A (Diameter) (Inch)	B Thickness	Item Number, Coating and Availability AM200®	❶
C2 (K20)	7/16”	11,11	0.4375	3/32”	4C2ZH-0014	❍
		11,50	0.4528		4C2ZH-11.5	❍
	29/64”	11,51	0.4531		4C2ZH-.453	❍
	15/32”	11,91	0.4688		4C2ZH-0015	❍
		12,00	0.4724		4C2ZH-12	❍
	31/64”	12,30	0.4844		4C2ZH-.484	❍
		12,50	0.4921		4C2ZH-12.5	❍
	1/2”	12,70	0.5000		4C2ZH-0016	❍
C1 (K35)	7/16”	11,11	0.4375		4C1ZH-0014	❍
		11,46	0.4510		4C1ZH-.451	❍
		11,50	0.4528		4C1ZH-11.5	▲
	29/64”	11,51	0.4531		4C1ZH-.453	▲
	15/32”	11,91	0.4688		4C1ZH-0015	▲
		12,00	0.4724		4C1ZH-12	▲
	31/64”	12,30	0. 4844		4C1ZH-.484	❍
		12,50	0.4921		4C1ZH-12.5	▲
	1/2”	12,70	0.5000		4C1ZH-0016	❍
		12,85	0.5060		4C1ZH-.506	❍
		12,95	0.5100		4C1ZH-510	❍

GEN2 T-A® Provides:
- Lower drilling forces
- Increased drill stability
- Smoother breakouts on through holes
- Improved chip formation
- Supplied with AMEC’s exclusive AM200® coating for increased tool life

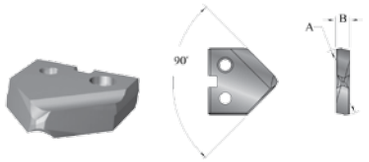
Geometries available (see page 151 for details): -HE
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.

Can be supplied with other coatings as a non-stocked standard. Process fee applies. Example:

TiN	XXXT-XXXX
TiAlN	XXXA-XXXX
TiCN	XXXN-XXXX
AM200®	XXXH-XXXX

Z Series T-A® HSS Drill Inserts

Range: 0.437 to 0.510 inch (11,10mm to 12,95mm)



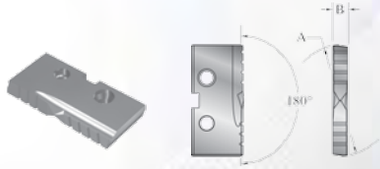
90º Spot and Chamfer T-A® Drill Inserts

(supplied in 2 piece packages)

U.S. Patent No.: 6,848,869

Material	A (Diameter) Fractional Equivalent	(mm)	(Inch)	B Thickness	Item Number, Coating and Availability TiN	❶	TiAIN	❶	TiCN	❶
Super Cobalt	7/16”	11,11	0.4375	3/32”	15ZT-0014-SP	▲	15ZA-0014-SP	▲	15ZN-0014-SP	▲
		11,50	0.4528		15ZT-11.5-SP	▲	15ZA-11.5-SP	▲	15ZN-11.5-SP	▲
	29/64”	11,51	0.4531		15ZT-.453-SP	▲	15ZA-.453-SP	▲	15ZN-.453-SP	▲
	15/32”	11,91	0.4688		15ZT-0015-SP	▲	15ZA-0015-SP	▲	15ZN-0015-SP	▲
		12,00	0.4724		15ZT-12-SP	▲	15ZA-12-SP	▲	15ZN-12-SP	▲
	31/64”	12,30	0. 4844		15ZT-.484-SP	▲	15ZA-.484-SP	▲	15ZN-.484-SP	▲
		12,50	0.4921		15ZT-12.5-SP	▲	15ZA-12.5-SP	▲	15ZN-12.5-SP	▲
	1/2”	12,70	0.5000		15ZT-0016-SP	❍	15ZA-0016-SP	❍	15ZN-0016-SP	❍

Geometries available (see page 151 for details): -SW.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.



Flat Bottom T-A® Drill Inserts

(supplied in 2 piece packages)

U.S. Patent No.: 6,135,681
Euro Patent No.: 1 210 196 DE, GB, IT, FR
Canadian Patent No: 2,341,367
Other International Patents Pending

Material	A (Diameter) Fractional Equivalent	(mm)	(Inch)	B Thickness	Item Number, Coating and Availability TiN	❶
Super Cobalt	7/16”	11,11	0.4375	3/32”	15ZT-0014-FB	❍
		11,50	0.4528		15ZT-11.5-FB	❍
	29/64”	11,51	0.4531		15ZT-.453-FB	❍
	15/32”	11,91	0.4688		15ZT-0015-FB	❍
		12,00	0.4724		15ZT-12-FB	❍
	31/64”	12,30	0. 4844		15ZT-.484-FB	❍
		12,50	0.4921		15ZT-12.5-FB	❍
	1/2”	12,70	0.5000		15ZT-0016-FB	❍

Geometries available (see page 151 for details): -FN.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.

❶ Availability Codes

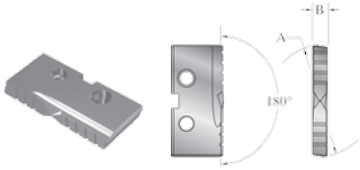
❍ Stocked
▲ Non-stocked

Sizes not shown (Non-Standard Diameters) are available. When ordering, please follow the examples shown below:

Decimals = 0.4505” TiAIN, Z Series, C5 =1C5ZA-.4505
Metric = 12,10 mm TiCN, Z Series, C2 =18YN-10.40-FB

Z Series T-A® Carbide Drill Inserts

Range: 0.437 to 0.510 inch (11,10mm to 12,95mm)

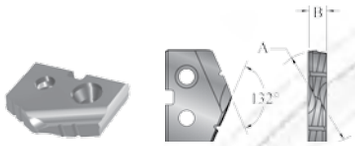


Flat Bottom T-A® Carbide Drill Inserts

(supplied in 2 piece packages)

U.S. Patent No.: 6,135,681
Euro Patent No.: 1 210 196 DE, GB, IT, FR
Other International Patents Pending

Material	A (Diameter) Fractional Equivalent	A (Diameter) (mm)	A (Diameter) (Inch)	B Thickness	Item Number, Coating and Availability TiN	❶
C2 (K20)	7/16”	11,11	0.4375	3/32”	1C2ZT-0014-FB	▲
		11,50	0.4528		1C2ZT-11.5-FB	▲
	29/64”	11,51	0.4531		1C2ZT-.453-FB	▲
	15/32”	11,91	0.4688		1C2ZT-0015-FB	▲
		12,00	0.4724		1C2ZT-12-FB	▲
	31/64”	12,30	0. 4844		1C2ZT-.484-FB	▲
		12,50	0.4921		1C2ZT-12.5-FB	▲
	1/2”	12,70	0.5000		1C2ZT-0016-FB	▲



Diamond Coated T-A® Carbide Drill Inserts

(supplied in 1 piece packages)

U.S. Patent No.: 6,902,359
Other International Patents pending

Material	A (Diameter) Fractional Equivolent	A (Diameter) (mm)	A (Diameter) (Inch)	B Thickness	Item Number, Coating and Availability CVD Diamond	❶
N2	7/16”	11,11	0.4375	3/32”	1N2ZD-0014	▲
		11,50	0.4528		1N2ZD-11.5	▲
	29/64”	11,51	0.4531		1N2ZD-.453	▲
	15/32”	11,91	0.4688		1N2ZD-0015	▲
		12,00	0.4724		1N2ZD-12	▲
	31/64”	12,30	0.4844		1N2ZD-.484	▲
		12,50	0.4921		1N2ZD-12.5	▲
	1/2”	12,70	0.5000		1N2ZD-0016	▲

Crystalline, Diamond Film Coating produces:
- Increased hardness
- Increased Durability
- Increased Performance

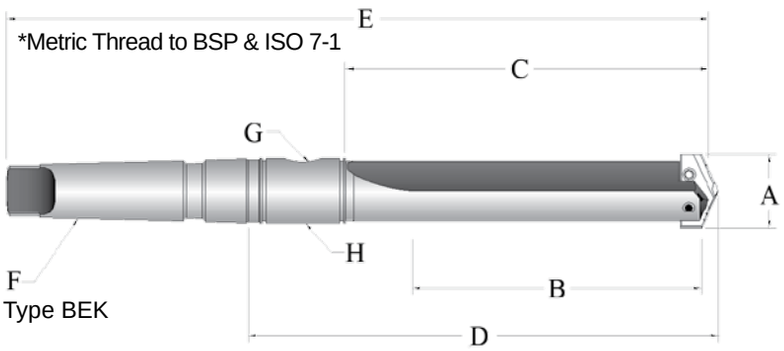
Extends tool life 30-50 times versus uncoated carbide drill inserts
Used in non-ferrous / non-metallic applications
Patented Geometry

Can be supplied with other coatings as a non-stocked standard. Process fee applies. Example:

TiN	XXXT-XXXX
TiAlN	XXXA-XXXX
TiCN	XXXN-XXXX
AM200®	XXXH-XXXX

Z Series T-A® Holders

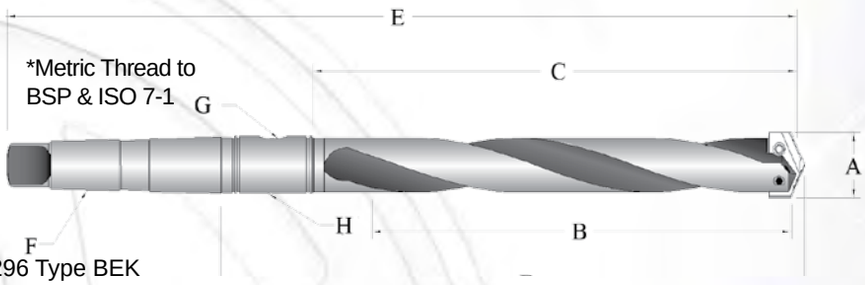
Range: 0.437 to 0.510 inch (11,10mm to 12,95mm)



*Metric Per ISO 296 Type BEK

Taper Shank Straight Flute Holders

Length	Item Number NEW	Item Number OLD	A Drill Insert Range	B Max. Drill Depth	C Body Length	D Ref. Length	E Overall Length	F MT	G Pipe Tap	H RCA
Short	220Z0S-002I	21ZT-0002	7/16” - 1/2”	1-1/4”	2-1/32”	3-15/32”	6-5/16”	#2	1/16”	2T-2SR
Standard	240Z0S-002I	N/A	7/16” - 1/2”	2-3/8”	3-5/32”	4-19/32”	7-7/16”	#2	1/16”	2T-2SR
Extended	250Z0S-002I	N/A	7/16” - 1/2”	4-3/8”	5-5/32”	6-19/32”	9-7/16”	#2	1/16”	2T-2SR
***Metric (mm)**										
Short	220Z0S-002M	21ZT-02	11,5 - 12,5	31,8	51,5	88,0	160,3	#2	1/16”	2T-2SRM



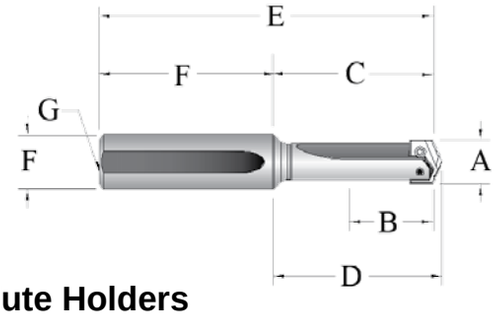
*Metric Per ISO 296 Type BEK

Taper Shank Helical Flute Holders

Length	Item Number NEW	Item Number OLD	A Drill Insert Range	B Max. Drill Depth	C Body Length	D Ref. Length	E Overall Length	F MT	G Pipe Tap	H RCA
Standard	240Z0H-002I	22ZT-0002	7/16” - 1/2”	2-3/8”	3-5/32”	4-19/32”	7-7/16”	#2	1/16”	2T-2SR
Extended	250Z0H-002I	25ZT-0002	7/16” - 1/2”	4-3/8”	5-5/32”	6-19/32”	9-7/16”	#2	1/16”	2T-2SR
***Metric (mm)**										
Standard	240Z0H-002M	22ZT-02	11,5 - 12,5	60,3	80,2	116,7	188,9	#2	1/16”	2T-2SRM
Extended	250Z0H-002M	25ZT-02	11,5 - 12,5	111,1	130,9	167,4	239,7	#2	1/16”	2T-2SRM

Z Series T-A® Holders

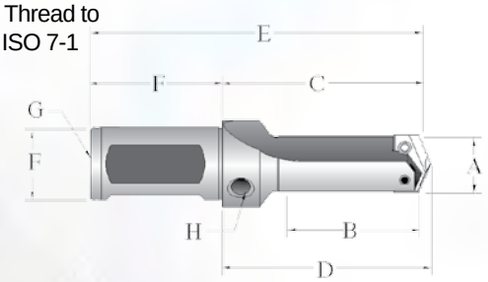
Range: 0.437 to 0.510 inch (11,10mm to 12,95mm)



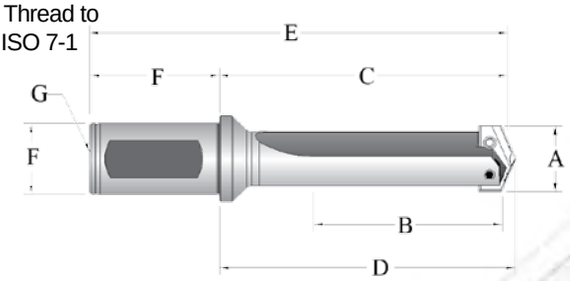
Straight Shank Straight Flute Holders

Length	Item Number		A	B	C	D	E	F		G
	NEW	OLD	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	Shank Dia	Shank Length	Pipe Tap
Short	220Z0S-075L	23ZT-0750	7/16” - 1/2”	1-1/4”	2-1/32”	2-1/8”	4-13/32”	3/4”	2-3/8”	1/8”
Standard	240Z0S-075L	24ZT-0750	7/16” - 1/2”	2-3/8”	3-5/32”	3-1/4”	5-17/32”	3/4”	2-3/8”	1/8”
Extended	250Z0S-075L	26ZT-0750	7/16” - 1/2”	4-3/8”	5-5/32”	5-1/4”	7-17/32”	3/4”	2-3/8”	1/8”
XL	270Z0S-075L	N/A	7/16” - 1/2”	8-3/4”	9-17/32”	9-5/8”	11-29/32”	3/4”	2-3/8”	1/8”
3XL	290Z0S-075L	N/A	7/16” - 1/2”	11-7/16”	12-7/32”	12-5/16”	14-19/32”	3/4”	2-3/8”	1/8”

*Metric Thread to BSP & ISO 7-1



*Metric Thread to BSP & ISO 7-1



*Metric Per ISO 296 Type BEK

Stub Length Flanged Shank Holder

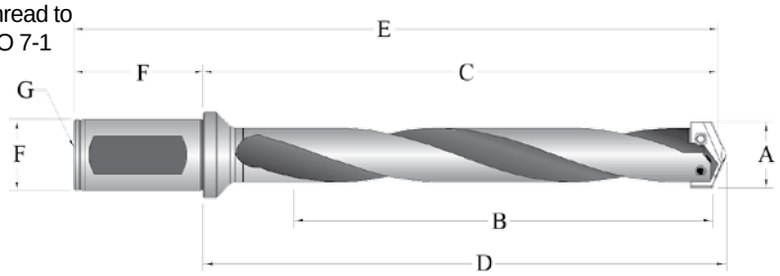
Flanged Shank Straight Flute Holders

Length	Item Number		A	B	C	D	E	F		G	H
	NEW	OLD	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	Shank Dia	Shank Length	Pipe Tap Rear	Pipe Tap Side
Stub	210Z0S-075F	N/A	7/16” - 1/2”	3/4”	1-51/64”	1-57/64”	3-43/64”	5/8”	1-7/8”	1/16”	1/8”
Short	220Z0S-075F	27ZT-0750	7/16” - 1/2”	1-1/4”	2-13/32”	2-1/2”	4-7/16”	3/4”	2-1/32”	1/8”	N/A
Standard	240Z0S-075F	N/A	7/16” - 1/2”	2-3/8”	3-17/32”	3-5/8”	5-9/16”	3/4”	2-1/32”	1/8”	N/A
Extended	250Z0S-075F	N/A	7/16” - 1/2”	4-3/8”	5-17/32”	5-5/8”	7-9/16”	3/4”	2-1/32”	1/8”	N/A
***Metric (mm)**											
Stub	210Z0S-20FM	N/A	11,5 - 12,5	19,1	45,6	48,0	87,5	16,0	41,9	1/16”	1/8”
Short	220Z0S-20FM	27ZT-20	11,5 - 12,5	31,8	61,1	63,5	103,0	20,0	41,9	1/8”	N/A
XL	270Z0S-20FM	N/A	11,5 - 12,5	222,3	251,7	254,1	293,6	20,0	41,9	1/8”	N/A
3XL	290Z0S-20FM	N/A	11,5 - 12,5	290,5	319,9	322,3	361,8	20,0	41,9	1/8”	N/A

Z Series T-A® Holders

Range: 0.437 to 0.510 inch (11,10mm to 12,95mm)

*Metric Thread to BSP & ISO 7-1



Flanged Shank Helical Flute Holders

Length	Item Number		A	B	C	D	E	F		G
	NEW	OLD	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	Shank		Pipe Tap
								Dia	Length	
Standard	240Z0H-075F	28ZT-0750	7/16” - 1/2”	2-3/8”	3-17/32”	3-5/8”	5-9/16’	3/4”	2-1/32”	1/8”
Extended	250Z0H-075F	213ZT-0750	7/16” - 1/2”	4-3/8”	5-17/32”	5-5/8”	7-9/16”	3/4”	2-1/32”	1/8”
***Metric (mm)**										
Standard	240Z0H-20FM	28ZT-20	11,5 - 12,5	60,3	89,7	92,1	131,6	20,0	41,9	1/8”
Extended	250Z0H-20FM	26ZT-20	11,5 - 12,5	111,1	140,5	142,9	182,4	20,0	41,9	1/8”

Rotary Coolant Adapter (RCA) and Accessories

	Item Number	A	B	C	D	E
		I.D.	O.D.	Length	Thread for Driving Rod	Pipe Tap
Inch	2T-2SR	3/4”	1-3/4”	7/8”	5/16”-NC	1/8”
Metric	2T-2SRM	19,05	44,45	22,23	M8 X 1,25	❖1/8”

RCA Repair Kit Item Number **
2T1-2SR
2T1-2SR

RCA O-ring Replacements 10 Pieces
2T1-2OR-10
2T1-2OR-10

RCA Exploded View

❖ Thread to BSP & ISO 7-1

** RCA Repair Kit includes (2) O-rings, (2) snap rings and (2) thrust washers.

Replacement TORX Plus Screws

(supplied in 10 piece package)

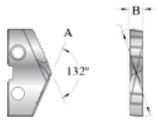
Holder Series	TORX Plus Screws 10 Pieces	Nylon Locking TORX Plus Screw 10 Pieces	TORX Plus Hand Driver	Preset Torque TORX Plus Hand Driver	Replacement TORX Plus Tips	INCH		METRIC	
						Drill Range Used With	TORX Plus Screw Admissible Tightening Torque (in.-lbs.)	Drill Range Used With	TORX Plus Screw Admissible Tightening Torque (N-cm)
Z	7247-IP7-10	7247N-IP7-10	8IP-7	8IP-7TL	8IP-7B	7/16”-1/2”	7.4	11,5mm-12,5mm	84

0 Series T-A® HSS Drill Inserts

Range: 0.511 to 0.695 inch (12,98mm to 17,65mm)

T-A® Drill Inserts

(supplied in 2 piece packages)



Material	A (Diameter)			B	Item Number, Coating and Availability					
	Fractional Equivalent	(mm)	(Inch)	Thickness	TiN	❶	TiAlN	❶	TiCN	❶
Super Cobalt		13,00	0.5118	1/8”	150T-13	❍	150A-13	❍	150N-13	❍
	33/64’’	13,10	0.5156		150T-.515	❍	150A-.515	❍	150N-.515	❍
	17/32’’	13,49	0.5313		150T-0017	❍	150A-0017	❍	150N-0017	❍
		13,50	0.5315		150T-13.5	❍	150A-13.5	❍	150N-13.5	❍
	35/64’’	13,89	0.5469		150T-.546	❍	150A-.546	❍	150N-.546	❍
		14,00	0.5512		150T-14	❍	150A-14	❍	150N-14	❍
	9/16”	14,29	0.5625		150T-0018	❍	150A-0018	❍	150N-0018	❍
		14,50	0.5709		150T-14.5	❍	150A-14.5	❍	150N-14.5	❍
	37/64”	14,68	0.5781		150T-.578	❍	150A-.578	❍	150N-.578	❍
		15,00	0.5906		150T-15	❍	150A-15	❍	150N-15	❍
	19/32”	15,08	0.5938		150T-0019	❍	150A-0019	❍	150N-0019	❍
	39/64’’	15,48	0.6094		150T-.609	❍	150A-.609	❍	150N-.609	❍
		15,50	0.6102		150T-15.5	❍	150A-15.5	❍	150N-15.5	❍
	5/8”	15,88	0.6250		150T-0020	❍	150A-0020	❍	150N-0020	❍
		16,00	0.6299		150T-16	❍	150A-16	❍	150N-16	❍
	41/64”	16,27	0.6406		150T-.640	❍	150A-.640	❍	150N-.640	❍
		16,50	0.6496		150T-16.5	❍	150A-16.5	❍	150N-16.5	❍
	21/32”	16,67	0.6563		150T-0021	❍	150A-0021	❍	150N-0021	❍
		17,00	0.6593		150T-17	❍	150A-17	❍	150N-17	❍
	43/64”	17,07	0,6719		150T-.671	❍	150A-.671	❍	150N-.671	❍
	11/16”	17,46	0.6875		150T-0022	❍	150A-0022	❍	150N-0022	❍
		17,50	0.6890		150T-17.5	❍	150A-17.5	❍	150N-17.5	❍
Premium Cobalt		13,00	0.5118		180T-13	❍	180A-13	❍	180N-13	❍
	33/64’’	13,10	0.5156		180T-.515	❍	180A-.515	❍	180N-.515	❍
	17/32’’	13,49	0.5313		180T-0017	❍	180A-0017	❍	180N-0017	❍
		13,50	0.5315		180T-13.5	❍	180A-13.5	❍	180N-13.5	❍
	35/64’’	13,89	0.5469		180T-.546	❍	180A-.546	❍	180N-.546	❍
		14,00	0.5512		180T-14	❍	180A-14	❍	180N-14	❍
	9/16”	14,29	0.5625		180T-0018	❍	180A-0018	❍	180N-0018	❍
		14,50	0.5709		180T-14.5	❍	180A-14.5	❍	180N-14.5	❍
	37/64”	14,68	0.5781		180T-.578	❍	180A-.578	❍	180N-.578	❍
		15,00	0.5906		180T-15	❍	180A-15	❍	180N-15	❍
	19/32”	15,08	0.5938		180T-0019	❍	180A-0019	❍	180N-0019	❍
	39/64’’	15,48	0.6094		180T-.609	❍	180A-.609	❍	180N-.609	❍
		15,50	0.6102		180T-15.5	❍	180A-15.5	❍	180N-15.5	❍
	5/8”	15,88	0.6250		180T-0020	❍	180A-0020	❍	180N-0020	❍
		16,00	0.6299		180T-16	❍	180A-16	❍	180N-16	❍
	41/64”	16,27	0.6406		180T-.640	❍	180A-.640	❍	180N-.640	❍
		16,50	0.6496		180T-16.5	❍	180A-16.5	❍	180N-16.5	❍
	21/32”	16,67	0.6563		180T-0021	❍	180A-0021	❍	180N-0021	❍
		17,00	0.6593		180T-17	❍	180A-17	❍	180N-17	❍
	43/64”	17,07	0,6719		180T-.671	❍	180A-.671	❍	180N-.671	❍
	11/16”	17,46	0.6875		180T-0022	❍	180A-0022	❍	180N-0022	❍
		17,50	0.6890		180T-17.5	❍	180A-17.5	❍	180N-17.5	❍

Geometries available (see page 151 for details): -CI, -SK, -CR, -HI, -HR, -BR, -CP, -NP, -IN, -RN, -CN, -NC, -WC, -AN.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.
Shaded diameters will also fit 0.5 series T-A® Holders. Please refer to the T-A® Holder section of this catalog.

Can be supplied with other coatings as a non-stocked standard. Process fee applies. Example:

TiN	XXXT-XXXX
TiAlN	XXXA-XXXX
TiCN	XXXN-XXXX
AM200®	XXXH-XXXX

0 Series T-A® HSS Drill Inserts

Range: 0.511 to 0.695 inch (12,98mm to 17,65mm)

GEN2 T-A®

(supplied in 2 piece packages)

U.S. Patent No.: 6,685,402 & 6,986,628 & 7,011,478
& 7,018,145 & 7,144,893 & 7,241,089 & 7,371,035
Euro Patent No.: 1 372 894 DE, GB, IT, FR
Korean Patent No: 764146
Other U.S. & International Patents Pending

Material	A (Diameter) Fractional Equivalent	A (Diameter) (mm)	A (Diameter) (Inch)	B Thickness	Item Number, Coating and Availability AM200®	❶
Super Cobalt		13,00	0.5118	1/8”	450H-13	❍
	33/64’’	13,10	0.5156		450H-.515	❍
	17/32’’	13,49	0.5313		450H-0017	❍
		13,50	0.5315		450H-13.5	❍
	35/64’’	13,89	0.5469		450H-.546	❍
		14,00	0.5512		450H-14	❍
	9/16”	14,29	0.5625		450H-0018	❍
		14,50	0.5709		450H-14.5	❍
	37/64”	14,68	0.5781		450H-.578	❍
		15,00	0.5906		450H-15	❍
	19/32”	15,08	0.5938		450H-0019	❍
	39/64’’	15,48	0.6094		450H-.609	❍
		15,50	0.6102		450H-15.5	❍
	5/8”	15,88	0.6250		450H-0020	❍
		16,00	0.6299		450H-16	❍
	41/64”	16,27	0.6406		450H-.640	❍
		16,50	0.6496		450H-16.5	❍
	21/32”	16,67	0.6563		450H-.0021	❍
		17,00	0.6593		450H-17	❍
	43/64”	17,07	0,6719		450H-.671	❍
	11/16”	17,46	0.6875		450H-0022	❍
		17,50	0.6890		450H-17.5	❍

GEN2 T-A® Provides:
- Lower drilling forces
- Increased drill stability
- Smoother breakouts on through holes
- Improved chip formation
- Supplied with AMEC’s exclusive AM200® coating for increased tool life

Geometries available (see page 151 for details): -HE
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.

❶ Availability Codes
❍ Stocked
▲ Non-stocked

Sizes not shown (Non-Standard Diameters) are available. When ordering, please follow the examples shown below:
Decimals = 0.5550” TiAlN, 0 Series, Super Cobalt =150A-.5550
Metric = 13,90 mm TiCN, 0 Series, Premium Cobalt =180N-13.90

0 Series T-A® Carbide Drill Inserts

Range: 0.511 to 0.695 inch (12,98mm to 17,65mm)

T-A® Carbide Drill Inserts

(supplied in 2 piece packages)

Material	A (Diameter) Fractional Equivalent	A (Diameter) (mm)	A (Diameter) (Inch)	B Thickness	Item Number, Coating and Availability TiN	❶	TiAIN	❶
C2 (K20)		13,00	0.5118	1/8"	1C20T-13	❍	1C20A-13	❍
	33/64''	13,10	0.5156		1C20T-.515	❍	1C20A-.515	❍
	17/32''	13,49	0.5313		1C20T-0017	❍	1C20A-0017	❍
		13,50	0.5315		1C20T-13.5	❍	1C20A-13.5	❍
	35/64''	13,89	0.5469		1C20T-.546	❍	1C20A-.546	❍
		14,00	0.5512		1C20T-14	❍	1C20A-14	❍
	9/16"	14,29	0.5625		1C20T-0018	❍	1C20A-0018	❍
		14,50	0.5709		1C20T-14.5	❍	1C20A-14.5	❍
	37/64"	14,68	0.5781		1C20T-.578	❍	1C20A-.578	❍
		15,00	0.5906		1C20T-15	❍	1C20A-15	❍
	19/32"	15,08	0.5938		1C20T-0019	❍	1C20A-0019	❍
	39/64''	15,48	0.6094		1C20T-.609	❍	1C20A-.609	❍
		15,50	0.6102		1C20T-15.5	❍	1C20A-15.5	❍
	5/8"	15,88	0.6250		1C20T-0020	❍	1C20A-0020	❍
		16,00	0.6299		1C20T-16	❍	1C20A-16	❍
	41/64"	16,27	0.6406		1C20T-.640	❍	1C20A-.640	❍
		16,50	0.6496		1C20T-16.5	❍	1C20A-16.5	❍
	21/32"	16,67	0.6563		1C20T-.0021	❍	1C20A-.0021	❍
		17,00	0.6593		1C20T-17	❍	1C20A-17	❍
	43/64"	17,07	0,6719		1C20T-.671	❍	1C20A-.671	❍
	11/16"	17,46	0.6875		1C20T-0022	❍	1C20A-0022	❍
		17,50	0.6890		1C20T-17.5	❍	1C20A-17.5	❍
C5 (P40)		13,00	0.5118		1C50T-13	❍	1C50A-13	❍
	33/64''	13,10	0.5156		1C50T-.515	❍	1C50A-.515	❍
	17/32''	13,49	0.5313		1C50T-0017	❍	1C50A-0017	❍
		13,50	0.5315		1C50T-13.5	❍	1C50A-13.5	❍
	35/64''	13,89	0.5469		1C50T-.546	❍	1C50A-.546	❍
		14,00	0.5512		1C50T-14	❍	1C50A-14	❍
	9/16"	14,29	0.5625		1C50T-0018	❍	1C50A-0018	❍
		14,50	0.5709		1C50T-14.5	❍	1C50A-14.5	❍
	37/64"	14,68	0.5781		1C50T-.578	❍	1C50A-.578	❍
		15,00	0.5906		1C50T-15	❍	1C50A-15	❍
	19/32"	15,08	0.5938		1C50T-0019	❍	1C50A-0019	❍
	39/64''	15,48	0.6094		1C50T-.609	❍	1C50A-.609	❍
		15,50	0.6102		1C50T-15.5	❍	1C50A-15.5	❍
	5/8"	15,88	0.6250		1C50T-0020	❍	1C50A-0020	❍
		15,91	0.6265		1C50T-.6265	▲	1C50A-.6265	▲
	41/64"	16,00	0.6299		1C50T-16	❍	1C50A-16	❍
		16,27	0.6406		1C50T-.640	❍	1C50A-.640	❍
	21/32"	16,50	0.6496		1C50T-16.5	❍	1C50A-16.5	❍
		16,67	0.6563		1C50T-.0021	❍	1C50A-.0021	❍
	43/64"	17,00	0.6593		1C50T-17	❍	1C50A-17	❍
	11/16"	17,07	0,6719		1C50T-.671	❍	1C50A-.671	❍
		17,46	0.6875		1C50T-0022	❍	1C50A-0022	❍
		17,50	0.6890		1C50T-17.5	❍	1C50A-17.5	❍

Geometries available (see page 151 for details): -CI, -SK, -CR, -HI, -HR, -BR, -CP, -NP, -IN, -RN, -CN, -NC, -WC, -AN.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.
Shaded diameters will also fit 0.5 series T-A® Holders. Please refer to the T-A® Holder section of this catalog.

Can be supplied with other coatings as a non-stocked standard. Process fee applies. Example:

TiN	XXXT-XXXX
TiAIN	XXXA-XXXX
TiCN	XXXN-XXXX
AM200®	XXXH-XXXX

0 Series T-A® Carbide Drill Inserts

Range: 0.511 to 0.695 inch (12,98mm to 17,65mm)

Cast Iron GeometryT-A® Carbide Drill Inserts

(supplied in 2 piece packages)

Material	A (Diameter) Fractioanl Equivalent	A (Diameter) (mm)	A (Diameter) (Inch)	B Thickness	Item Number, Coating and Availability TiAIN	❶	
C3 (K20)		13,00	0.5118	1/8”	1C30A-13-CI	❍	This insert is specifically designed for use in **Grey Cast Iron**. (Use standard T-A® geometry for Nodular Iron) • C3 Carbide offers high wear resistance for improved tool life. • Cast Iron (-CI) geometry provides a unique design to minimize chipping. • TiAIN offers exceptional wear resistance and high heat capabilities to increase tool life and penetration rates in Grey Cast Iron.
	33/64’’	13,10	0.5156		1C30A-.515-CI	❍	
	17/32’’	13,49	0.5313		1C30A-0017-CI	❍	
		13,50	0.5315		1C30A-13.5-CI	❍	
	35/64’’	13,89	0.5469		1C30A-.546-CI	❍	
		14,00	0.5512		1C30A-14-CI	❍	
	9/16”	14,29	0.5625		1C30A-0018-CI	❍	
		14,50	0.5709		1C30A-14.5-CI	❍	
	37/64”	14,68	0.5781		1C30A-.578-CI	❍	
		15,00	0.5906		1C30A-15-CI	❍	
	19/32”	15,08	0.5938		1C30A-0019-CI	❍	
	39/64’’	15,48	0.6094		1C30A-.609-CI	❍	
		15,50	0.6102		1C30A-15.5-CI	❍	
	5/8”	15,88	0.6250		1C30A-0020-CI	❍	
		16,00	0.6299		1C30A-16-CI	❍	
	41/64”	16,27	0.6406		1C30A-.640-CI	❍	
		16,50	0.6496		1C30A-16.5-CI	❍	
	21/32”	16,67	0.6563		1C30A-.0021-CI	❍	
		17,00	0.6593		1C30A-17-CI	❍	
	43/64”	17,07	0,6719		1C30A-.671-CI	❍	
	11/16”	17,46	0.6875		1C30A-0022-CI	❍	
		17,50	0.6890		1C30A-17.5-CI	❍	

Shaded diameters will also fit 0.5 series T-A® Holders. Please refer to the T-A® Holder section of this catalog.

❶ Availability Codes
❍ Stocked
▲ Non-stocked

Sizes not shown (Non-Standard Diameters) are available. When ordering, please follow the examples shown below:
Decimals = 0.5400” TiAIN, 0 Series, C5 =1C50A-.5400
Metric = 12,10 mm TiCN, Z Series, C2 =1C50N-15.10

0 Series T-A® Carbide Drill Inserts

Range: 0.511 to 0.695 inch (12,98mm to 17,65mm)

GEN2 T-A®

(supplied in 2 piece packages)

U.S. Patent No.: 6,685,402 & 6,986,628 & 7,011,478
& 7,018,145 & 7,144,893 & 7,241,089 & 7,371,035
Euro Patent No.: 1 372 894 DE, GB, IT, FR
Korean Patent No: 764140
Other U.S. & International Patents Pending

Material	A (Diameter) Fractional Equivalent	A (Diameter) (mm)	A (Diameter) (Inch)	B Thickness	Item Number, Coating and Availability AM200®	❶
C2 (K20)		13,00	0.5118	1/8”	4C20H-13	❍
	33/64”	13,10	0.5156		4C20H-.515	❍
	17/32”	13,49	0.5313		4C20H-0017	❍
		13,50	0.5315		4C20H-13.5	❍
	35/64”	13,89	0.5469		4C20H-.546	❍
		14,00	0.5512		4C20H-14	❍
	9/16”	14,29	0.5625		4C20H-0018	❍
		14,50	0.5709		4C20H-14.5	❍
	37/64”	14,68	0.5781		4C20H-.578	❍
		15,00	0.5906		4C20H-15	❍
	19/32”	15,08	0.5938		4C20H-0019	❍
	39/64”	15,48	0.6094		4C20H-.609	❍
		15,50	0.6102		4C20H-15.5	❍
	5/8”	15,88	0.6250		4C20H-0020	❍
		16,00	0.6299		4C20H-16	❍
	41/64”	16,27	0.6406		4C20H-.640	❍
		16,50	0.6496		4C20H-16.5	❍
	21/32”	16,67	0.6563		4C20H-.0021	❍
		17,00	0.6593		4C20H-17	❍
	43/64”	17,07	0,6719		4C20H-.671	❍
	11/16”	17,46	0.6875		4C20H-0022	❍
		17,50	0.6890		4C20H-17.5	❍
C1 (K35)		13,00	0.5118		4C10H-13	❍
	33/64”	13,10	0.5156		4C10H-.515	❍
	17/32”	13,49	0.5313		4C10H-0017	❍
		13,50	0.5315		4C10H-13.5	❍
	35/64”	13,89	0.5469		4C10H-.546	❍
		14,00	0.5512		4C10H-14	❍
	9/16”	14,29	0.5625		4C10H-0018	❍
		14,50	0.5709		4C10H-14.5	❍
	37/64”	14,68	0.5781		4C10H-.578	❍
		15,00	0.5906		4C10H-15	❍
	19/32”	15,08	0.5938		4C10H-0019	❍
	39/64”	15,48	0.6094		4C10H-.609	❍
		15,50	0.6102		4C10H-15.5	❍
	5/8”	15,88	0.6250		4C10H-0020	❍
		16,00	0.6299		4C10H-16	❍
	41/64”	16,27	0.6406		4C10H-.640	❍
		16,50	0.6496		4C10H-16.5	❍
	21/32”	16,67	0.6563		4C10H-.0021	❍
		17,00	0.6593		4C10H-17	❍
	43/64”	17,07	0,6719		4C10H-.671	❍
	11/16”	17,46	0.6875		4C10H-0022	❍
		17,50	0.6890		4C10H-17.5	❍

GEN2 T-A® Provides:
- Lower drilling forces
- Increased drill stability
- Smoother breakouts on through holes
- Improved chip formation
- Supplied with AMEC’s exclusive AM200® coating for increased tool life

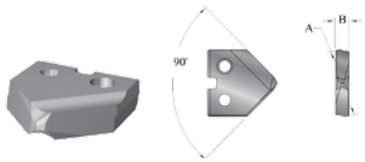
Geometries available (see page 151 for details): -HE
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.
Shaded diameters will also fit 0.5 series T-A® Holders. Please refer to the T-A® Holder section of this catalog.

Can be supplied with other coatings as a non-stocked standard. Process fee applies. Example:

TiN	XXXT-XXXX
TiAlN	XXXA-XXXX
TiCN	XXXN-XXXX
AM200®	XXXH-XXXX

0 Series T-A® HSS Drill Inserts

Range: 0.511 to 0.695 inch (12,98mm to 17,65mm)



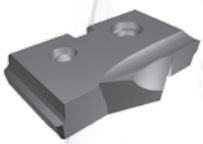
90º Spot and Chamfer T-A® Drill Inserts

(supplied in 2 piece packages)

U.S. Patent No.: 6,848,869

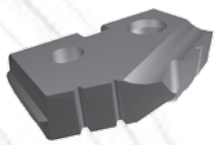
Material	A (Diameter) Fractional Equivalent	A (Diameter) (mm)	A (Diameter) (Inch)	B Thickness	Item Number, Coating and Availability TiN	❶	TiAlN	❶	TiCN	❶
Super Cobalt		13,00	0.5118	1/8”	150T-13-SP	▲	150A-13-SP	▲	150N-13-SP	▲
	33/64’’	13,10	0.5156		150T-.515-SP	▲	150A-.515-SP	▲	150N-.515-SP	▲
	17/32’’	13,49	0.5313		150T-0017-SP	▲	150A-0017-SP	▲	150N-0017-SP	▲
		13,50	0.5315		150T-13.5-SP	▲	150A-13.5-SP	▲	150N-13.5-SP	▲
	35/64’’	13,89	0.5469		150T-.546-SP	▲	150A-.546-SP	▲	150N-.546-SP	▲
		14,00	0.5512		150T-14-SP	▲	150A-14-SP	▲	150N-14-SP	▲
	9/16”	14,29	0.5625		150T-0018-SP	▲	150A-0018-SP	▲	150N-0018-SP	▲
		14,50	0.5709		150T-14.5-SP	▲	150A-14.5-SP	▲	150N-14.5-SP	▲
	37/64”	14,68	0.5781		150T-.578-SP	▲	150A-.578-SP	▲	150N-.578-SP	▲
		15,00	0.5906		150T-15-SP	▲	150A-15-SP	▲	150N-15-SP	▲
	19/32”	15,08	0.5938		150T-0019-SP	▲	150A-0019-SP	▲	150N-0019-SP	▲
	39/64’’	15,48	0.6094		150T-.609-SP	▲	150A-.609-SP	▲	150N-.609-SP	▲
		15,50	0.6102		150T-15.5-SP	▲	150A-15.5-SP	▲	150N-15.5-SP	▲
	5/8”	15,88	0.6250		150T-0020-SP	❍	150A-0020-SP	❍	150N-0020-SP	❍
		16,00	0.6299		150T-16-SP	▲	150A-16-SP	▲	150N-16-SP	▲
	41/64”	16,27	0.6406		150T-.640-SP	▲	150A-.640-SP	▲	150N-.640-SP	▲
		16,50	0.6496		150T-16.5-SP	▲	150A-16.5-SP	▲	150N-16.5-SP	▲
	21/32”	16,67	0.6563		150T-0021-SP	▲	150A-0021-SP	▲	150N-0021-SP	▲
		17,00	0.6593		150T-17-SP	▲	150A-17-SP	▲	150N-17-SP	▲
	43/64”	17,07	0,6719		150T-.671-SP	▲	150A-.671-SP	▲	150N-.671-SP	▲
	11/16”	17,46	0.6875		150T-0022-SP	▲	150A-0022-SP	▲	150N-0022-SP	▲
		17,50	0.6890		150T-17.5-SP	❍	150A-17.5-SP	❍	150N-17.5-SP	❍

Geometries available (see page 151 for details): -SW.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.
Shaded diameters will also fit 0.5 series T-A® Holders. Please refer to the T-A® Holder section of this catalog.



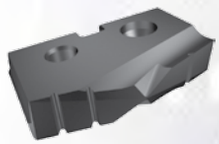
*Thin Wall

U.S. Patent No.: 7,147,414



**Notch Point®

U.S. Patent No.: 6,685,402 & 6,986,628 & 7,114,893 & 7,371,035
Euro Patent No.: 1 372 894 DE, GB, IT, FR
Other U.S. & International Patents Pending



**150º Structural Steel

U.S. Patent No.: 6,685,402 & 6,986,628 & 7,114,893 & 7,371,035
Euro Patent No.: 1 372 894 DE, GB, IT, FR
Other U.S. & International Patents Pending

Structural Steel T-A® Drill Inserts

(supplied in 2 piece packages)

Material	A (Diameter) Fractional Equivalent	A (Diameter) (mm)	A (Diameter) (Inch)	B Thickness	Item Number, Coating and Availability *Thin Wall TiAlN	❶	**Notch Point® TiAlN	❶	150º Structural Steel TiAlN	❶
Super Cobalt		14,00	0.5512	1/8”	150A-14-TW	❍	150A-14-NP	❍	150A-14-SS	❍
	9/16”	14,29	0.5625		150A-0018-TW	❍	150A-0018-NP	❍	150A-0018-SS	❍
	5/8”	15,88	0.6250		150A-0020-TW	❍	150A-0020-NP	❍	150A-0020-SS	❍
		16,00	0.6299		150A-16-TW	❍	150A-16-NP	❍	150A-16-SS	❍
	11/16”	17,46	0.6875		150A-0022-TW	❍	150A-0022-NP	❍	150A-0022-SS	❍

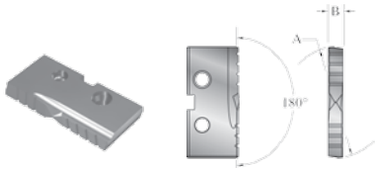
*Use Thin Wall Drill Inserts for material up to 7/16” thick.
**Use Notch Point® Geometry or 150º Structural Steel Drill Inserts for material over 7/16” thick. Use 150º Structural Steel for reduced exir burr.

❶ **Availability Codes**
❍ Stocked
▲ Non-stocked

Sizes not shown (Non-Standard Diameters) are available. When ordering, please follow the examples shown below:
Decimals = 0.5400” TiAlN, 0 Series, C2, GEN2 T-A® =4C20T-.5400
Metric = 15,10 mm AM200®, Z Series, C1, GEN2 T-A® =4C10H-15.10

0 Series T-A® HSS Drill Inserts

Range: 0.511 to 0.695 inch (12,98mm to 17,65mm)



Flat Bottom T-A® Drill Inserts

(supplied in 2 piece packages)

U.S. Patent No.: 6,135,681
Canadian Patent No: 2,341,367
Euro Patent No.: 1 210 196 DE, GB, IT, FR
Other International Patents Pending

Material	A (Diameter)			B	Item Number, Coating and Availability	
	Fractional Equivalent	(mm)	(Inch)	Thickness	TiN	❶
Super Cobalt		13,00	0.5118	1/8”	150T-13-FB	❍
	33/64’’	13,10	0.5156		150T-.515-FB	❍
	17/32’’	13,49	0.5313		150T-0017-FB	❍
		13,50	0.5315		150T-13.5-FB	❍
		14,00	0.5512		150T-14-FB	❍
	9/16”	14,29	0.5625		150T-0018-FB	❍
		14,50	0.5709		150T-14.5-FB	❍
	37/64”	14,68	0.5781		150T-.578-FB	❍
		15,00	0.5906		150T-15-FB	❍
	19/32”	15,08	0.5938		150T-0019-FB	❍
		15,50	0.6102		150T-15.5-FB	❍
	5/8”	15,88	0.6250		150T-0020-FB	❍
		16,00	0.6299		150T-16-FB	❍
		16,50	0.6496		150T-16.5-FB	❍
	21/32”	16,67	0.6563		150T-.0021-FB	❍
		17,00	0.6593		150T-17-FB	❍
	11/16”	17,46	0.6875		150T-0022-FB	❍
		17,50	0.6890		150T-17.5-FB	❍

Geometries available (see page 151 for details): -FN.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.
Shaded diameters will also fit 0.5 series T-A® Holders. Please refer to the T-A® Holder section of this catalog.

Can be supplied with other coatings as a non-stocked standard. Process fee applies. Example:

TiN	XXXT-XXXX
TiAlN	XXXA-XXXX
TiCN	XXXN-XXXX
AM200®	XXXH-XXXX

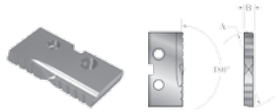
0 Series T-A® Carbide Drill Inserts

Range: 0.511 to 0.695 inch (12,98mm to 17,65mm)

Flat Bottom T-A® Carbide Drill Inserts

(supplied in 2 piece packages)

U.S. Patent No.: 6,135,681
Canadian Patent No: 2,341,367
Euro Patent No.: 1 210 196 DE, GB, IT, FR
Other International Patents Pending



Material	A (Diameter)			B	Item Number, Coating and Availability	
	Fractional Equivalent	(mm)	(Inch)	Thickness	TiN	❶
C2 (K20)		13,00	0.5118	1/8"	1C20T-13-FB	▲
	33/64''	13,10	0.5156		1C20T-.515-FB	▲
	17/32''	13,49	0.5313		1C20T-0017-FB	▲
		13,50	0.5315		1C20T-13.5-FB	▲
	35/64''	13,89	0.5469		1C20T-.546-FB	▲
		14,00	0.5512		1C20T-14-FB	▲
	9/16"	14,29	0.5625		1C20T-0018-FB	▲
		14,50	0.5709		1C20T-14.5-FB	▲
	37/64"	14,68	0.5781		1C20T-.578-FB	▲
		15,00	0.5906		1C20T-15-FB	▲
	19/32"	15,08	0.5938		1C20T-0019-FB	▲
	39/64''	15,48	0.6094		1C20T-.609-FB	▲
		15,50	0.6102		1C20T-15.5-FB	▲
	5/8"	15,88	0.6250		1C20T-0020-FB	▲
		16,00	0.6299		1C20T-16-FB	▲
	41/64"	16,27	0.6406		1C20T-.640-FB	▲
		16,50	0.6496		1C20T-16.5-FB	▲
	21/32"	16,67	0.6563		1C20T-.0021-FB	▲
		17,00	0.6593		1C20T-17-FB	▲
	43/64"	17,07	0,6719		1C20T-.671-FB	▲
	11/16"	17,46	0.6875		1C20T-0022-FB	▲
		17,50	0.6890		1C20T-17.5-FB	▲

Geometries available (see page 151 for details): -FN.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.
Shaded diameters will also fit 0.5 series T-A® Holders. Please refer to the T-A® Holder section of this catalog.

Diamond Coated T-A® Carbide Drill Inserts

(supplied in 1 piece packages)

U.S. Patent No.: 6,902,359
Other International Patents pending

Material	A (Diameter)			B	Item Number, Coating and Availability		Crystalline, Diamond Film Coating produces:
	Fractional Equivalent	(mm)	(Inch)	Thickness	CVD Diamond	❶	• Increased hardness • Increased Durability • Increased Performance
N2		13,00	0.5118	1/8"	1N20D-13	▲	
	33/64''	13,10	0.5156		1N20D-.515	▲	
	17/32''	13,49	0.5313		1N20D-0017	▲	
		13,50	0.5315		1N20D-13.5	▲	
	35/64''	13,89	0.5469		1N20D-.546	▲	Extends tool life 30-50 times versus uncoated carbide drill inserts
		14,00	0.5512		1N20D-14	▲	
	9/16"	14,29	0.5625		1N20D-0018	▲	
		14,50	0.5709		1N20D-14.5	▲	
	37/64"	14,68	0.5781		1N20D-.578	▲	Used in non-ferrous / non-metallic applications
		15,00	0.5906		1N20D-15	▲	
	19/32"	15,08	0.5938		1N20D-0019	▲	
	39/64''	15,48	0.6094		1N20D-.609	▲	Patented Geometry
		15,50	0.6102		1N20D-15.5	▲	
	5/8"	15,88	0.6250		1N20D-0020	▲	
		16,00	0.6299		1N20D-16	▲	
	41/64"	16,27	0.6406		1N20D-.640	▲	
		16,50	0.6496		1N20D-16.5	▲	
	21/32"	16,67	0.6563		1N20D-.0021	▲	
		17,00	0.6593		1N20D-17	▲	
	43/64"	17,07	0,6719		1N20D-.671	▲	
	11/16"	17,46	0.6875		1N20D-0022	▲	
		17,50	0.6890		1N20D-17.5	▲	

❶ Availability Codes
❍ Stocked
▲ Non-stocked

Sizes not shown (Non-Standard Diameters) are available. When ordering, please follow the examples shown below:

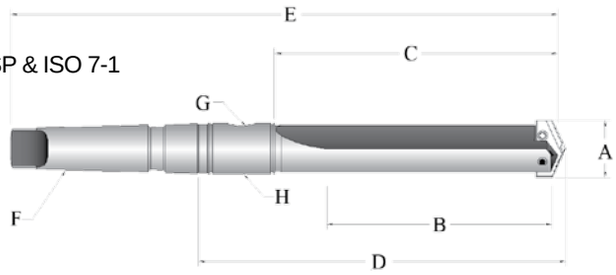
Decimals = 0.5400" TiAlN, 0 Series, Super Cobalt, Flat Bottom =1C50A-.5400
Metric = 15,10 mm TiCN, 0 Series, Super Cobalt, Flat Bottom =1C50N-15.10

0 and 0.5 Series T-A® Holders

Range: 0.511 to 0.695 inch (12,98mm to 17,65mm)

*Metric Thread to BSP & ISO 7-1

*Metric Per ISO 296 Type BEK

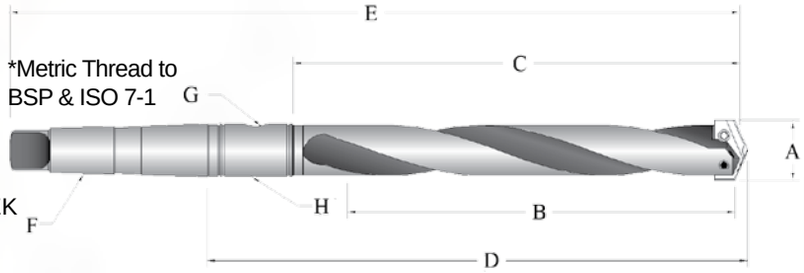


Taper Shank Straight Flute Holders

	Item Number		A	B	C	D	E	F	G	H
Length	NEW	OLD	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	MT	Pipe Tap	RCA
Short	22000S-002I	210T-0002	33/64" - 11/16"	1-3/8"	2-3/16"	3-41/64"	6-15/32"	#2	1/16"	2T-2SR
Short	22005S-002I	210.5T-0002	39/64" - 11/16"	1-3/8"	2-3/16"	3-41/64"	6-15/32"	#2	1/16"	2T-2SR
Standard	24000S-002I	N/A	33/64" - 11/16"	2-1/2"	3-5/16"	4-49/64"	7-19/32"	#2	1/16"	2T-2SR
Standard	24005S-002I	N/A	39/64" - 11/16"	2-1/2"	3-5/16"	4-49/64"	7-19/32"	#2	1/16"	2T-2SR
Extended	25000S-002I	N/A	33/64" - 11/16"	4-1/2"	5-5/16"	6-49/64"	9-19/32"	#2	1/16"	2T-2SR
Extended	25005S-002I	N/A	39/64" - 11/16"	4-1/2"	5-5/16"	6-49/64"	9-19/32"	#2	1/16"	2T-2SR
***Metric (mm)**										
Short	22000S-002M	210T-02	13,0 - 17,5	35,0	55,5	92,4	164,3	#2	1/16"	2T-2SRM
Short	22005S-002M	210.5T-02	15,5 - 17,5	35,0	55,5	92,4	164,3	#2	1/16"	2T-2SRM

*Metric Thread to BSP & ISO 7-1

*Metric Per ISO 296 Type BEK



Taper Shank Helical Flute Holders

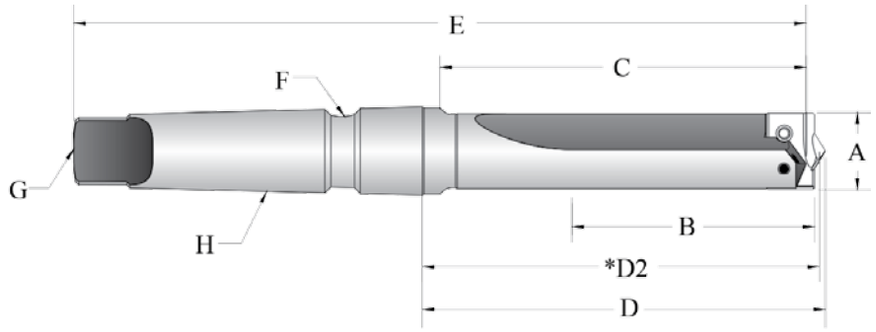
	Item Number		A	B	C	D	E	F	G	H
Length	NEW	OLD	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	MT	Pipe Tap	RCA
Standard	24000H-002I	220T-0002	33/64" - 11/16"	2-1/2"	3-5/16"	4-49/64"	7-19/32"	#2	1/16"	2T-2SR
Standard	24005H-002I	220.5T-0002	39/64" - 11/16"	2-1/2"	3-5/16"	4-49/64"	7-19/32"	#2	1/16"	2T-2SR
Extended	25000H-002I	250T-0002	33/64" - 11/16"	4-1/2"	5-5/16"	6-49/64"	9-19/32"	#2	1/16"	2T-2SR
Extended	25005H-002I	250.5T-0002	39/64" - 11/16"	4-1/2"	5-5/16"	6-49/64"	9-19/32"	#2	1/16"	2T-2SR
Long	26000H-002I	N/A	33/64" - 11/16"	7"	7-13/16"	8-17/64"	12-3/32"	#2	1/16"	2T-2SR
Long	26005H-002I	N/A	39/64" - 11/16"	7"	7-13/16"	8-17/64"	12-3/32"	#2	1/16"	2T-2SR
***Metric (mm)**										
Standard	24000H-002M	220T-02	13,0 - 17,5	63,5	84,1	121,0	192,9	#2	1/16"	2T-2SRM
Standard	24005H-002M	220.5T-02	15,5 - 17,5	63,5	84,1	121,0	192,9	#2	1/16"	2T-2SRM
Extended	25000H-002M	250T-02	13,0 - 17,5	114,3	135,0	171,8	243,7	#2	1/16"	2T-2SRM
Extended	25005H-002M	250.5T-02	15,5 - 17,5	114,3	135,0	171,8	243,7	#2	1/16"	2T-2SRM
Long	26000H-002M	N/A	13,0 - 17,5	177,8	198,5	235,3	307,2	#2	1/16"	2T-2SRM
Long	26005H-002M	N/A	15,5 - 17,5	177,8	198,5	235,3	307,2	#2	1/16"	2T-2SRM

Note: AMEC Recommends the use of the 0.5, 1.5, or 2.5 series holders where appropriate.

White	0 Series
Grey	0.5 Series

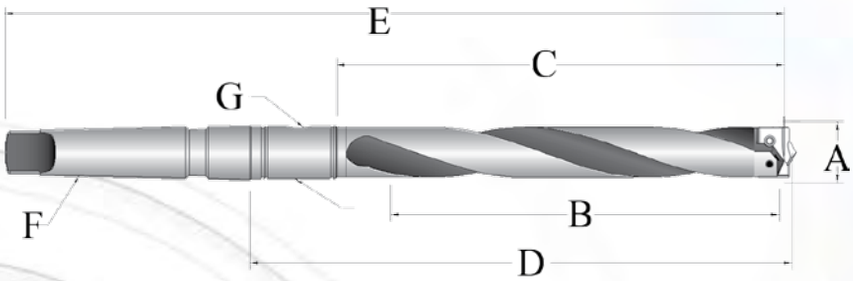
0 and 0.5 Series T-A® Holders

Range: 0.511 to 0.695 inch (12,98mm to 17,65mm)



Structural Steel Taper Shank Straight Flute Holders

Length	Item Number	A Drill Insert Range	B Max. Drill Depth	C Body Length	D Ref. Length	*D2 Ref. Length	E Overall Length	F MT	G Coolant Inlet Style	H
Short	22000S-003IS036	9/16”	1-3/8”	2-3/16”	2-35/64”	2-31/64”	6-1/16”	#3	TTC	TSC
Short	22005S-003IS040	5/8”	1-3/8”	2-3/16”	2-35/64”	2-31/64”	6-1/16”	#3	TTC	TSC
Short	22005S-003IS044	11/16”	1-3/8”	2-3/16”	2-35/64”	2-31/64”	6-1/16”	#3	TTC	TSC

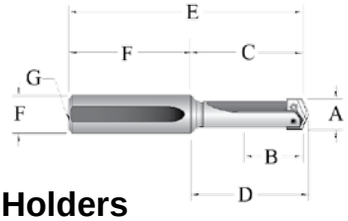


Structural Steel Taper Shank Helical Flute Holders

Length	Item Number	A Drill Insert Range	B Max. Drill Depth	C Body Length	D Ref. Length	*D2 Ref. Length	E Overall Length	F MT	G Coolant Inlet Style	H
Standard	24000H-003IS036	9/16”	2-1/2”	3-5/16”	3-43/64”	3-39/64”	7-3/16”	#3	TTC	TSC
Standard	24005H-003IS040	5/8”	2-1/2”	3-5/16”	3-43/64”	3-39/64”	7-3/16”	#3	TTC	TSC
Standard	24005H-003IS044	11/16”	2-1/2”	3-5/16”	3-43/64”	3-39/64”	7-3/16”	#3	TTC	TSC
Extended	25000H-003IS036	9/16”	6-1/2”	9-7/16”	9-51/64”	9-19/32”	13-5/64”	#3	TTC	TSC
Extended	25005H-003IS044	11/16”	6-1/2”	9-7/16”	9-51/64”	9-19/32”	13-5/64”	#3	TTC	TSC

0 and 0.5 Series T-A® Holders

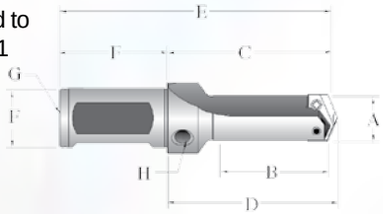
Range: 0.511 to 0.695 inch (12,98mm to 17,65mm)



Straight Shank Straight Flute Holders

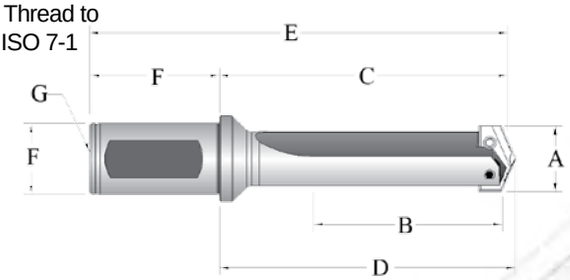
Length	Item Number NEW	Item Number OLD	A Drill Insert Range	B Max. Drill Depth	C Body Length	D Ref. Length	E Overall Length	F Shank Dia.	F Shank Length	G Pipe Tap
Short	22000S-075L	230T-0750	33/64" - 11/16"	1-3/8"	2-3/16"	2-19/64"	4-9/16"	3/4"	2-3/8"	1/8"
Short	22005S-075L	230.5T-0750	39/64" - 11/16"	1-3/8"	2-3/16"	2-19/64"	4-9/16"	3/4"	2-3/8"	1/8"
Standard	24000S-075L	240T-0750	33/64" - 11/16"	2-1/2"	3-5/16"	3-27/64"	5-11/16"	3/4"	2-3/8"	1/8"
Standard	24005S-075L	240.5-0750	39/64" - 11/16"	2-1/2"	3-5/16"	3-27/64"	5-11/16"	3/4"	2-3/8"	1/8"
Extended	25000S-075L	260T-0750	33/64" - 11/16"	4-1/2"	5-5/16"	5-27/64"	7-11/16"	3/4"	2-3/8"	1/8"
Extended	25005S-075L	260.5T-0750	39/64" - 11/16"	4-1/2"	5-5/16"	5-27/64"	7-11/16"	3/4"	2-3/8"	1/8"
Long	26000S-075L	N/A	33/64" - 11/16"	7"	7-13/16"	7-59/64"	10-3/16"	3/4"	2-3/8"	1/8"
Long	26005S-075L	N/A	39/64" - 11/16"	7"	7-13/16"	7-59/64"	10-3/16"	3/4"	2-3/8"	1/8"
XL	27000S-075L	N/A	33/64" - 11/16"	11-5/8"	12-7/16"	12-35/64"	14-13/16"	3/4"	2-3/8"	1/8"
3XL	29000S-075L	N/A	33/64" - 11/16"	15-1/4"	16-1/16"	16-11/64"	18-7/16"	3/4"	2-3/8"	1/8"

*Metric Thread to BSP & ISO 7-1



*Metric Per ISO 296 Type BEK

*Metric Thread to BSP & ISO 7-1



Stub Length Flanged Shank Holder

Flanged Shank Straight Flute Holders

Length	Item Number NEW	Item Number OLD	A Drill Insert Range	B Max. Drill Depth	C Body Length	D Ref. Length	E Overall Length	F Shank Dia	F Shank Length	G Pipe Tap Rear	H Pipe Tap Side
Stub	21000S-075F	N/A	33/64" - 11/16"	7/8"	1-7/8"	1-63/64"	3-29/32"	3/4"	2-1/32"	1/8"	1/8"
Stub	21005S-075F	N/A	39/64" - 11/16"	7/8"	1-7/8"	1-63/64"	3-29/32"	3/4"	2-1/32"	1/8"	1/8"
Short	22000S-075F	270T-0750	33/64" - 11/16"	1-3/8"	2-1/2"	2-39/64"	4-17/32"	3/4"	2-1/32"	1/8"	N/A
Short	22005S-075F	270.5T-0750	39/64" - 11/16"	1-3/8"	2-1/2"	2-39/64"	4-17/32"	3/4"	2-1/32"	1/8"	N/A
Standard	24000S-075F	N/A	33/64" - 11/16"	2-1/2"	3-5/8"	3-47/64"	5-21/32"	3/4"	2-1/32"	1/8"	N/A
Standard	24005S-075F	N/A	39/64" - 11/16"	2-1/2"	3-5/8"	3-47/64"	5-21/32"	3/4"	2-1/32"	1/8"	N/A
Extended	25000S-075F	N/A	33/64" - 11/16"	4-1/2"	5-5/8"	5-47/64"	7-21/32"	3/4"	2-1/32"	1/8"	N/A
Extended	25005S-075F	N/A	39/64" - 11/16"	4-1/2"	5-5/8"	5-47/64"	7-21/32"	3/4"	2-1/32"	1/8"	N/A
***Metric (mm)**											
Stub	21000S-20FM	N/A	13,0 - 17,5	22,2	47,6	50,4	89,5	20,0	41,9	1/8"	1/8"
Stub	21005S-20FM	N/A	15,5 - 17,5	22,2	47,6	50,4	89,5	20,0	41,9	1/8"	1/8"
Short	22000S-20FM	270T-20	13,0 - 17,5	34,9	63,5	66,3	105,4	20,0	41,9	1/8"	N/A
Short	22005S-20FM	270.5T-20	15,5 - 17,5	34,9	63,5	66,3	105,4	20,0	41,9	1/8"	N/A
XL	27000S-20FM	N/A	13,0 - 17,5	295	323,9	326,7	365,8	20,0	41,9	1/8"	N/A
3XL	29000S-20FM	N/A	13,0 - 17,5	387	416,0	418,8	457,9	20,0	41,9	1/8"	N/A

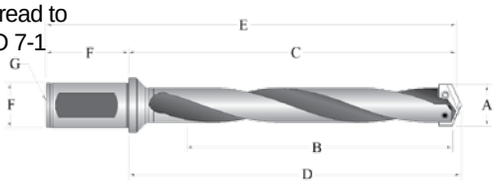
Note: AMEC Recommends the use of the 0.5, 1.5, or 2.5 series holders where appropriate.

White	0 Series
Grey	0.5 Series

0 and 0.5 Series T-A® Holders

Range: 0.511 to 0.695 inch (12,98mm to 17,65mm)

*Metric Thread to BSP & ISO 7-1



Flanged Shank Helical Flute Holders

Length	Item Number NEW	Item Number OLD	A Drill Insert Range	B Max. Drill Depth	C Body Length	D Ref. Length	E Overall Length	F Shank Dia.	F Shank Length	G Pipe Tap
Standard	24000H-075F	280T-0750	33/64" - 11/16"	2-1/2"	3-5/8"	3-47/64"	5-21/32"	3/4"	2-1/32"	1/8"
Standard	24005H-075F	280.5T-0750	39/64" - 11/16"	2-1/2"	3-5/8"	3-47/64"	5-21/32"	3/4"	2-1/32"	1/8"
Extended	25000H-075F	2130T-0750	33/64" - 11/16"	4-1/2"	5-5/8"	5-47/64"	7-21/32"	3/4"	2-1/32"	1/8"
Extended	25005H-075F	2130.5T-0750	39/64" - 11/16"	4-1/2"	5-5/8"	5-47/64"	7-21/32"	3/4"	2-1/32"	1/8"
Long	26000H-075F	N/A	33/64" - 11/16"	7"	8-1/8"	8-15/64"	10-5/32"	3/4"	2-1/32"	1/8"
Long	26005H-075F	N/A	39/64" - 11/16"	7"	8-1/8"	8-15/64"	10-5/32"	3/4"	2-1/32"	1/8"
***Metric (mm)**										
Standard	24000H-20FM	280T-20	13,0 - 17,5	63,5	92,1	94,9	134,0	20,0	41,9	1/8"
Standard	24005H-20FM	280.5T-20	15,5 - 17,5	63,5	92,1	94,9	134,0	20,0	41,9	1/8"
Extended	25000H-20FM	260T-20	13,0 - 17,5	114,3	142,9	145,7	184,8	20,0	41,9	1/8"
Extended	25005H-20FM	260.5T-20	15,5 - 17,5	114,3	142,9	145,7	184,8	20,0	41,9	1/8"
Long	26000H-20FM	N/A	13,0 - 17,5	177,8	206,4	209,1	248,3	20,0	41,9	1/8"
Long	26005H-20FM	N/A	15,5 - 17,5	177,8	206,4	209,1	248,3	20,0	41,9	1/8"

Note: AMEC Recommends the use of the 0.5, 1.5, or 2.5 series holders where appropriate.

White	0 Series
Grey	0.5 Series

T-ACR 45® Chamfer Ring and Accessories

Item Number	Minimum Drill Diameter (inch)	Maximum Drill Diameter (inch)	Maximum Chamfer Diameter (inch)	Chamfer Ring Diameter	Chanfer Ring Length
T-ACR-45-0	0.5118	0.6890	0.814	1.200	0.676

Insert Number (2 Pc Pack)	Insert Screw (10 Pieces)	TORX Plus Driver	Clamping Screw (10 Pieces)	TORX Plus Driver
T-ACRI-45-B-C5A	72556-IP8-10	8IP-8	7375-IP9-10	8IP-9

Rotary Coolant Adapter (RCA) and Accessories

	Item Number	A I.D.	B O.D.	C Length	D Thread for Driving Rod	E Pipe Tap
Inch	2T-2SR	3/4"	1-3/4"	7/8"	5/16"-NC	1/8"
Metric	2T-2SRM	19,05	44,45	22,23	M8 X 1,25	❖1/8"

RCA Repair Kit Item Number **	RCA O-ring Replacements 10 Pieces
2T1-2SR	2T1-2OR-10
2T1-2SR	2T1-2OR-10

RCA Exploded View

❖ Thread to BSP & ISO 7-1

** RCA Repair Kit includes (2) O-rings, (2) snap rings and (2) thrust washers.

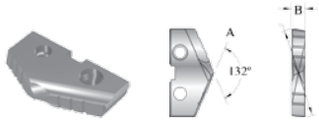
Replacement TORX Plus Screws

(supplied in 10 piece packages)

Holder Series	TORX Plus Screws 10 Pieces	Nylon Locking TORX Plus Screw 10 Pieces	TORX Plus Hand Driver	Preset Torque TORX Plus Hand Driver	Replacement TORX Plus Tips	INCH Drill Range Used With	INCH TORX Plus Screw Admissible Tightening Torque (in.-lbs.)	METRIC Drill Range Used With	METRIC TORX Plus Screw Admissible Tightening Torque (N-cm)
0	72556-IP8-10	72556N-IP8-10	8IP-8	8IP-8TL	8IP-8B	33/64" - 11/16"	15.5	13,0mm - 17,5mm	175
0.5	72567-IP8-10	72567N-IP8-10	8IP-8	8IP-8TL	8IP-8B	33/64" - 11/16"	15.5	13,0mm - 17,5mm	175

1 Series T-A® HSS Drill Inserts

Range: 0.690 to 0.960 inch (17,53mm to 24,38mm)



T-A® Drill Inserts

(supplied in 2 piece packages)

Material	A (Diameter)			B	Item Number, Coating and Availability					
	Fractional Equivalent	(mm)	(Inch)	Thickness	TiN	❶	TiAlN	❶	TiCN	❶
HSS	45/64”	17,86	0.7031	5/32”	131T-.703	❍	131A-.703	❍	131N-.703	❍
		18,00	0.7087		131T-18	❍	131A-18	❍	131N-18	❍
	23/32”	18,26	0.7188		131T-0023	❍	131A-0023	❍	131N-0023	❍
		18,50	0.7283		131T-18.5	❍	131A-18.5	❍	131N-18.5	❍
	47/64”	18,65	0.7344		131T-.734	❍	131A-.734	❍	131N-.734	❍
		19,00	0.7480		131T-19	❍	131A-19	❍	131N-19	❍
	3/4”	19,05	0.7500		131T-0024	❍	131A-0024	❍	131N-0024	❍
	49/64”	19,45	0.7656		131T-.765	❍	131A-.765	❍	131N-.765	❍
		19,50	0.7677		131T-19.5	❍	131A-19.5	❍	131N-19.5	❍
	25/32”	19,84	0.7813		131T-0025	❍	131A-0025	❍	131N-0025	❍
		20,00	0.7874		131T-20	❍	131A-20	❍	131N-20	❍
	51/64”	20,24	0.7969		131T-.796	❍	131A-.796	❍	131N-.796	❍
		20,50	0.8071		131T-20.5	❍	131A-20.5	❍	131N-20.5	❍
	13/16”	20,64	0.8125		131T-0026	❍	131A-0026	❍	131N-0026	❍
		21,00	0.8268		131T-21	❍	131A-21	❍	131N-21	❍
	27/32”	21,43	0.8438		131T-0027	❍	131A-0027	❍	131N-0027	❍
	55/64”	21,83	0.8594		131T-.859	❍	131A-.859	❍	131N-.859	❍
		22,00	0.8661		131T-22	❍	131A-22	❍	131N-22	❍
	7/8”	22,23	0.8750		131T-0028	❍	131A-0028	❍	131N-0028	❍
	57/64”	22,62	0.8906		131T-.890	❍	131A-.890	❍	131N-.890	❍
		23,00	0.9055		131T-23	❍	131A-23	❍	131N-23	❍
	29/32”	23,02	0.9063		131T-0029	❍	131A-0029	❍	131N-0029	❍
	59/64”	23,42	0.9219		131T-.921	❍	131A-.921	❍	131N-.921	❍
	15/16”	23,81	0.9375		131T-0030	❍	131A-0030	❍	131N-0030	❍
		24,00	0.9449		131T-24	❍	131A-24	❍	131N-24	❍
Super Cobalt	45/64”	17,86	0.7031	5/32”	151T-.703	❍	151A-.703	❍	151N-.703	❍
		18,00	0.7087		151T-18	❍	151A-18	❍	151N-18	❍
	23/32”	18,26	0.7188		151T-0023	❍	151A-0023	❍	151N-0023	❍
		18,50	0.7283		151T-18.5	❍	151A-18.5	❍	151N-18.5	❍
	47/64”	18,65	0.7344		151T-.734	❍	151A-.734	❍	151N-.734	❍
		19,00	0.7480		151T-19	❍	151A-19	❍	151N-19	❍
	3/4”	19,05	0.7500		151T-0024	❍	151A-0024	❍	151N-0024	❍
	49/64”	19,45	0.7656		151T-.765	❍	151A-.765	❍	151N-.765	❍
		19,50	0.7677		151T-19.5	❍	151A-19.5	❍	151N-19.5	❍
	25/32”	19,84	0.7813		151T-0025	❍	151A-0025	❍	151N-0025	❍
		20,00	0.7874		151T-20	❍	151A-20	❍	151N-20	❍
	51/64”	20,24	0.7969		151T-.796	❍	151A-.796	❍	151N-.796	❍
		20,50	0.8071		151T-20.5	❍	151A-20.5	❍	151N-20.5	❍
	13/16”	20,64	0.8125		151T-0026	❍	151A-0026	❍	151N-0026	❍
		21,00	0.8268		151T-21	❍	151A-21	❍	151N-21	❍
	27/32”	21,43	0.8438		151T-0027	❍	151A-0027	❍	151N-0027	❍
	55/64”	21,83	0.8594		151T-.859	❍	151A-.859	❍	151N-.859	❍
		22,00	0.8661		151T-22	❍	151A-22	❍	151N-22	❍
	7/8”	22,23	0.8750		151T-0028	❍	151A-0028	❍	151N-0028	❍
	57/64”	22,62	0.8906		151T-.890	❍	151A-.890	❍	151N-.890	❍
		23,00	0.9055		151T-23	❍	151A-23	❍	151N-23	❍
	29/32”	23,02	0.9063		151T-0029	❍	151A-0029	❍	151N-0029	❍
	59/64”	23,42	0.9219		151T-.921	❍	151A-.921	❍	151N-.921	❍
	15/16”	23,81	0.9375		151T-0030	❍	151A-0030	❍	151N-0030	❍
		24,00	0.9449		151T-24	❍	151A-24	❍	151N-24	❍

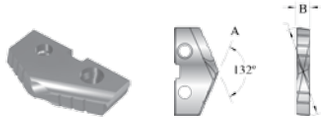
Geometries available (see page 151 for details): -CI, -SK, -CR, -HI, -HR, -BR, -CP, -NP, -IN, -RN, -CN, -NC, -WC, -AN.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.
Shaded diameters will also fit 1.5 series T-A® Holders. Please refer to the T-A® Holder section of this catalog.

Can be supplied with other coatings as a non-stocked standard. Process fee applies. Example:

TiN	XXXT-XXXX
TiAlN	XXXA-XXXX
TiCN	XXXN-XXXX
AM200®	XXXH-XXXX

1 Series T-A® HSS Drill Inserts

Range: 0.690 to 0.960 inch (17,53mm to 24,38mm)



T-A® Drill Inserts

(supplied in 2 piece packages)

Material	A (Diameter) Fractional Equivalent	A (Diameter) (mm)	A (Diameter) (Inch)	B Thickness	Item Number, Coating and Availability TiN	❶	TiAlN	❶	TiCN	❶
Premium Cobalt	45/64”	17,86	0.7031	5/32”	181T-.703	❍	181A-.703	❍	181N-.703	❍
		18,00	0.7087		181T-18	❍	181A- 18	❍	181N-18	❍
	23/32”	18,26	0.7188		181T-0023	❍	181A- 0023	❍	181N-0023	❍
		18,50	0.7283		181T-18.5	❍	181A- 18.5	❍	181N-18.5	❍
	47/64”	18,65	0.7344		181T-.734	❍	181A-.734	❍	181N-.734	❍
		19,00	0.7480		181T-19	❍	181A- 19	❍	181N-19	❍
	3/4”	19,05	0.7500		181T-0024	❍	181A- 0024	❍	181N-0024	❍
	49/64”	19,45	0.7656		181T-.765	❍	181A-.765	❍	181N-.765	❍
		19,50	0.7677		181T-19.5	❍	181A- 19.5	❍	181N-19.5	❍
	25/32”	19,84	0.7813		181T-0025	❍	181A- 0025	❍	181N-0025	❍
		20,00	0.7874		181T-20	❍	181A- 20	❍	181N-20	❍
	51/64”	20,24	0.7969		181T-.796	❍	181A-.796	❍	181N-.796	❍
		20,50	0.8071		181T-20.5	❍	181A- 20.5	❍	181N-20.5	❍
	13/16”	20,64	0.8125		181T-0026	❍	181A- 0026	❍	181N-0026	❍
		21,00	0.8268		181T-21	❍	181A- 21	❍	181N-21	❍
	27/32”	21,43	0.8438		181T-0027	❍	181A- 0027	❍	181N-0027	❍
	55/64”	21,83	0.8594		181T-.859	❍	181A-.859	❍	181N-.859	❍
		22,00	0.8661		181T-22	❍	181A- 22	❍	181N-22	❍
	7/8”	22,23	0.8750		181T-0028	❍	181A- 0028	❍	181N-0028	❍
	57/64”	22,62	0.8906		181T-.890	❍	181A-.890	❍	181N-.890	❍
		23,00	0.9055		181T-23	❍	181A- 23	❍	181N-23	❍
	29/32”	23,02	0.9063		181T-0029	❍	181A- 0029	❍	181N-0029	❍
	59/64”	23,42	0.9219		181T-.921	❍	181A-.921	❍	181N-.921	❍
	15/16”	23,81	0.9375		181T-0030	❍	181A- 0030	❍	181N-0030	❍
		24,00	0.9449		181T-24	❍	181A- 24	❍	181N-24	❍

Geometries available (see page 151 for details): -CI, -SK, -CR, -HI, -HR, -BR, -CP, -NP, -IN, -RN, -CN, -NC, -WC, -AN.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.
Shaded diameters will also fit 1.5 series T-A® Holders. Please refer to the T-A® Holder section of this catalog.

❶ Availability Codes
❍ Stocked
▲ Non-stocked

Sizes not shown (Non-Standard Diameters) are available. When ordering, please follow the examples shown below:

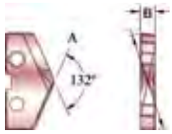
Decimals = 0.9025” TiAlN, 1 Series, HSS =131A-.9025
Metric = 19,25 mm TiCN, 1 Series, Super Cobalt =151N-19.25

1 Series T-A® HSS Drill Inserts

Range: 0.690 to 0.960 inch (17,53mm to 24,38mm)

GEN2 T-A®
(supplied in 2 piece packages)

U.S. Patent No.: 6,685,402 & 6,986,628 & 7,011,478
& 7,018,145 & 7,144,893 & 7,241,089 & 7,341,367
Euro Patent No.: 1 372 894 DE, GB, IT, FR
Korean Patent No: 764140
Other U.S. & International Patents Pending



Material	A (Diameter) Fractional Equivalent	A (Diameter) (mm)	A (Diameter) (Inch)	B Thickness	Item Number, Coating and Availability AM200®	❶
Super Cobalt	45/64”	17,86	0.7031	5/32”	451H-.703	❍
		18,00	0.7087		451H-18	❍
	23/32”	18,26	0.7188		451H-0023	❍
		18,50	0.7283		451H-18.5	❍
	47/64”	18,65	0.7344		451H-.734	❍
		19,00	0.7480		451H-19	❍
	3/4”	19,05	0.7500		451H-0024	❍
	49/64”	19,45	0.7656		451H-.765	❍
		19,50	0.7677		451H-19.5	❍
	25/32”	19,84	0.7813		451H-0025	❍
		20,00	0.7874		451H-20	❍
	51/64”	20,24	0.7969		451H-.796	❍
		20,34	0.8010		451H-.801	❍
		20,50	0.8071		451H-20.5	❍
	13/16”	20,64	0.8125		451H-0026	❍
		21,00	0.8268		451H-21	❍
	27/32”	21,43	0.8438		451H-0027	❍
		21,50	0.8465		451H-21.5	❍
	55/64”	21,83	0.8594		451H-.859	❍
		22,00	0.8661		451H-22	❍
	7/8”	22,23	0.8750		451H-0028	❍
		22,50	0.8858		451H-22.5	❍
	57/64”	22,62	0.8906		451H-.890	❍
		23,00	0.9055		451H-23	❍
	29/32”	23,02	0.9063		451H-0029	❍
	59/64”	23,42	0.9219		451H-.921	❍
	15/16”	23,81	0.9375		451H-0030	❍
		24,00	0.9449		451H-24	❍

GEN2 T-A® Provides:
- Lower drilling forces
- Increased drill stability
- Smoother breakouts on through holes
- Improved chip formation
- Supplied with AMEC’s exclusive AM200® coating for increased tool life

Geometries available (see page 151 for details): -HE.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.
Shaded diameters will also fit 1.5 series T-A® Holders. Please refer to the T-A® Holder section of this catalog.

Can be supplied with other coatings as a non-stocked standard. Process fee applies. Example:

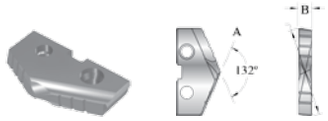
TiN	XXXT-XXXX
TiAlN	XXXA-XXXX
TiCN	XXXN-XXXX
AM200®	XXXH-XXXX

1 Series T-A® Carbide Drill Inserts

Range: 0.690 to 0.960 inch (17,53mm to 24,38mm)

T-A® Carbide Drill Inserts

(supplied in 2 piece packages)



Material	A (Diameter) Fractional Equivalent	(mm)	(Inch)	B Thickness	Item Number, Coating and Availability TiN	❶	TiAlN	❶
C2 (K20)	45/64”	17,86	0.7031	5/32”	1C21T-.703	❍	1C21A-.703	❍
		18,00	0.7087		1C21T-18	❍	1C21A-18	❍
	23/32”	18,26	0.7188		1C21T-0023	❍	1C21A-0023	❍
		18,50	0.7283		1C21T-18.5	❍	1C21A-18.5	❍
	47/64”	18,65	0.7344		1C21T-.734	❍	1C21A-.734	❍
		19,00	0.7480		1C21T-19	❍	1C21A-19	❍
	3/4”	19,05	0.7500		1C21T-0024	❍	1C21A-0024	❍
	49/64”	19,45	0.7656		1C21T-.765	❍	1C21A-.765	❍
		19,50	0.7677		1C21T-19.5	❍	1C21A-19.5	❍
	25/32”	19,84	0.7813		1C21T-0025	❍	1C21A-0025	❍
		20,00	0.7874		1C21T-20	❍	1C21A-20	❍
	51/64”	20,24	0.7969		1C21T-.796	❍	1C21A-.796	❍
		20,50	0.8071		1C21T-20.5	❍	1C21A-20.5	❍
	13/16”	20,64	0.8125		1C21T-0026	❍	1C21A-0026	❍
		21,00	0.8268		1C21T-21	❍	1C21A-21	❍
	27/32”	21,43	0.8438		1C21T-0027	❍	1C21A-0027	❍
	55/64”	21,83	0.8594		1C21T-.859	❍	1C21A-.859	❍
		22,00	0.8661		1C21T-22	❍	1C21A-22	❍
	7/8”	22,23	0.8750		1C21T-0028	❍	1C21A-0028	❍
	57/64”	22,62	0.8906		1C21T-.890	❍	1C21A-.890	❍
		23,00	0.9055		1C21T-23	❍	1C21A-23	❍
	29/32”	23,02	0.9063		1C21T-0029	❍	1C21A-0029	❍
	59/64”	23,42	0.9219		1C21T-.921	❍	1C21A-.921	❍
	15/16”	23,81	0.9375		1C21T-0030	❍	1C21A-0030	❍
		24,00	0.9449		1C21T-24	❍	1C21A-24	❍
C5 (P40)	45/64”	17,86	0.7031	5/32”	1C51T-.703	❍	1C51A-.703	❍
		18,00	0.7087		1C51T-18	❍	1C51A-18	❍
	23/32”	18,26	0.7188		1C51T-0023	❍	1C51A-0023	❍
		18,50	0.7283		1C51T-18.5	❍	1C51A-18.5	❍
	47/64”	18,65	0.7344		1C51T-.734	❍	1C51A-.734	❍
		19,00	0.7480		1C51T-19	❍	1C51A-19	❍
	3/4”	19,05	0.7500		1C51T-0024	❍	1C51A-0024	❍
	49/64”	19,45	0.7656		1C51T-.765	❍	1C51A-.765	❍
		19,50	0.7677		1C51T-19.5	❍	1C51A-19.5	❍
	25/32”	19,84	0.7813		1C51T-0025	❍	1C51A-0025	❍
		20,00	0.7874		1C51T-20	❍	1C51A-20	❍
	51/64”	20,24	0.7969		1C51T-.796	❍	1C51A-.796	❍
		20,50	0.8071		1C51T-20.5	❍	1C51A-20.5	❍
	13/16”	20,64	0.8125		1C51T-0026	❍	1C51A-0026	❍
		21,00	0.8268		1C51T-21	❍	1C51A-21	❍
	27/32”	21,43	0.8438		1C51T-0027	❍	1C51A-0027	❍
	55/64”	21,83	0.8594		1C51T-.859	❍	1C51A-.859	❍
		22,00	0.8661		1C51T-22	❍	1C51A-22	❍
	7/8”	22,23	0.8750		1C51T-0028	❍	1C51A-0028	❍
	57/64”	22,62	0.8906		1C51T-.890	❍	1C51A-.890	❍
		23,00	0.9055		1C51T-23	❍	1C51A-23	❍
	29/32”	23,02	0.9063		1C51T-0029	❍	1C51A-0029	❍
	59/64”	23,42	0.9219		1C51T-.921	❍	1C51A-.921	❍
	15/16”	23,81	0.9375		1C51T-0030	❍	1C51A-0030	❍
		24,00	0.9449		1C51T-24	❍	1C51A-24	❍

Geometries available (see page 151 for details): -CI, -SK, -CR, -HI, -HR, -BR, -CP, -NP, -IN, -RN, -CN, -NC, -WC, -AN.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.
Shaded diameters will also fit 1.5 series T-A® Holders. Please refer to the T-A® Holder section of this catalog.

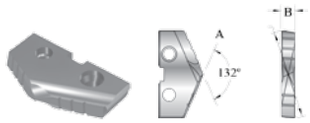
❶ Availability Codes
❍ Stocked
▲ Non-stocked

Sizes not shown (Non-Standard Diameters) are available. When ordering, please follow the examples shown below:

64ths = 53/64, TiCN, 1 Series, Super Cobalt, GEN2 T-A®	=451N-.828
Decimals = 0.9025” TiAlN, 1 Series, C5	=1C51A-.9025
Metric = 19,25 mm TiCN, 1 Series, Super Cobalt, GEN2 T-A®	=451N-19.25

1 Series T-A® Carbide Drill Inserts

Range: 0.690 to 0.960 inch (17,53mm to 24,38mm)



Cast Iron Geometry T-A® Drill Inserts

(supplied in 2 piece packages)

Material	A (Diameter) Fractioanl Equivolent	(mm)	(Inch)	B Thickness	Item Number, Coating and Availability TiAIN	❶
C3 (K10)	45/64”	17,86	0.7031	5/32”	1C31A-.703-CI	❍
		18,00	0.7087		1C31A-18-CI	❍
	23/32”	18,26	0.7188		1C31A-0023-CI	❍
		18,50	0.7283		1C31A-18.5-CI	❍
	47/64”	18,65	0.7344		1C31A-.734-CI	❍
		19,00	0.7480		1C31A-19-CI	❍
	3/4”	19,05	0.7500		1C31A-0024-CI	❍
	49/64”	19,45	0.7656		1C31A-.765-CI	❍
		19,50	0.7677		1C31A-19.5-CI	❍
	25/32”	19,84	0.7813		1C31A-0025-CI	❍
		20,00	0.7874		1C31A-20-CI	❍
	51/64”	20,24	0.7969		1C31A-.796-CI	❍
		20,50	0.8071		1C31A-20.5-CI	❍
	13/16”	20,64	0.8125		1C31A-0026-CI	❍
		21,00	0.8268		1C31A-21-CI	❍
	27/32”	21,43	0.8438		1C31A-0027-CI	❍
	55/64”	21,83	0.8594		1C31A-.859-CI	❍
		22,00	0.8661		1C31A-22-CI	❍
	7/8”	22,23	0.8750		1C31A-0028-CI	❍
	57/64”	22,62	0.8906		1C31A-.890-CI	❍
		23,00	0.9055		1C31A-23-CI	❍
	29/32”	23,02	0.9063		1C31A-0029-CI	❍
	59/64”	23,42	0.9219		1C31A-.921-CI	❍
	15/16”	23,81	0.9375		1C31A-0030-CI	❍
		24,00	0.9449		1C31A-24-CI	❍

This insert is specifically designed for use in **Grey Cast Iron**. (Use standard T-A® geometry for Nodular Iron)

- C3 Carbide offers high wear resistance for improved tool life.
- Cast Iron (-CI) geometry provides a unique design to minimize chipping.
- TiAIN offers exceptional wear resistance and high heat capabilities to increase tool life and penetration rates in Grey Cast Iron.

Shaded diameters will also fit 1.5 series T-A® Holders. Please refer to the T-A® Holder section of this catalog.

Can be supplied with other coatings as a non-stocked standard. Process fee applies. Example:

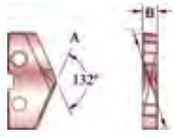
TiN	XXXT-XXXX
TiAIN	XXXA-XXXX
TiCN	XXXN-XXXX
AM200®	XXXH-XXXX

1 Series T-A® Carbide Drill Inserts

Range: 0.690 to 0.960 inch (17,53mm to 24,38mm)

GEN2 T-A®

(supplied in 2 piece packages)



Material	A (Diameter) Fractional Equivalent	A (Diameter) (mm)	A (Diameter) (Inch)	B Thickness	Item Number, Coating and Availability AM200®	❶
C2 (K20)	45/64”	17,86	0.7031	5/32”	4C21H-.703	❍
		18,00	0.7087		4C21H-18	❍
	23/32”	18,26	0.7188		4C21H-0023	❍
		18,50	0.7283		4C21H-18.5	❍
	47/64”	18,65	0.7344		4C21H-.734	❍
		19,00	0.7480		4C21H-19	❍
	3/4”	19,05	0.7500		4C21H-0024	❍
	49/64”	19,45	0.7656		4C21H-.765	❍
		19,50	0.7677		4C21H-19.5	❍
	25/32”	19,84	0.7813		4C21H-0025	❍
		20,00	0.7874		4C21H-20	❍
	51/64”	20,24	0.7969		4C21H-.796	❍
		20,50	0.8071		4C21H-20.5	❍
	13/16”	20,64	0.8125		4C21H-0026	❍
		21,00	0.8268		4C21H-21	❍
	27/32”	21,43	0.8438		4C21H-0027	❍
	55/64”	21,83	0.8594		4C21H-.859	❍
		22,00	0.8661		4C21H-22	❍
	7/8”	22,23	0.8750		4C21H-0028	❍
	57/64”	22,62	0.8906		4C21H-.890	▲
		23,00	0.9055		4C21H-23	▲
	29/32”	23,02	0.9063		4C21H-0029	❍
	59/64”	23,42	0.9219		4C21H-.921	▲
	15/16”	23,81	0.9375		4C21H-0030	❍
		24,00	0.9449		4C21H-24	❍
C1 (K35)	45/64”	17,86	0.7031	5/32”	4C11H-.703	❍
		18,00	0.7087		4C11H-18	❍
	23/32”	18,26	0.7188		4C11H-0023	❍
		18,50	0.7283		4C11H-18.5	▲
	47/64”	18,65	0.7344		4C11H-.734	▲
		19,00	0.7480		4C11H-19	❍
	3/4”	19,05	0.7500		4C11H-0024	❍
	49/64”	19,45	0.7656		4C11H-.765	❍
		19,50	0.7677		4C11H-19.5	▲
	25/32”	19,84	0.7813		4C11H-0025	❍
		20,00	0.7874		4C11H-20	▲
	51/64”	20,24	0.7969		4C11H-.796	❍
		20,50	0.8071		4C11H-20.5	▲
	13/16”	20,64	0.8125		4C11H-0026	❍
		21,00	0.8268		4C11H-21	▲
	27/32”	21,43	0.8438		4C11H-0027	❍
	55/64”	21,83	0.8594		4C11H-.859	▲
		22,00	0.8661		4C11H-22	❍
	7/8”	22,23	0.8750		4C11H-0028	❍
	57/64”	22,62	0.8906		4C11H-.890	▲
		23,00	0.9055		4C11H-23	▲
	29/32”	23,02	0.9063		4C11H-0029	❍
	59/64”	23,42	0.9219		4C11H-.921	❍
	15/16”	23,81	0.9375		4C11H-0030	❍
		24,00	0.9449		4C11H-24	❍

GEN2 T-A® Provides:

- Lower drilling forces
- Increased drill stability
- Smoother breakouts on through holes
- Improved chip formation
- Supplied with AMEC’s exclusive AM200® coating for increased tool life

Geometries available (see page 151 for details): -HE
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.

❶ Availability Codes
❍ Stocked
▲ Non-stocked

Sizes not shown (Non-Standard Diameters) are available. When ordering, please follow the examples shown below:

Decimals = 0.9025” TiAlN, 1 Series, HSS =131A-.9025
Metric = 19,25 mm TiCN, 1 Series, Super Cobalt =151N-19.25

1 Series T-A® HSS Drill Inserts

Range: 0.690 to 0.960 inch (17,53mm to 24,38mm)


90º Spot and Chamfer T-A® Drill Inserts

(supplied in 2 piece packages)

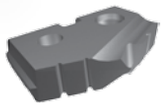
U.S. Patent No.: 6,848,869

Material	A (Diameter) Fractional Equivalent	(mm)	(Inch)	B Thickness	Item Number, Coating and Availability TiN	❶	TiAlN	❶	TiCN	❶
Super Cobalt	45/64”	17,86	0.7031	5/32”	151T-.703-SP	▲	151A-.703-SP	▲	151N-.703-SP	▲
		18,00	0.7087		151T-18-SP	▲	151A-18-SP	▲	151N-18-SP	▲
	23/32”	18,26	0.7188		151T-0023-SP	▲	151A-0023-SP	▲	151N-0023-SP	▲
		18,50	0.7283		151T-18.5-SP	▲	151A-18.5-SP	▲	151N-18.5-SP	▲
	47/64”	18,65	0.7344		151T-.734-SP	▲	151A-.734-SP	▲	151N-.734-SP	▲
		19,00	0.7480		151T-19-SP	▲	151A-19-SP	▲	151N-19-SP	▲
	3/4”	19,05	0.7500		151T-0024-SP	❍	151A-0024-SP	❍	151N-0024-SP	▲
	49/64”	19,45	0.7656		151T-.765-SP	▲	151A-.765-SP	▲	151N-.765-SP	▲
		19,50	0.7677		151T-19.5-SP	▲	151A-19.5-SP	▲	151N-19.5-SP	▲
	25/32”	19,84	0.7813		151T-0025-SP	▲	151A-0025-SP	▲	151N-0025-SP	▲
		20,00	0.7874		151T-20-SP	▲	151A-20-SP	▲	151N-20-SP	▲
	51/64”	20,24	0.7969		151T-.796-SP	▲	151A-.796-SP	▲	151N-.796-SP	▲
		20,50	0.8071		151T-20.5-SP	▲	151A-20.5-SP	▲	151N-20.5-SP	▲
	13/16”	20,64	0.8125		151T-0026-SP	▲	151A-0026-SP	▲	151N-0026-SP	▲
		21,00	0.8268		151T-21-SP	▲	151A-21-SP	▲	151N-21-SP	▲
	27/32”	21,43	0.8438		151T-0027-SP	▲	151A-0027-SP	▲	151N-0027-SP	▲
	55/64”	21,83	0.8594		151T-.859-SP	▲	151A-.859-SP	▲	151N-.859-SP	▲
		22,00	0.8661		151T-22-SP	▲	151A-22-SP	▲	151N-22-SP	▲
	7/8”	22,23	0.8750		151T-0028-SP	❍	151A-0028-SP	❍	151N-0028-SP	❍
		22,50	0.8858		151T-22.5-SP	▲	151A-22.5-SP	▲	151N-22.5-SP	▲
	57/64”	22,62	0.8906		151T-.890-SP	▲	151A-.890-SP	▲	151N-.890-SP	▲
		23,00	0.9055		151T-23-SP	▲	151A-23-SP	▲	151N-23-SP	▲
	29/32”	23,02	0.9063		151T-0029-SP	▲	151A-0029-SP	▲	151N-0029-SP	▲
	59/64”	23,42	0.9219		151T-.921-SP	▲	151A-.921-SP	▲	151N-.921-SP	▲
	15/16”	23,81	0.9375		151T-0030-SP	▲	151A-0030-SP	▲	151N-0030-SP	▲
		24,00	0.9449		151T-24-SP	❍	151A-24-SP	❍	151N-24-SP	❍

Geometries available (see page 151 for details): -SW.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.
Shaded diameters will also fit 1.5 series T-A® Holders. Please refer to the T-A® Holder section of this catalog.

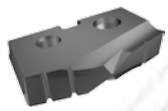
*Thin Wall

U.S. Patent No.: 7,147,414



**Notch Point®

U.S. Patent No.: 6,685,402 & 6,986,628 & 7,114,893 & 7,371,035
Euro Patent No.: 1 372 894 DE, GB, IT, FR
Other U.S. & International Patents Pending



**150º Structural Steel

U.S. Patent No.: 6,685,402 & 6,986,628 & 7,114,893 &7,341,035
Euro Patent No.: 1 372 894 DE, GB, IT, FR
Other U.S. & International Patents Pending

Structural Steel T-A® Drill Inserts

(supplied in 2 piece packages)

Material	A (Diameter) Fractional Equivalent	(mm)	(Inch)	B Thickness	Item Number, Coating and Availability *Thin Wall TiAlN	❶	**Notch Point® TiAlN	❶	150º Structural Steel TiCN	❶
Super Cobalt	-	18,00	.7087	5/32”	151A-18-TW	❍	151A-18-NP	❍	151A-18-SS	❍
	13/16”	20,64	.8125		151A-0026-TW	❍	151A-0026-NP	❍	151A-0026-SS	❍
	-	22,00	.8661		151A-22-TW	❍	151A-22-NP	❍	151A-22-SS	❍
	7/8”	22,23	.8750		151A-0028-TW	❍	151A-0028-NP	❍	151A-0028-SS	❍
	15/16”	23,81	.9375		151A-0030-TW	❍	151A-0030-NP	❍	151A-0030-SS	❍
	-	24,00	.9449		151A-24-TW	❍	151A-24-NP	❍	151A-24-SS	❍

*Use Thin Wall Drill Inserts for material up to 7/16” thick.
**Use Notch Point® Geometry or 150º Structural Steel Drill Inserts for material over 7/16” thick. Use 150º Structural Steel for reduced exir burr.

Can be supplied with other coatings as a non-stocked standard. Process fee applies. Example:

TiN	XXXT-XXXX
TiAlN	XXXA-XXXX
TiCN	XXXN-XXXX
AM200®	XXXH-XXXX

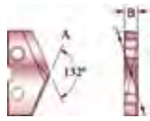
1 Series T-A® HSS Drill Inserts

Range: 0.690 to 0.960 inch (17,53mm to 24,38mm)

Tube Sheet Drilling T-A® Drill Inserts

(supplied in 2 piece packages)

U.S. Patent No.: 6,685,402 & 6,986,628
& 7,144,893 & 7,371,035
Euro Patent No.: 1 372 894 DE, GB, IT, FR
Other U.S. & International Patents Pending

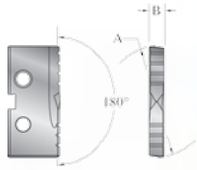


Material	A (Diameter) Fractional Equivalent	A (Diameter) (mm)	A (Diameter) (Inch)	B Thickness	Item Number, Coating and Availability AM200®	❶
HSS		19,25	0.7580	5/32”	131H-.7580-IN	❍
	49/64”	19,45	0.7656		131H-.765-IN	❍
	25/32”	19,85	0.7813		131H-0025-IN	❍
Super Cobalt		19,25	0.7580		151H-7580-IN	❍
	49/64”	19,45	0.7656		151H-.765-IN	❍
	25/32”	19,85	0.7813		151H-0025-IN	❍

Flat Bottom T-A® Carbide Drill Inserts

(supplied in 2 piece packages)

U.S. Patent No.: 6,135,681
Canadian Patent No: 2,341,367
Euro Patent No.: 1 210 196 DE, GB, IT, FR
Other International Patents Pending



Material	A (Diameter) Fractional Equivalent	A (Diameter) (mm)	A (Diameter) (Inch)	B Thickness	Item Number, Coating and Availability TiN	❶
Super Cobalt	45/64”	17,86	0.7031	5/32”	151T-.703-FB	❍
		18,00	0.7087		151T-18-FB	❍
	23/32”	18,26	0.7188		151T-0023-FB	❍
		18,50	0.7283		151T-18.5-FB	❍
	47/64”	18,65	0.7344		151T-.734-FB	❍
		19,00	0.7480		151T-19-FB	❍
	3/4”	19,05	0.7500		151T-0024-FB	❍
	49/64”	19,45	0.7656		151T-.765-FB	❍
		19,50	0.7677		151T-19.5-FB	❍
	25/32”	19,84	0.7813		151T-0025-FB	❍
		20,00	0.7874		151T-20-FB	❍
		20,50	0.8071		151T-20.5-FB	❍
	13/16”	20,64	0.8125		151T-0026-FB	❍
		21,00	0.8268		151T-21-FB	❍
	27/32”	21,43	0.8438		151T-0027-FB	❍
		22,00	0.8661		151T-22-FB	❍
	7/8”	22,23	0.8750		151T-0028-FB	❍
		23,00	0.9055		151T-23-FB	❍
	29/32”	23,02	0.9063		151T-0029-FB	❍
	59/64”	23,42	0.9219		151T-.921-FB	❍
	15/16”	23,81	0.9375		151T-0030-FB	❍
		24,00	0.9449		151T-24-FB	❍

Geometries available (see page 151 for details): -FN.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.
Shaded diameters will also fit 1.5 series T-A® Holders. Please refer to the T-A® Holder section of this catalog.

❶ Availability Codes
❍ Stocked
▲ Non-stocked

Sizes not shown (Non-Standard Diameters) are available. When ordering, please follow the examples shown below:
Decimals = 0.5400” TiAlN, 0 Series, C5 =1C50A-.5400
Metric = 12,10 mm TiCN, Z Series, C2 =1C50N-15.10

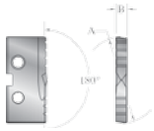
1 Series T-A® Carbide Drill Inserts

Range: 0.690 to 0.960 inch (17,53mm to 24,38mm)

Flat Bottom T-A® Carbide Drill Inserts

(supplied in 2 piece packages)

U.S. Patent No.: 6,135,681
Canadian Patent No: 2,341,367
Euro Patent No.: 1 210 196 DE, GB, IT, FR
Other International Patents Pending



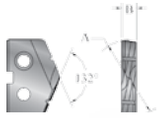
Material	A (Diameter)			B	Item Number, Coating and Availability	
	Fractional Equivalent	(mm)	(Inch)	Thickness	TiN	❶
C2 (K20)	45/64”	17,86	0.7031	5/32”	1C21T-.703-FB	▲
		18,00	0.7087		1C21T-18-FB	▲
	23/32”	18,26	0.7188		1C21T-0023-FB	▲
		18,50	0.7283		1C21T-18.5-FB	▲
	47/64”	18,65	0.7344		1C21T-.734-FB	▲
		19,00	0.7480		1C21T-19-FB	▲
	3/4”	19,05	0.7500		1C21T-0024-FB	▲
	49/64”	19,45	0.7656		1C21T-.765-FB	▲
		19,50	0.7677		1C21T-19.5-FB	▲
	25/32”	19,84	0.7813		1C21T-0025-FB	▲
		20,00	0.7874		1C21T-20-FB	▲
		20,50	0.8071		1C21T-20.5-FB	▲
	13/16”	20,64	0.8125		1C21T-0026-FB	▲
		21,00	0.8268		1C21T-21-FB	▲
	27/32”	21,43	0.8438		1C21T-0027-FB	▲
		22,00	0.8661		1C21T-22-FB	▲
	7/8”	22,23	0.8750		1C21T-0028-FB	▲
		23,00	0.9055		1C21T-23-FB	▲
	29/32”	23,02	0.9063		1C21T-0029-FB	▲
	59/64”	23,42	0.9219		1C21T-.921-FB	▲
	15/16”	23,81	0.9375		1C21T-0030-FB	▲
		24,00	0.9449		1C21T-24-FB	▲

Geometries available (see page 151 for details): -FN.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.
Shaded diameters will also fit 1.5 series T-A® Holders. Please refer to the T-A® Holder section of this catalog.

Diamond Coated T-A® Carbide Drill Inserts

(supplied in 1 piece packages)

U.S. Patent No.: 6,902,359
Other International Patents pending



Material	A (Diameter)			B	Item Number, Coating and Availability	
	Fractional Equivolent	(mm)	(Inch)	Thickness	CVD Diamond	❶
N2	45/64”	17,86	0.7031	5/32”	1N21D-.703	▲
		18,00	0.7087		1N21D-18	▲
	23/32”	18,26	0.7188		1N21D-0023	▲
		18,50	0.7283		1N21D-18.5	▲
	47/64”	18,65	0.7344		1N21D-.734	▲
		19,00	0.7480		1N21D-19	▲
	3/4”	19,05	0.7500		1N21D-0024	▲
	49/64”	19,45	0.7656		1N21D-.765	▲
		19,50	0.7677		1N21D-19.5	▲
	25/32”	19,84	0.7813		1N21D-0025	▲
		20,00	0.7874		1N21D-20	▲
	51/64”	20,24	0.7969		1N21D-.796	▲
		20,50	0.8071		1N21D-20.5	▲
	13/16”	20,64	0.8125		1N21D-0026	▲
		21,00	0.8268		1N21D-21	▲
	27/32”	21,43	0.8438		1N21D-0027	▲
	55/64”	21,83	0.8594	5/32”	1N21D-.859	▲
		22,00	0.8661		1N21D-22	▲
	7/8”	22,23	0.8750		1N21D-0028	▲
		22,50	0.8858		1N21D-22.5	▲
	57/64”	22,62	0.8906		1N21D-.890	▲
		23,00	0.9055		1N21D-23	▲
	29/32”	23,02	0.9063		1N21D-0029	▲
	59/64”	23,42	0.9219		1N21D-.921	▲
	15/16”	23,81	0.9375		1N21D-0030	▲
		24,00	0.9449		1N21D-24	▲

Crystalline, Diamond Film Coating produces:

- Increased hardness
- Increased Durability
- Increased Performance

Extends tool life 30-50 times versus uncoated carbide drill inserts

Used in non-ferrous / non-metallic applications

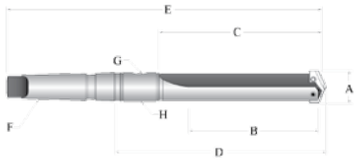
Patented Geometry

Can be supplied with other coatings as a non-stocked standard. Process fee applies. Example:

TiN	XXXT-XXXX
TiAlN	XXXA-XXXX
TiCN	XXXN-XXXX
AM200®	XXXH-XXXX

1 and 1.5 Series T-A® Holders

Range: 0.690 to 0.960 inch (17,53mm to 24,38mm)

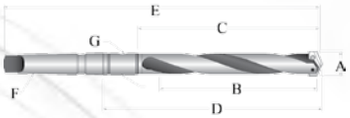


*Metric Per ISO 296 Type BEK

Taper Shank Straight Flute Holders

Length	Item Number NEW	Item Number OLD	A Drill Insert Range	B Max. Drill Depth	C Body Length	D Ref. Length	E Overall Length	F MT	G Pipe Tap	H RCA
Short	22010S-003I	211T-0003	45/64” - 15/16”	2-3/4”	3-7/8”	5-39/64”	9-5/32”	#3	1/8”	2T-3SR
	22010S-004I	211T-0004	45/64” - 15/16”	2-3/4”	3-7/8”	5-43/64”	10-5/32”	#4	1/8”	2T-3SR
Short	22015S-003I	211.5T-0003	55/64” - 15/16”	2-3/4”	3-7/8”	5-39/64”	9-5/32”	#3	1/8”	2T-3SR
	22015S-003I	211.5T-0004	55/64” - 15/16”	2-3/4”	3-7/8”	5-43/64”	10-5/32”	#4	1/8”	2T-3SR
Intermediate	23010S-003I	N/A	45/64” - 15/16”	4-3/4”	5-7/8”	7-39/64”	11-5/32”	#3	1/8”	2T-3SR
Intermediate	23015S-003I	N/A	55/64” - 15/16”	4-3/4”	5-7/8”	7-39/64”	11-5/32”	#3	1/8”	2T-3SR
Standard	24010S-003I	N/A	45/64” - 15/16”	6-3/4”	7-7/8”	9-39/64”	13-5/32”	#3	1/8”	2T-3SR
	24010S-004I	N/A	45/64” - 15/16”	6-3/4”	7-7/8”	9-43/64”	14-5/32”	#4	1/8”	2T-3SR
Standard	24015S-003I	N/A	55/64” - 15/16”	6-3/4”	7-7/8”	9-39/64”	13-5/32”	#3	1/8”	2T-3SR
	24015S-004I	N/A	55/64” - 15/16”	6-3/4”	7-7/8”	9-43/64”	14-5/32”	#4	1/8”	2T-3SR
Extended	25010S-003I	N/A	45/64” - 15/16”	10-3/4”	11-7/8”	13-39/64”	17-5/32”	#3	1/8”	2T-3SR
Extended	25015S-003I	N/A	55/64” - 15/16”	10-3/4”	11-7/8”	13-39/64”	17-5/32”	#3	1/8”	2T-3SR
***Metric (mm)**										
Short	22010S-003M	211T-03	18,0 - 24,0	69,8	98,4	142,5	232,5	#3	1/8”	2T-3SRM
Short	22015S-003M	211.5T-03	22,0 - 24,0	69,8	98,4	142,5	232,5	#3	1/8”	2T-3SRM

*Metric Thread to BSP & ISO 7-1



*Metric Per ISO 296 Type BEK

Taper Shank Helical Flute Holders

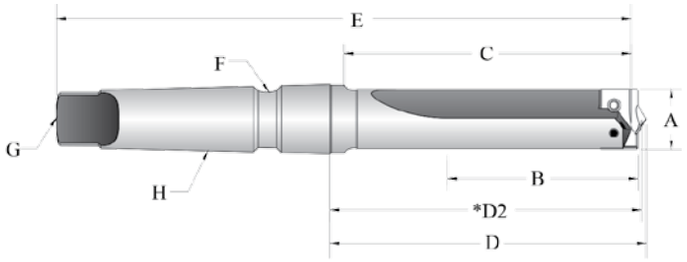
Length	Item Number NEW	Item Number OLD	A Drill Insert Range	B Max. Drill Depth	C Body Length	D Ref. Length	E Overall Length	F MT	G Pipe Tap	H RCA
Intermediate	23010H-003I	2101T-0003	45/64” - 15/16”	4-3/4”	5-7/8”	7-39/64”	11-5/32”	#3	1/8”	2T-3SR
Intermediate	23015H-003I	2101.5T-0003	55/64” - 15/16”	4-3/4”	5-7/8”	7-39/64”	11-5/32”	#3	1/8”	2T-3SR
Standard	24010H-003I	221T-0003	45/64” - 15/16”	6-3/4”	7-7/8”	9-39/64”	13-5/32”	#3	1/8”	2T-3SR
	24010H-004I	221T-0004	45/64” - 15/16”	6-3/4”	7-7/8”	9-43/64”	14-5/32”	#4	1/8”	2T-3SR
Standard	24015H-003I	221T-0003	55/64” - 15/16”	6-3/4”	7-7/8”	9-39/64”	13-5/32”	#3	1/8”	2T-3SR
	24015H-004I	221T-0004	55/64” - 15/16”	6-3/4”	7-7/8”	9-43/64”	14-5/32”	#4	1/8”	2T-3SR
Extended	25010H-003I	251T-0003	45/64” - 15/16”	10-3/4”	11-7/8”	13-39/64”	17-5/32”	#3	1/8”	2T-3SR
Extended	25015H-003I	251.5T-0003	55/64” - 15/16”	10-3/4”	11-7/8”	13-39/64”	17-5/32”	#3	1/8”	2T-3SR
***Metric (mm)**										
Intermediate	23101H-003M	2101T-03	18,0 - 24,0	120,7	149,2	193,3	283,3	#3	1/8”	2T-3SRM
Intermediate	23015H-003M	2101.5T-03	22,0 - 24,0	120,7	149,2	193,3	283,3	#3	1/8”	2T-3SRM
Standard	24010H-003M	221T-03	18,0 - 24,0	171,5	200,0	244,1	334,2	#3	1/8”	2T-3SRM
Standard	24015H-003M	221.5T-03	22,0 - 24,0	171,5	200,0	244,1	334,2	#3	1/8”	2T-3SRM
Extended	25010H-003M	251.5T-03	18,0 - 24,0	273,1	301,6	345,7	435,8	#3	1/8”	2T-3SRM
Extended	25015H-003M	251.5T-03	22,0 - 24,0	273,1	301,6	345,7	435,8	#3	1/8”	2T-3SRM

Note: AMEC Recommends the use of the 0.5, 1.5, or 2.5 series holders where appropriate.

White	1 Series
Grey	1.5 Series

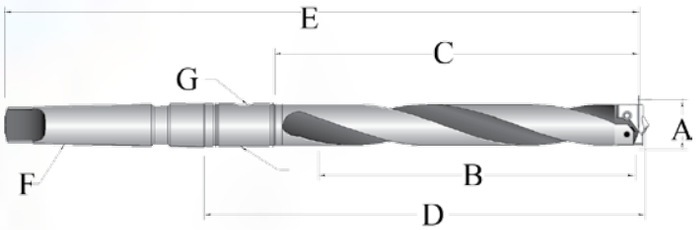
1 and 1.5 Series T-A® Holders

Range: 0.690 to 0.960 inch (17,53mm to 24,38mm)



Structural Steel Taper Shank Straight Flute Holders

Length	Item Number	A	B	C	D	*D2	E	F	G	H
		Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Ref. Length	Overall Length	MT	Coolant Inlet-Style	
Short	22010S-003IS045	18mm	2-3/4”	3-7/8”	4-17/64”	4-13/64”	7-3/4”	#3	TTC	TSC
Short	22010S-004IS045	18mm	2-3/4”	3-7/8”	4-21/64”	4-17/64”	8-3/4”	#4	TTC	TSC
Short	22010S-003IS052	13/16”	2-3/4”	3-7/8”	4-17/64”	4-13/64”	7-3/4”	#3	TTC	TSC
Short	22010S-004IS052	13/16”	2-3/4”	3-7/8”	4-21/64”	4-17/64”	8-3/4”	#4	TTC	TSC
Short	22015S-003IS056	7/8”	2-3/4”	3-7/8”	4-17/64”	4-13/64”	7-3/4”	#3	TTC	TSC
Short	22015S-004IS056	7/8”	2-3/4”	3-7/8”	4-21/64”	4-17/64”	8-3/4”	#4	TTC	TSC
Short	22015S-003IS060	15/16”	2-3/4”	3-7/8”	4-17/64”	4-13/64”	7-3/4”	#3	TTC	TSC
Short	22015S-004IS060	15/16”	2-3/4”	3-7/8”	4-21/64”	4-17/64”	8-3/4”	#4	TTC	TSC

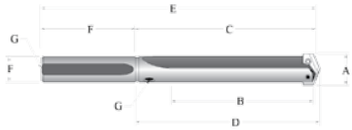


Structural Steel Taper Shank Helical Flute Holders

Length	Item Number	A	B	C	D	*D2	E	F	G	H
		Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Ref. Length	Overall Length	MT	Coolant Inlet-Style	
Standard	24010H-003IS045	18mm	4-3/4”	5-7/8”	6-17/64”	6-13/64”	9-3/4”	#3	TTC	TSC
Standard	24010H-004IS045	18mm	4-3/4”	5-7/8”	6-21/64”	6-17/64”	10-3/4”	#4	TTC	TSC
Standard	24010H-003IS052	13/16”	4-3/4”	5-7/8”	6-17/64”	6-13/64”	9-3/4”	#3	TTC	TSC
Standard	24015H-004IS052	13/16”	4-3/4”	5-7/8”	6-21/64”	6-17/64”	10-3/4”	#4	TTC	TSC
Standard	24015H-003IS056	7/8”	4-3/4”	5-7/8”	6-17/64”	6-13/64”	9-3/4”	#3	TTC	TSC
Standard	24015H-004IS056	7/8”	4-3/4”	5-7/8”	6-21/64”	6-17/64”	10-3/4”	#4	TTC	TSC
Standard	24015H-003IS060	15/16”	4-3/4”	5-7/8”	6-17/64”	6-13/64”	9-3/4”	#3	TTC	TSC
Standard	24015H-004IS060	15/16”	4-3/4”	5-7/8”	6-21/64”	6-17/64”	10-3/4”	#4	TTC	TSC
Extended	25010H-003IS045	18mm	6-1/2”	9-11/32”	9-47/64”	9-1/2”	13-7/32”	#3	TTC	TSC
Extended	25010H-003IS052	13/16”	6-1/2”	9-11/32”	9-47/64”	9-1/2”	13-7/32”	#3	TTC	TSC
Extended	25010H-004IS052	13/16”	6-1/2”	9-9/32”	9-47/64”	9-43/64”	14-5/32”	#4	TTC	TSC
Extended	25015H-003IS060	15/16”	6-1/2”	9-11/32”	9-47/64”	9-15/32”	13-7/32”	#3	TTC	TSC
Extended	25015H-004IS060	15/16”	6-1/2”	9-9/32”	9-47/64”	9-43/64”	14-5/32”	#4	TTC	TSC
Long	26010H-004IS52	13/16”	6-1/2”	15-25/32”	16-15/64”	16-11/64”	20-21/32”	#4	TTC	TSC
Long	26015H-004IS060	15/16”	6-1/2”	15-13/16”	16-17/64”	16-13/64”	20-11/16”	#4	TTC	TSC

1 and 1.5 Series T-A® Holders

Range: 0.690 to 0.960 inch (17,53mm to 24,38mm)

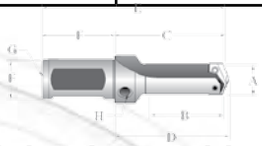


Straight Shank Straight Flute Holders

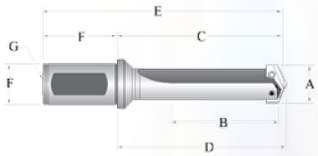
Length	Item Number		A	B	C	D	E	F		G
								Shank		
	NEW	OLD	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	Dia.	Length	Pipe Tap
Short	22010S-075L	231T-0750	45/64" - 15/16"	2-5/8"	3-7/8"	4-1/64"	6-7/8"	3/4"	3"	1/8"
	22010S-100L	231T-1000	45/64" - 15/16"	2-5/8"	3-7/8"	4-1/64"	6-7/8"	1"	3"	1/8"
Short	22015S-075L	231.5T-0750	55/64" - 15/16"	2-5/8"	3-7/8"	4-1/64"	6-7/8"	3/4"	3"	1/8"
	22015S-100L	231.5T-1000	55/64" - 15/16"	2-5/8"	3-7/8"	4-1/64"	6-7/8"	1"	3"	1/8"
Intermediate	23010S-100L	2111T-1000	45/64" - 15/16"	4-5/8"	5-7/8"	6-1/64"	8-7/8"	1"	3"	1/8"
Intermediate	23015S-100L	2111.5T-1000	55/64" - 15/16"	4-5/8"	5-7/8"	6-1/64"	8-7/8"	1"	3"	1/8"
Standard	24010S-075L	241T-0750	45/64" - 15/16"	6-5/8"	7-7/8"	8-1/64"	10-7/8"	3/4"	3"	1/8"
	24010S-100L	241T-1000	45/64" - 15/16"	6-5/8"	7-7/8"	8-1/64"	10-7/8"	1"	3"	1/8"
Standard	24015S-075L	241.5T-0750	55/64" - 15/16"	6-5/8"	7-7/8"	8-1/64"	10-7/8"	3/4"	3"	1/8"
	24015S-100L	241.5T-1000	55/64" - 15/16"	6-5/8"	7-7/8"	8-1/64"	10-7/8"	1"	3"	1/8"
Extended	25010S-100L	261T-1000	45/64" - 15/16"	10-5/8"	11-7/8"	12-1/64"	14-7/8"	1"	3"	1/8"
Extended	25015S-100L	261.5T-1000	55/64" - 15/16"	10-5/8"	11-7/8"	12-1/64"	14-7/8"	1"	3"	1/8"
XL	27010S-100L	N/A	45/64" - 15/16"	18"	19-1/4"	19-25/64"	22-1/4"	1"	3"	1/8"
3XL	29010S-100L	N/A	45/64" - 15/16"	22-1/4"	23-1/2"	23-41/64"	26-1/2"	1"	3"	1/8"

*Metric Thread to BSP & ISO 7-1

*Metric Per ISO 296 Type BEK



*Metric Thread to BSP & ISO 7-1



Flanged Shank Straight Flute Holders

Length	Item Number		A	B	C	D	E	F		G	H
								Shank		Pipe Tap	
	NEW	OLD	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	Dia	Length	Rear	Side
Stub	21010S-100F	N/A	45/64" - 15/16"	1-7/8"	2-63/64"	3-1/8"	5-17/64"	1"	2-9/32"	1/8"	1/8"
Stub	21015S-100F	N/A	55/64" - 15/16"	2-1/4"	3-31/64"	3-5/8"	5-49/64"	1"	2-9/32"	1/8"	1/8"
Short	22010S-100F	271T-1000	45/64" - 15/16"	2-5/8"	4-7/32"	4-23/64"	6-1/2"	1"	2-9/32"	1/8"	N/A
Short	22015S-100F	271.5T-1000	55/64" - 15/16"	2-5/8"	4-7/32"	4-23/64"	6-1/2"	1"	2-9/32"	1/8"	N/A
Intermediate	23010S-100F	N/A	45/64" - 15/16"	4-5/8"	6-3/32"	6-15/64"	8-3/8"	1"	2-9/32"	1/8"	N/A
Intermediate	23015S-100F	N/A	55/64" - 15/16"	4-5/8"	6-3/32"	6-15/64"	8-3/8"	1"	2-9/32"	1/8"	N/A
Standard	24010S-100F	N/A	45/64" - 15/16"	6-5/8"	8-3/32"	8-15/64"	10-3/8"	1"	2-9/32"	1/8"	N/A
Standard	24015S-100F	N/A	55/64" - 15/16"	6-5/8"	8-3/32"	8-15/64"	10-3/8"	1"	2-9/32"	1/8"	N/A
Extended	25010S-100F	N/A	45/64" - 15/16"	10-5/8"	12-3/32"	12-15/64"	14-3/8"	1"	2-9/32"	1/8"	N/A
Extended	25015S-100F	N/A	55/64" - 15/16"	10-5/8"	12-3/32"	12-15/64"	14-3/8"	1"	2-9/32"	1/8"	N/A
***Metric (mm)**											
Stub	21010S-25FM	N/A	18,0 - 24,0	47,6	75,8	79,4	128,9	25,0	53,1	1/8"	1/8"
Stub	21015S-25FM	N/A	22,0 - 24,0	57,2	88,5	92,1	141,6	25,0	53,1	1/8"	1/8"
Short	22010S-25FM	271T-25	18,0 - 24,0	66,7	107,2	110,7	160,2	25,0	53,1	1/8"	N/A
Short	22015S-25FM	271.5T-25	22,0 - 24,0	66,7	107,2	110,7	160,2	25,0	53,1	1/8"	N/A
XL	27010S-25FM	N/A	18,0 - 24,0	457	494,5	498,1	547,6	25,0	53,1	1/8"	N/A
3XL	29010S-25FM	N/A	18,0 - 24,0	569	602,5	606,1	655,6	25,0	53,1	1/8"	N/A

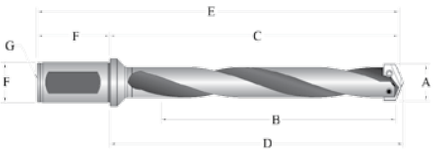
Note: AMEC Recommends the use of the 0.5, 1.5, or 2.5 series holders where appropriate.

White	1 Series
Grey	1.5 Series

1 and 1.5 Series T-A® Holders

Range: 0.690 to 0.960 inch (17,53mm to 24,38mm)

*Metric Thread to BSP & ISO 7-1



Flanged Shank Helical Flute Holders

Length	Item Number NEW	Item Number OLD	A Drill Insert Range	B Max. Drill Depth	C Body Length	D Ref. Length	E Overall Length	F Shank Dia.	F Shank Length	G Pipe Tap
Intermediate	23010H-100F	2121T-1000	45/64” - 15/16”	4-5/8”	6-3/32”	6-15/64”	8-3/8”	1”	2-9/32”	1/8”
Intermediate	23015H-100F	2121.5T-1000	55/64” - 15/16”	4-5/8”	6-3/32”	6-15/64”	8-3/8”	1”	2-9/32”	1/8”
Standard	24010H-100F	281T-1000	45/64” - 15/16”	6-5/8”	8-3/32”	8-15/64”	10-3/8”	1”	2-9/32”	1/8”
Standard	24015H-100F	281.5T-1000	55/64” - 15/16”	6-5/8”	8-3/32”	8-15/64”	10-3/8”	1”	2-9/32”	1/8”
Extended	25010H-100F	2131T-1000	45/64” - 15/16”	10-5/8”	12-3/32”	12-15/64”	14-3/8”	1”	2-9/32”	1/8”
Extended	25015H-100F	2131.5T-1000	55/64” - 15/16”	10-5/8”	12-3/32”	12-15/64”	14-3/8”	1”	2-9/32”	1/8”
Metric (mm)										
Intermediate	23010H-25FM	2121T-25	18,0 - 24,0	117,5	154,8	158,4	207,9	25,0	53,1	1/8”
Intermediate	23015H-25FM	2121.5T-25	22,0 - 24,0	117,5	154,8	158,4	207,9	25,0	53,1	1/8”
Standard	24010H-25FM	281T-25	18,0 - 24,0	168,3	205,6	209,2	258,7	25,0	53,1	1/8”
Standard	24015H-25FM	281.5T-25	22,0 - 24,0	168,3	205,6	209,2	258,7	25,0	53,1	1/8”
Extended	25010H-25FM	261T-25	18,0 - 24,0	269,9	307,2	310,8	360,3	25,0	53,1	1/8”
Extended	25015H-25FM	261.5T-25	22,0 - 24,0	269,9	307,2	310,8	360,3	25,0	53,1	1/8”

Note: AMEC Recommends the use of the 0.5, 1.5, or 2.5 series holders where appropriate.

White	1 Series
Grey	1.5 Series

T-ACR 45® Chamfer Ring and Accessories

Item Number	Minimum Drill Diameter (inch)	Maximum Drill Diameter (inch)	Maximum Chamfer Diameter (inch)	Chamfer Ring Diameter	Chanfer Ring Length
T-ACR-45-1	0.690	0.854	1.047	1-3/8”	51/64”
T-ACR-45-1.5	0.854	0.960	1.125	1-9/16”	57/64”

Insert Number (2 Pc Pack)	Insert Screw (10 Pieces)	TORX Plus Driver	Clamping Screw (10 Pieces)	TORX Plus Driver
T-ACRI-45-B-C5A	72556-IP8-10	8IP-8	7495-IP15-10	8IP-15

Rotary Coolant Adapter (RCA) and Accessories

	Item Number	A I.D.	B O.D.	C Length	D Thread for Driving Rod	E Pipe Tap
Inch	2T-3SR	1”	2-1/8”	1-1/8”	5/16”-NC	1/8”
Metric	2T-3SRM	25,40	53,97	28,57	M8-1,25	❖1/8”

RCA Repair Kit Item Number **
2T1-3SR
2T1-3SR

O RCA O-ring Replacements 10 Pieces
2T1-3OR-10
2T1-3OR-10

RCA Exploded View

❖ Thread to BSP & ISO 7-1

** RCA Repair Kit includes (2) O-rings, (2) snap rings and (2) thrust washers.

Replacement TORX Plus Scres

(supplied in 10 piece packages)

Holder Series	TORX Plus Screws 10 Pieces	Nylon Locking TORX Plus Screw 10 Pieces	TORX Plus Hand Driver	Preset Torque TORX Plus Hand Driver	Replacement TORX Plus Tips	INCH Drill Range Used With	INCH TORX Plus Screw Admissible Tightening Torque (in.-lbs.)	METRIC Drill Range Used With	METRIC TORX Plus Screw Admissible Tightening Torque (N-cm)
1	7375-IP9-10	7375N-IP9-10	8IP-9	8IP-9TL	8IP-9B	45/64”-15/16”	27.0	18,0mm-24,0mm	305
1.5	739-IP9-10	739N-IP9-10	8IP-9	8IP-9TL	8IP-9B	55/64”-15/16”	27.0	22,0mm-24,0mm	305

Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength.

2 Series T-A® HSS Drill Inserts

Range: 0.961 to 1.380 inch (24,41mm to 35,05mm)

T-A® Drill Inserts

(supplied in 2 piece packages)

Material	A (Diameter) Fractional Equivalent	A (Diameter) (mm)	A (Diameter) (Inch)	B Thickness	Item Number, Coating and Availability TiN	❶	TiAlN	❶	TiCN	❶
HSS	31/32”	24,61	0.9688	3/16”	132T-0031	❍	132A-0031	❍	132N-0031	❍
	63/64”	25,00	0.9843		132T-25	❍	132A-25	❍	132N-25	❍
	1”	25,40	1.0000		132T-0100	❍	132A-0100	❍	132N-0100	❍
	1-1/64”	25,80	1.0156		132T-1.015	❍	132A-1.015	❍	132N-1.015	❍
		26,00	1.0236		132T-26	❍	132A-26	❍	132N-26	❍
	1-1/32”	26,19	1.0313		132T-0101	❍	132A-0101	❍	132N-0101	❍
	1-3/64”	26,59	1.0469		132T-1.046	❍	132A-1.046	❍	132N-1.046	❍
	1-1/16”	26,99	1.0625		132T-0102	❍	132A-0102	❍	132N-0102	❍
		27,00	1.0630		132T-27	❍	132A-27	❍	132N-27	❍
	1-3/32”	27,78	1.0938		132T-0103	❍	132A-0103	❍	132N-0103	❍
		28,00	1.1024		132T-28	❍	132A-28	❍	132N-28	❍
	1-7/64”	28,18	1.1094		132T-1.109	❍	132A-1.109	❍	132N-1.109	❍
	1-1/8”	28,58	1.1250		132T-0104	❍	132A-0104	❍	132N-0104	❍
		29,00	1.1417		132T-29	❍	132A-29	❍	132N-29	❍
	1-5/32”	29,37	1.1563		132T-0105	❍	132A-0105	❍	132N-0105	❍
		30,00	1.1811		132T-30	❍	132A-30	❍	132N-30	❍
	1-3/16”	30,16	1.1875		132T-0106	❍	132A-0106	❍	132N-0106	❍
	1-7/32”	30,96	1.2188		132T-0107	❍	132A-0107	❍	132N-0107	❍
		31,00	1.2205		132T-31	❍	132A-31	❍	132N-31	❍
	1-1/4”	31,75	1.2500		132T-0108	❍	132A-0108	❍	132N-0108	❍
		32,00	1.2598		132T-32	❍	132A-32	❍	132N-32	❍
	1-9/32”	32,54	1.2813		132T-0109	❍	132A-0109	❍	132N-0109	❍
		33,00	1.2992		132T-33	❍	132A-33	❍	132N-33	❍
	1-5/16”	33,34	1.3125		132T-0110	❍	132A-0110	❍	132N-0110	❍
		34,00	1.3386		132T-34	❍	132A-34	❍	132N-34	❍
	1-11/32”	34,13	1.3438		132T-0111	❍	132A-0111	❍	132N-0111	❍
	1-3/8”	34,93	1.3750		132T-0112	❍	132A-0112	❍	132N-0112	❍
		35,00	1.3780		132T-35	❍	132A-35	❍	132N-35	❍
Super Cobalt	31/32”	24,61	0.9688	3/16”	152T-0031	❍	152A-0031	❍	152N-0031	❍
	63/64”	25,00	0.9843		152T-25	❍	152A-25	❍	152N-25	❍
	1”	25,40	1.0000		152T-0100	❍	152A-0100	❍	152N-0100	❍
	1-1/64”	25,80	1.0156		152T-1.015	❍	152A-1.015	❍	152N-1.015	❍
		26,00	1.0236		152T-26	❍	152A-26	❍	152N-26	❍
	1-1/32”	26,19	1.0313		152T-0101	❍	152A-0101	❍	152N-0101	❍
	1-3/64”	26,59	1.0469		152T-1.046	❍	152A-1.046	❍	152N-1.046	❍
	1-1/16”	26,99	1.0625		152T-0102	❍	152A-0102	❍	152N-0102	❍
		27,00	1.0630		152T-27	❍	152A-27	❍	152N-27	❍
	1-3/32”	27,78	1.0938		152T-0103	❍	152A-0103	❍	152N-0103	❍
		28,00	1.1024		152T-28	❍	152A-28	❍	152N-28	❍
	1-7/64”	28,18	1.1094		152T-1.109	❍	152A-1.109	❍	152N-1.109	❍
	1-1/8”	28,58	1.1250		152T-0104	❍	152A-0104	❍	152N-0104	❍
		29,00	1.1417		152T-29	❍	152A-29	❍	152N-29	❍
	1-5/32”	29,37	1.1563		152T-0105	❍	152A-0105	❍	152N-0105	❍
		30,00	1.1811		152T-30	❍	152A-30	❍	152N-30	❍
	1-3/16”	30,16	1.1875		152T-0106	❍	152A-0106	❍	152N-0106	❍
	1-7/32”	30,96	1.2188		152T-0107	❍	152A-0107	❍	152N-0107	❍
		31,00	1.2205		152T-31	❍	152A-31	❍	152N-31	❍
	1-1/4”	31,75	1.2500		152T-0108	❍	152A-0108	❍	152N-0108	❍
		32,00	1.2598		152T-32	❍	152A-32	❍	152N-32	❍
	1-9/32”	32,54	1.2813		152T-0109	❍	152A-0109	❍	152N-0109	❍
		33,00	1.2992		152T-33	❍	152A-33	❍	152N-33	❍
	1-5/16”	33,34	1.3125		152T-0110	❍	152A-0110	❍	152N-0110	❍
		34,00	1.3386		152T-34	❍	152A-34	❍	152N-34	❍
	1-11/32”	34,13	1.3438		152T-0111	❍	152A-0111	❍	152N-0111	❍
	1-3/8”	34,93	1.3750		152T-0112	❍	152A-0112	❍	152N-0112	❍
		35,00	1.3780		152T-35	❍	152A-35	❍	152N-35	❍

Geometries available (see page 151 for details): -CI, -SK, -CR, -HI, -HR, -BR, -CP, -NP, -IN, -RN, -CN, -NC, -WC, -AN.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.
Shaded diameters will also fit 2.5 series T-A® Holders. Please refer to the T-A® Holder section of this catalog.

❶ Availability Codes
❍ Stocked
▲ Non-stocked

Sizes not shown (Non-Standard Diameters) are available. When ordering, please follow the examples shown below:

64ths = 55/64”, Diamond Film, 1 Series, N2 =1N21D-.8594
Decimals = 1.021” TiAlN, 2 Series, Super Cobalt =1C50A-.5400
Metric = 28,15 mm TiCN, 2 Series, Premium Cobalt =1C50N-15.10

2 Series T-A® HSS Drill Inserts

Range: 0.961 to 1.380 inch (24,41mm to 35,05mm)

T-A® Drill Inserts

(supplied in 2 piece packages)

Material	A (Diameter) Fractional Equivalent	(mm)	(Inch)	B Thickness	Item Number, Coating and Availability TiN	❶	TiAlN	❶	TiCN	❶
Premium Cobalt	31/32”	24,61	0.9688	3/16”	182T-0031	❍	182A-0031	❍	182N-0031	❍
	63/64”	25,00	0.9843		182T-25	❍	182A-25	❍	182N-25	❍
	1”	25,40	1.0000		182T-0100	❍	182A-0100	❍	182N-0100	❍
	1-1/64”	25,80	1.0156		182T-1.015	❍	182A-1.015	❍	182N-1.015	❍
		26,00	1.0236		182T-26	❍	182A-26	❍	182N-26	❍
	1-1/32”	26,19	1.0313		182T-0101	❍	182A-0101	❍	182N-0101	❍
	1-3/64”	26,59	1.0469		182T-1.046	❍	182A-1.046	❍	182N-1.046	❍
	1-1/16”	26,99	1.0625		182T-0102	❍	182A-0102	❍	182N-0102	❍
		27,00	1.0630		182T-27	❍	182A-27	❍	182N-27	❍
	1-3/32”	27,78	1.0938		182T-0103	❍	182A-0103	❍	182N-0103	❍
		28,00	1.1024		182T-28	❍	182A-28	❍	182N-28	❍
	1-7/64”	28,18	1.1094		182T-1.109	❍	182A-1.109	❍	182N-1.109	❍
	1-1/8”	28,58	1.1250		182T-0104	❍	182A-0104	❍	182N-0104	❍
		29,00	1.1417		182T-29	❍	182A-29	❍	182N-29	❍
	1-5/32”	29,37	1.1563		182T-0105	❍	182A-0105	❍	182N-0105	❍
		30,00	1.1811		182T-30	❍	182A-30	❍	182N-30	❍
	1-3/16”	30,16	1.1875		182T-0106	❍	182A-0106	❍	182N-0106	❍
	1-7/32”	30,96	1.2188		182T-0107	❍	182A-0107	❍	182N-0107	❍
		31,00	1.2205		182T-31	❍	182A-31	❍	182N-31	❍
	1-1/4”	31,75	1.2500		182T-0108	❍	182A-0108	❍	182N-0108	❍
		32,00	1.2598		182T-32	❍	182A-32	❍	182N-32	❍
	1-9/32”	32,54	1.2813		182T-0109	❍	182A-0109	❍	182N-0109	❍
		33,00	1.2992		182T-33	❍	182A-33	❍	182N-33	❍
	1-5/16”	33,34	1.3125		182T-0110	❍	182A-0110	❍	182N-0110	❍
		34,00	1.3386		182T-34	❍	182A-34	❍	182N-34	❍
	1-11/32”	34,13	1.3438		182T-0111	❍	182A-0111	❍	182N-0111	❍
	1-3/8”	34,93	1.3750		182T-0112	❍	182A-0112	❍	182N-0112	❍
		35,00	1.3780		182T-35	❍	182A-35	❍	182N-35	❍

Geometries available (see page 151 for details): -CI, -SK, -CR, -HI, -HR, -BR, -CP, -NP, -IN, -RN, -CN, -NC, -WC, -AN.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.
Shaded diameters will also fit 2.5 series T-A® Holders. Please refer to the T-A® Holder section of this catalog.

Can be supplied with other coatings as a non-stocked standard. Process fee applies. Example:

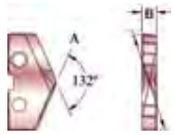
TiN	XXXT-XXXX
TiAlN	XXXA-XXXX
TiCN	XXXN-XXXX
AM200®	XXXH-XXXX

2 Series T-A® HSS Drill Inserts

Range: 0.961 to 1.380 inch (24,41mm to 35,05mm)

GEN2 T-A®
(supplied in 2 piece packages)

U.S. Patent No.: 6,685,402 & 6,986,628 & 7,011,478
& 7,018,145 & 7,144,893 & 7,241,089 & 7,371,035
Korean Patent No: 764140
Euro Patent No.: 1 372 894 DE, GB, IT, FR
Other U.S. & International Patents Pending



Material	A (Diameter) Fractional Equivalent	A (Diameter) (mm)	A (Diameter) (Inch)	B Thickness	Item Number, Coating and Availability AM200®	❶
Super Cobalt	31/32”	24,61	0.9688	3/16”	452H-0031	❍
		24,79	0.9760		452H-.976	❍
	63/64”	25,00	0.9843		452H-25	❍
	1”	25,40	1.0000		452H-0100	❍
	1-1/64”	25,80	1.0156		452H-1.015	❍
		26,00	1.0236		452H-26	❍
	1-1/32”	26,19	1.0313		452H-0101	❍
	1-3/64”	26,59	1.0469		452H-1.046	❍
	1-1/16”	26,99	1.0625		452H-0102	❍
		27,00	1.0630		452H-27	❍
	1-3/32”	27,78	1.0938		452H-0103	❍
		28,00	1.1024		452H-28	❍
	1-7/64”	28,18	1.1094		452H-1.109	❍
	1-1/8”	28,58	1.1250		452H-0104	❍
		29,00	1.1417		452H-29	❍
	1-5/32”	29,37	1.1563		452H-0105	❍
		30,00	1.1811		452H-30	❍
	1-3/16”	30,16	1.1875		452H-0106	❍
	1-7/32”	30,96	1.2188		452H-0107	❍
		31,00	1.2205		452H-31	❍
		31,14	1.2260		452H-1.226	❍
		31,26	1.2310		452H-1.231	❍
		31,34	1.2340		452H-1.234	❍
	1-1/4”	31,75	1.2500		452H-0108	❍
		32,00	1.2598		452H-32	❍
	1-9/32”	32,54	1.2813		452H-0109	❍
		33,00	1.2992		452H-33	❍
	1-5/16”	33,34	1.3125		452H-0110	❍
		34,00	1.3386		452H-34	❍
	1-11/32”	34,13	1.3438		452H-0111	❍
	1-3/8”	34,93	1.3750		452H-0112	❍
		35,00	1.3780		452H-35	❍

GEN2 T-A® Provides:
- Lower drilling forces
- Increased drill stability
- Smoother breakouts on through holes
- Improved chip formation
- Supplied with AMEC’s exclusive AM200® coating for increased tool life

Geometries available (see page 151 for details): -HE
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.
Shaded diameters will also fit 2.5 series T-A® Holders. Please refer to the T-A® Holder section of this catalog.

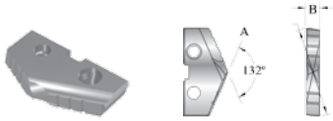
❶ Availability Codes
❍ Stocked
▲ Non-stocked

Sizes not shown (Non-Standard Diameters) are available. When ordering, please follow the examples shown below:

64th =1-5/64”, TiN, 2 Series, HSS	=132T-1.0781
Decimals = 1.1450”, TiAlN, 2 Series, Super Cobalt	=152A-1.1450
Metric = 29,50 mm TiCN, 2 Series, Premium Cobalt	=182N-29.50

2 Series T-A® Carbide Drill Inserts

Range: 0.961 to 1.380 inch (24,41mm to 35,05mm)



T-A® Carbide Drill Inserts

(supplied in 2 piece packages)

Material	A (Diameter) Fractional Equivalent	A (Diameter) (mm)	A (Diameter) (Inch)	B Thickness	Item Number, Coating and Availability TiN	❶	TiAlN	❶
C2 (K20)	31/32”	24,61	0.9688	3/16”	1C22T-0031	❍	1C22A-0031	❍
	63/64”	25,00	0.9843		1C22T-25	❍	1C22A-25	❍
	1”	25,40	1.0000		1C22T-0100	❍	1C22A-0100	❍
		26,00	1.0236		1C22T-26	❍	1C22A-26	❍
	1-1/32”	26,19	1.0313		1C22T-0101	❍	1C22A-0101	❍
	1-3/64”	26,59	1.0469		1C22T-1.046	❍	1C22A-1.046	❍
	1-1/16”	26,99	1.0625		1C22T-0102	❍	1C22A-0102	❍
		27,00	1.0630		1C22T-27	❍	1C22A-27	❍
	1-3/32”	27,78	1.0938		1C22T-0103	❍	1C22A-0103	❍
		28,00	1.1024		1C22T-28	❍	1C22A-28	❍
	1-7/64”	28,18	1.1094		1C22T-1.109	❍	1C22A-1.109	❍
	1-1/8”	28,58	1.1250		1C22T-0104	❍	1C22A-0104	❍
		29,00	1.1417		1C22T-29	❍	1C22A-29	❍
	1-5/32”	29,37	1.1563		1C22T-0105	❍	1C22A-0105	❍
		30,00	1.1811		1C22T-30	❍	1C22A-30	❍
	1-3/16”	30,16	1.1875		1C22T-0106	❍	1C22A-0106	❍
	1-7/32”	30,96	1.2188		1C22T-0107	❍	1C22A-0107	❍
		31,00	1.2205		1C22T-31	❍	1C22A-31	❍
	1-1/4”	31,75	1.2500		1C22T-0108	❍	1C22A-0108	❍
		32,00	1.2598		1C22T-32	❍	1C22A-32	❍
	1-9/32”	32,54	1.2813		1C22T-0109	❍	1C22A-0109	❍
		33,00	1.2992		1C22T-33	❍	1C22A-33	❍
	1-5/16”	33,34	1.3125		1C22T-0110	❍	1C22A-0110	❍
		34,00	1.3386		1C22T-34	❍	1C22A-34	❍
	1-11/32”	34,13	1.3438		1C22T-0111	❍	1C22A-0111	❍
	1-3/8”	34,93	1.3750		1C22T-0112	❍	1C22A-0112	❍
		35,00	1.3780		1C22T-35	❍	1C22A-35	❍
C5 (P40)	31/32”	24,61	0.9688	3/16”	1C52T-0031	❍	1C52A-0031	❍
	63/64”	25,00	0.9843		1C52T-25	❍	1C52A-25	❍
	1”	25,40	1.0000		1C52T-0100	❍	1C52A-0100	❍
		26,00	1.0236		1C52T-26	❍	1C52A-26	❍
	1-1/32”	26,19	1.0313		1C52T-0101	❍	1C52A-0101	❍
	1-3/64”	26,59	1.0469		1C52T-1.046	❍	1C52A-1.046	❍
	1-1/16”	26,99	1.0625		1C52T-0102	❍	1C52A-0102	❍
		27,00	1.0630		1C52T-27	❍	1C52A-27	❍
	1-3/32”	27,78	1.0938		1C52T-0103	❍	1C52A-0103	❍
		28,00	1.1024		1C52T-28	❍	1C52A-28	❍
	1-7/64”	28,18	1.1094		1C52T-1.109	❍	1C52A-1.109	❍
	1-1/8”	28,58	1.1250		1C52T-0104	❍	1C52A-0104	❍
		29,00	1.1417		1C52T-29	❍	1C52A-29	❍
	1-5/32”	29,37	1.1563		1C52T-0105	❍	1C52A-0105	❍
		30,00	1.1811		1C52T-30	❍	1C52A-30	❍
	1-3/16”	30,16	1.1875		1C52T-0106	❍	1C52A-0106	❍
	1-7/32”	30,96	1.2188		1C52T-0107	❍	1C52A-0107	❍
		31,00	1.2205		1C52T-31	❍	1C52A-31	❍
	1-1/4”	31,75	1.2500		1C52T-0108	❍	1C52A-0108	❍
		32,00	1.2598		1C52T-32	❍	1C52A-32	❍
	1-9/32”	32,54	1.2813		1C52T-0109	❍	1C52A-0109	❍
		33,00	1.2992		1C52T-33	❍	1C52A-33	❍
	1-5/16”	33,34	1.3125		1C52T-0110	❍	1C52A-0110	❍
		34,00	1.3386		1C52T-34	❍	1C52A-34	❍
	1-11/32”	34,13	1.3438		1C52T-0111	❍	1C52A-0111	❍
	1-3/8”	34,93	1.3750		1C52T-0112	❍	1C52A-0112	❍
		35,00	1.3780		1C52T-35	❍	1C52A-35	❍

Geometries available (see page 151 for details): -CI, -SK, -CR, -HI, -HR, -BR, -CP, -NP, -IN, -RN, -CN, -NC, -WC, -AN.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.
Shaded diameters will also fit 2.5 series T-A® Holders. Please refer to the T-A® Holder section of this catalog.

Can be supplied with other coatings as a non-stocked standard. Process fee applies. Example:

TiN	XXXT-XXXX
TiAlN	XXXA-XXXX
TiCN	XXXN-XXXX
AM200®	XXXH-XXXX

2 Series T-A® Carbide Drill Inserts

Range: 0.961 to 1.380 inch (24,41mm to 35,05mm)

Cast Iron Geometry T-A® Drill Inserts

(supplied in 2 piece packages)

Material	A (Diameter) Fractioanl Equivolent	A (Diameter) (mm)	A (Diameter) (Inch)	B Thickness	Item Number, Coating and Availability TiAIN	❶
C3 (K10)	31/32”	24,61	0.9688	3/16”	1C32A-0031-CI	❍
	63/64”	25,00	0.9843		1C32A-25-CI	❍
	1”	25,40	1.0000		1C32A-0100-CI	❍
		26,00	1.0236		1C32A-26-CI	❍
	1-1/32”	26,19	1.0313		1C32A-0101-CI	❍
	1-3/64”	26,59	1.0469		1C32A-1.046-CI	❍
	1-1/16”	26,99	1.0625		1C32A-0102-CI	❍
		27,00	1.0630		1C32A-27-CI	❍
	1-3/32”	27,78	1.0938		1C32A-0103-CI	❍
		28,00	1.1024		1C32A-28-CI	❍
	1-7/64”	28,18	1.1094		1C32A-1.109-CI	❍
	1-1/8”	28,58	1.1250		1C32A-0104-CI	❍
		29,00	1.1417		1C32A-29-CI	❍
	1-5/32”	29,37	1.1563		1C32A-0105-CI	❍
		30,00	1.1811		1C32A-30-CI	❍
	1-3/16”	30,16	1.1875		1C32A-0106-CI	❍
	1-7/32”	30,96	1.2188		1C32A-0107-CI	❍
		31,00	1.2205		1C32A-31-CI	❍
	1-1/4”	31,75	1.2500		1C32A-0108-CI	❍
		32,00	1.2598		1C32A-32-CI	❍
	1-9/32”	32,54	1.2813		1C32A-0109-CI	❍
		33,00	1.2992		1C32A-33-CI	❍
	1-5/16”	33,34	1.3125		1C32A-0110-CI	❍
		34,00	1.3386		1C32A-34-CI	❍
	1-11/32”	34,13	1.3438		1C32A-0111-CI	❍
	1-3/8”	34,93	1.3750		1C32A-0112-CI	❍
		35,00	1.3780		1C32A-35-CI	❍

This insert is specifically designed for use in **Grey Cast Iron**. (Use standard T-A® geometry for Nodular Iron)

- C3 Carbide offers high wear resistance for improved tool life.
- Cast Iron (-CI) geometry provides a unique design to minimize chipping.
- TiAIN offers exceptional wear resistance and high heat capabilities to increase tool life and penetration rates in Grey Cast Iron.

Shaded diameters will also fit 2.5 series T-A® Holders. Please refer to the T-A® Holder section of this catalog.

❶ Availability Codes
❍ Stocked
▲ Non-stocked

Sizes not shown (Non-Standard Diameters) are available. When ordering, please follow the examples shown below:

64th = 1-5/64”, TiN, 2 Series, C2 =1C22T-1.0781
Decimals = 1.1450”, TiAIN, 2 Series,C2 =1C22A-1.1450
Metric = 29,50 mm TiCN, 2 Series, C5 =1C52N-29.50

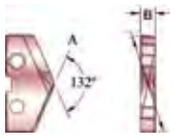
2 Series T-A® Carbide Drill Inserts

Range: 0.961 to 1.380 inch (24,41mm to 35,05mm)

GEN2 T-A®

(supplied in 2 piece packages)

U.S. Patent No.: 6,685,402 & 6,986,628 & 7,011,478
& 7,018,145 & 7,144,893 & 7,241,089 & 7,371,035
Korean Patent No: 764140
Euro Patent No.: 1 372 894 DE, GB, IT, FR
Other U.S. & International Patents Pending



Material	A (Diameter) Fractional Equivalent	A (Diameter) (mm)	A (Diameter) (Inch)	B Thickness	Item Number, Coating and Availability AM200®	❶
C2 (K20)	31/32”	24,61	0.9688	3/16”	4C22H-0031	❍
	63/64”	25,00	0.9843		4C22H-25	❍
	1”	25,40	1.0000		4C22H-0100	❍
		25,78	1.0150		4C22H-1.015	❍
		26,00	1.0236		4C22H-26	❍
	1-1/32”	26,19	1.0313		4C22H-0101	❍
	1-3/64”	26,59	1.0469		4C22H-1.046	❍
	1-1/16”	26,99	1.0625		4C22H-0102	❍
		27,00	1.0630		4C22H-27	❍
	1-3/32”	27,78	1.0938		4C22H-0103	❍
		28,00	1.1024		4C22H-28	❍
	1-7/64”	28,18	1.1094		4C22H-1.109	❍
	1-1/8”	28,58	1.1250		4C22H-0104	❍
		29,00	1.1417		4C22H-29	❍
	1-5/32”	29,37	1.1563		4C22H-0105	❍
		30,00	1.1811		4C22H-30	❍
	1-3/16”	30,16	1.1875		4C22H-0106	❍
	1-7/32”	30,96	1.2188		4C22H-0107	❍
		31,00	1.2205		4C22H-31	❍
		31,26	1.2310		4C22H-1.231	❍
	1-1/4”	31,75	1.2500		4C22H-0108	❍
		32,00	1.2598		4C22H-32	❍
	1-9/32”	32,54	1.2813		4C22H-0109	❍
		33,00	1.2992		4C22H-33	❍
	1-5/16”	33,34	1.3125		4C22H-0110	❍
		34,00	1.3386		4C22H-34	❍
	1-11/32”	34,13	1.3438		4C22H-0111	❍
	1-3/8”	34,93	1.3750		4C22H-0112	❍
		35,00	1.3780		4C22H-35	❍
C1 (K35)	31/32”	24,61	0.9688		4C12H-0031	❍
	63/64”	25,00	0.9843		4C12H-25	❍
	1”	25,40	1.0000		4C12H-0100	❍
	1-1/64”	25,78	1.0150		4C12H-1.015	❍
		26,00	1.0236		4C12H-26	❍
	1-1/32”	26,19	1.0313		4C12H-0101	❍
	1-3/64”	26,59	1.0469		4C12H-1.046	❍
	1-1/16”	26,99	1.0625		4C12H-0102	❍
		27,00	1.0630		4C12H-27	❍
	1-3/32”	27,78	1.0938		4C12H-0103	❍
		28,00	1.1024		4C12H-28	❍
	1-7/64”	28,18	1.1094		4C12H-1.109	❍
	1-1/8”	28,58	1.1250		4C12H-0104	❍
		29,00	1.1417		4C12H-29	❍
	1-5/32”	29,37	1.1563		4C12H-0105	❍
		30,00	1.1811		4C12H-30	❍
	1-3/16”	30,16	1.1875		4C12H-0106	❍
	1-7/32”	30,96	1.2188		4C12H-0107	❍
		31,00	1.2205		4C12H-31	❍
		31,26	1.2310		4C12H-1.231	❍
	1-1/4”	31,75	1.2500		4C12H-0108	❍
		32,00	1.2598		4C12H-32	❍
	1-9/32”	32,54	1.2813		4C12H-0109	❍
		33,00	1.2992		4C12H-33	❍
	1-5/16”	33,34	1.3125		4C12H-0110	❍
		34,00	1.3386		4C12H-34	❍
	1-11/32”	34,13	1.3438		4C12H-0111	❍
	1-3/8”	34,93	1.3750		4C12H-0112	❍
		35,00	1.3780		4C12H-35	❍

GEN2 T-A® Provides:
- Lower drilling forces
- Increased drill stability
- Smoother breakouts on through holes
- Improved chip formation
- Supplied with AMEC’s exclusive AM200® coating for increased tool life

Geometries available (see page 151 for details): -HE
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.
Shaded diameters will also fit 2.5 series T-A® Holders. Please refer to the T-A® Holder section of this catalog.

Can be supplied with other coatings as a non-stocked standard. Process fee applies. Example:

TiN	XXXT-XXXX
TiAlN	XXXA-XXXX
TiCN	XXXN-XXXX
AM200®	XXXH-XXXX

2 Series T-A® HSS Drill Inserts

Range: 0.961 to 1.380 inch (24,41mm to 35,05mm)

90º Spot and Chamfer T-A® Drill Inserts

(supplied in 2 piece packages)

Material	A (Diameter) Fractional Equivalent	(mm)	(Inch)	B Thickness	Item Number, Coating and Availability TiN	❶	TiAlN	❶	TiCN	❶
Super Cobalt	31/32”	24,61	0.9688	3/16”	152T-0031-SP	▲	152A-0031-SP	▲	152N-0031-SP	▲
	63/64”	25,00	0.9843		152T-25-SP	▲	152A-25-SP	▲	152N-25-SP	▲
	1”	25,40	1.0000		152T-0100-SP	▲	152A-0100-SP	▲	152N-0100-SP	▲
	1-1/64”	25,78	1.0150		152T-1.015-SP	▲	152A-1.015-SP	▲	152N-1.015-SP	▲
		26,00	1.0236		152T-26-SP	▲	152A-26-SP	▲	152N-26-SP	▲
	1-1/32”	26,19	1.0313		152T-0101-SP	▲	152A-0101-SP	▲	152N-0101-SP	▲
	1-3/64”	26,59	1.0469		152T-1.046-SP	▲	152A-1.046-SP	▲	152N-1.046-SP	▲
	1-1/16”	26,99	1.0625		152T-0102-SP	▲	152A-0102-SP	▲	152N-0102-SP	▲
		27,00	1.0630		152T-27-SP	▲	152A-27-SP	▲	152N-27-SP	▲
	1-3/32”	27,78	1.0938		152T-0103-SP	▲	152A-0103-SP	▲	152N-0103-SP	▲
		28,00	1.1024		152T-28-SP	▲	152A-28-SP	▲	152N-28-SP	▲
	1-7/64”	28,18	1.1094		152T-1.109-SP	▲	152A-1.109-SP	▲	152N-1.109-SP	▲
	1-1/8”	28,58	1.1250		152T-0104-SP	▲	152A-0104-SP	▲	152N-0104-SP	▲
		29,00	1.1417		152T-29-SP	▲	152A-29-SP	▲	152N-29-SP	▲
	1-5/32”	29,37	1.1563		152T-0105-SP	▲	152A-0105-SP	▲	152N-0105-SP	▲
		30,00	1.1811		152T-30-SP	▲	152A-30-SP	▲	152N-30-SP	▲
	1-3/16”	30,16	1.1875		152T-0106-SP	▲	152A-0106-SP	▲	152N-0106-SP	▲
	1-7/32”	30,96	1.2188		152T-0107-SP	▲	152A-0107-SP	▲	152N-0107-SP	▲
		31,00	1.2205		152T-31-SP	▲	152A-31-SP	▲	152N-31-SP	▲
	1-1/4”	31,75	1.2500		152T-0108-SP	❍	152A-0108-SP	❍	152N-0108-SP	❍
		32,00	1.2598		152T-32-SP	▲	152A-32-SP	▲	152N-32-SP	▲
	1-9/32”	32,54	1.2813		152T-0109-SP	▲	152A-0109-SP	▲	152N-0109-SP	▲
		33,00	1.2992		152T-33-SP	▲	152A-33-SP	▲	152N-33-SP	▲
	1-5/16”	33,34	1.3125		152T-0110-SP	▲	152A-0110-SP	▲	152N-0110-SP	▲
		34,00	1.3386		152T-34-SP	▲	152A-34-SP	▲	152N-34-SP	▲
	1-11/32”	34,13	1.3438		152T-0111-SP	▲	152A-0111-SP	▲	152N-0111-SP	▲
	1-3/8”	34,93	1.3750		152T-0112-SP	▲	152A-0112-SP	▲	152N-0112-SP	▲
		35,00	1.3780		152T-35-SP	❍	152A-35-SP	❍	152N-35-SP	❍

Geometries available (see page 151 for details): -SW.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.
Shaded diameters will also fit 2.5 series T-A® Holders. Please refer to the T-A® Holder section of this catalog.

***Thin Wall**
U.S. Patent No.: 7,147,414

****Notch Point®**
U.S. Patent No.: 6,685,402 & 6,986,628 & 7,114,893 & 7,371,035
Euro Patent No.: 1 372 894 DE, GB, IT, FR
Other U.S. & International Patents Pending

****150º Structural Steel**
U.S. Patent No.: 6,685,402 & 6,986,628 & 7,114,893 & 7,371,035
Euro Patent No.: 1 372 894 DE, GB, IT, FR
Other U.S. & International Patents Pending

Structural Steel T-A® Drill Inserts

(supplied in 2 piece packages)

Material	A (Diameter) Fractional Equivalent	(mm)	(Inch)	B Thickness	Item Number, Coating and Availability *Thin Wall TiAlN	❶	**Notch Point® TiAlN	❶	150º Structural Steel TiCN	❶
Super Cobalt	1”	25,40	1.0000	3/16”	152A-0100-TW	❍	152A-0100-NP	❍	152A-0100-SS	❍
	-	26,00	1.0236		152A-26-TW	❍	152A-26-NP	❍	152A-26-SS	❍
	1-1/16”	26,99	1.0625		152A-0102-TW	❍	152A-0102-NP	❍	152A-0102-SS	❍
	-	27,00	1.0630		152A-27-TW	❍	152A-27-NP	❍	152A-27-SS	❍
	1-1/8”	28,58	1.1250		152A-0104-TW	❍	152A-0104-NP	❍	152A-0104-SS	❍
	1-3/16”	30,16	1.1875		152A-0106-TW	❍	152A-0106-NP	❍	152A-0106-SS	❍
	-	31,00	1.2205		152A-31-TW	❍	152A-31-NP	❍	152A-31-SS	❍
	1-1/4”	31,75	1.2500		152A-0108-TW	❍	152A-0108-NP	❍	152A-0108-SS	❍
	-	33,00	1.2992		152A-33-TW	❍	152A-33-NP	❍	152A-33-SS	❍
	1-5/16”	33,34	1.3125		152A-0110-TW	❍	152A-0110-NP	❍	152A-0110-SS	❍
	1-3/8”	34,93	1.3750		152A-0112-TW	❍	152A-0112-NP	❍	152A-0112-SS	❍

*Use Thin Wall Drill Inserts for material up to 7/16” thick.
**Use Notch Point® Geometry or 150º Structural Steel Drill Inserts for material over 7/16” thick. Use 150º Structural Steel for reduced exir burr.

❶ Availability Codes
❍ Stocked
▲ Non-stocked

Sizes not shown (Non-Standard Diameters) are available. When ordering, please follow the examples shown below:

64th = 1-21/64”, TiN, 2 Series, Super Cobalt, -SP =152T-1.3281-SP
Decimals = 1.0650”, TiAlN, 2 Series,Super Cobalt, Notch Point =152A-1.0650-NP
Metric = 27,20 mm TiCN, 2 Series, Super Cobalt, 150º Structural Steel =152N-27.20-SS

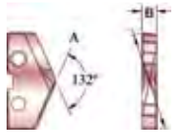
2 Series T-A® HSS Drill Inserts

Range: 0.961 to 1.380 inch (24,41mm to 35,05mm)

Tube Sheet Drilling T-A® Drill Inserts

(supplied in 2 piece packages)

U.S. Patent No.: 6,685,402 & 6,986,628
& 7,144,893 & 7,371,035
Euro Patent No.: 1 372 894 DE, GB, IT, FR
Other U.S. & International Patents Pending

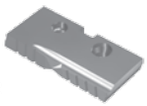


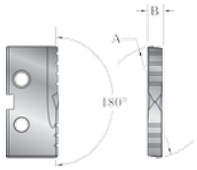
Material	A (Diameter)			B	Item Number, Coating and Availability	
	Fractional Equivalent	(mm)	(Inch)	Thickness	AM200®	❶
HSS	-	25,60	1.0080	3/16”	132H-1.0080-IN	❍
	1-1/64”	25,80	1.0156		132H-1.015-IN	❍
	1-1/32”	26,19	1.0313		132H-0101-IN	❍
Super Cobalt	-	25,60	1.0080		152H-1.0080-IN	❍
	1-1/64”	25,80	1.0156		152H-1.015-IN	❍
	1-1/32”	26,19	1.0313		152H-0101-IN	❍

Flat Bottom T-A® Drill Inserts

(supplied in 2 piece packages)

U.S. Patent No.: 6,135,681
Canadian Patent No: 2,341,367
Euro Patent No.: 1 210 196 DE, GB, IT, FR
Other International Patents Pending





Material	A (Diameter)			B	Item Number, Coating and Availability	
	Fractional Equivalent	(mm)	(Inch)	Thickness	TiN	❶
Super Cobalt	31/32”	24,61	0.9688	3/16”	152T-0031-FB	❍
	63/64”	25,00	0.9843		152T-25-FB	❍
	1”	25,40	1.0000		152T-0100-FB	❍
	1-1/64”	25,80	1.0156		152T-1.015-FB	❍
		26,00	1.0236		152T-26-FB	❍
	1-1/32”	26,19	1.0313		152T-0101-FB	❍
	1-1/16”	26,99	1.0625		152T-0102-FB	❍
		27,00	1.0630		152T-27-FB	❍
	1-3/32”	27,78	1.0938		152T-0103-FB	❍
		28,00	1.1024		152T-28-FB	❍
	1-1/8”	28,58	1.1250		152T-0104-FB	❍
		29,00	1.1417		152T-29-FB	❍
	1-5/32”	29,37	1.1563		152T-0105-FB	❍
		30,00	1.1811		152T-30-FB	❍
	1-3/16”	30,16	1.1875		152T-0106-FB	❍
	1-7/32”	30,96	1.2188		152T-0107-FB	❍
		31,00	1.2205		152T-31-FB	❍
	1-1/4”	31,75	1.2500		152T-0108-FB	❍
		32,00	1.2598		152T-32-FB	❍
	1-9/32”	32,54	1.2813		152T-0109-FB	❍
		33,00	1.2992		152T-33-FB	❍
	1-5/16”	33,34	1.3125		152T-0110-FB	❍
		34,00	1.3386		152T-34-FB	❍
	1-11/32”	34,13	1.3438		152T-0111-FB	❍
	1-3/8”	34,93	1.3750		152T-0112-FB	❍
		35,00	1.3780		152T-35-FB	❍

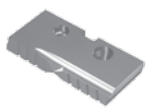
Geometries available (see page 151 for details): -FN.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.
Shaded diameters will also fit 2.5 series T-A® Holders. Please refer to the T-A® Holder section of this catalog.

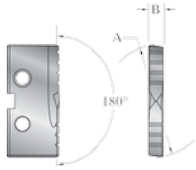
Can be supplied with other coatings as a non-stocked standard. Process fee applies. Example:

TiN	XXXT-XXXX
TiAlN	XXXA-XXXX
TiCN	XXXN-XXXX
AM200®	XXXH-XXXX

2 Series T-A® Carbide Drill Inserts

Range: 0.961 to 1.380 inch (24,41mm to 35,05mm)





U.S. Patent No.: 6,135,681
Canadian Patent No: 2,341,367
Euro Patent No.: 1 210 196 DE, GB, IT, FR
Other International Patents Pending

Flat Bottom T-A® Carbide Drill Inserts

(supplied in 2 piece packages)

Material	A (Diameter) Fractional Equivalent	A (Diameter) (mm)	A (Diameter) (Inch)	B Thickness	Item Number, Coating and Availability TiN	❶
C2 (K20)	31/32”	24,61	0.9688	3/16”	1C22T-0031-FB	▲
	63/64”	25,00	0.9843		1C22T-25-FB	▲
	1”	25,40	1.0000		1C22T-0100-FB	▲
	1-1/64”	25,80	1.0156		1C22T-1.015-FB	▲
		26,00	1.0236		1C22T-26-FB	▲
	1-1/32”	26,19	1.0313		1C22T-0101-FB	▲
	1-1/16”	26,99	1.0625		1C22T-0102-FB	▲
		27,00	1.0630		1C22T-27-FB	▲
	1-3/32”	27,78	1.0938		1C22T-0103-FB	▲
		28,00	1.1024		1C22T-28-FB	▲
	1-1/8”	28,58	1.1250		1C22T-0104-FB	▲
		29,00	1.1417		1C22T-29-FB	▲
	1-5/32”	29,37	1.1563		1C22T-0105-FB	▲
		30,00	1.1811		1C22T-30-FB	▲
	1-3/16”	30,16	1.1875		1C22T-0106-FB	▲
	1-7/32”	30,96	1.2188		1C22T-0107-FB	▲
		31,00	1.2205		1C22T-31-FB	▲
	1-1/4”	31,75	1.2500		1C22T-0108-FB	▲
		32,00	1.2598		1C22T-32-FB	▲
	1-9/32”	32,54	1.2813		1C22T-0109-FB	▲
		33,00	1.2992		1C22T-33-FB	▲
	1-5/16”	33,34	1.3125		1C22T-0110-FB	▲
		34,00	1.3386		1C22T-34-FB	▲
	1-11/32”	34,13	1.3438		1C22T-0111-FB	▲
	1-3/8”	34,93	1.3750		1C22T-0112-FB	▲
		35,00	1.3780		1C22T-35-FB	▲

Geometries available (see page 151 for details): -FN.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.
Shaded diameters will also fit 2.5 series T-A® Holders. Please refer to the T-A® Holder section of this catalog.

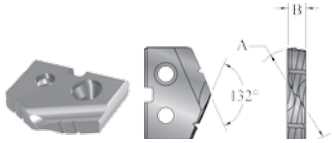
❶ Availability Codes
❍ Stocked
▲ Non-stocked

Sizes not shown (Non-Standard Diameters) are available. When ordering, please follow the examples shown below:

64th = 1-21/64”, TiN, 2 Series, Super Cobalt, Flat Bottom	=152T-1.3281-FB
Decimals = 1.0650”, TiAIN, 2 Series,Super Cobalt, Flat Bottom	=152A-1.0650-FB
Metric = 26,20 mm Diamond Film Coated, 2 Series, N2 Carbide	=1N22D-26.20

2 Series T-A® Carbide Drill Inserts

Range: 0.961 to 1.380 inch (24,41mm to 35,05mm)



Diamond Coated T-A® Carbide Drill Inserts

(supplied in 1 piece packages)

U.S. Patent No.: 6,902,359
Other International Patents pending

Material	A (Diameter) Fractional Equivolent	A (Diameter) (mm)	A (Diameter) (Inch)	B Thickness	Item Number, Coating and Availability CVD Diamond	❶	Crystalline, Diamond Film Coating produces: • Increased Hardness • Increased Durability • Increased Performance Extends tool life 30-50 times versus uncoated carbide drill inserts Used in non-ferrous / non-metallic applications Patented Geometry
N2	31/32”	24,61	0.9688	3/16”	1N22D-0031	▲	
	63/64”	25,00	0.9843		1N22D-25	▲	
	1”	25,40	1.0000		1N22D-0100	▲	
	1-1/64”	25,80	1.0156		1N22D-1.015	▲	
		26,00	1.0236		1N22D-26	▲	
	1-1/32”	26,19	1.0313		1N22D-0101	▲	
	1-3/64”	26,59	1.0469		1N22D-1.046	▲	
	1-1/16”	26,99	1.0625		1N22D-0102	▲	
		27,00	1.0630		1N22D-27	▲	
	1-3/32”	27,78	1.0938		1N22D-0103	▲	
		28,00	1.1024		1N22D-28	▲	
	1-7/64”	28,18	1.1094		1N22D-1.109	▲	
	1-1/8”	28,58	1.1250		1N22D-0104	▲	
		29,00	1.1417		1N22D-29	▲	
	1-5/32”	29,37	1.1563		1N22D-0105	▲	
		30,00	1.1811		1N22D-30	▲	
	1-3/16”	30,16	1.1875		1N22D-0106	▲	
	1-7/32”	30,96	1.2188		1N22D-0107	▲	
		31,00	1.2205		1N22D-31	▲	
	1-1/4”	31,75	1.2500		1N22D-0108	▲	
		32,00	1.2598		1N22D-32	▲	
	1-9/32”	32,54	1.2813		1N22D-0109	▲	
		33,00	1.2992		1N22D-33	▲	
	1-5/16”	33,34	1.3125		1N22D-0110	▲	
		34,00	1.3386		1N22D-34	▲	
	1-11/32”	34,13	1.3438		1N22D-0111	▲	
	1-3/8”	34,93	1.3750		1N22D-0112	▲	
		35,00	1.3780		1N22D-35	▲	

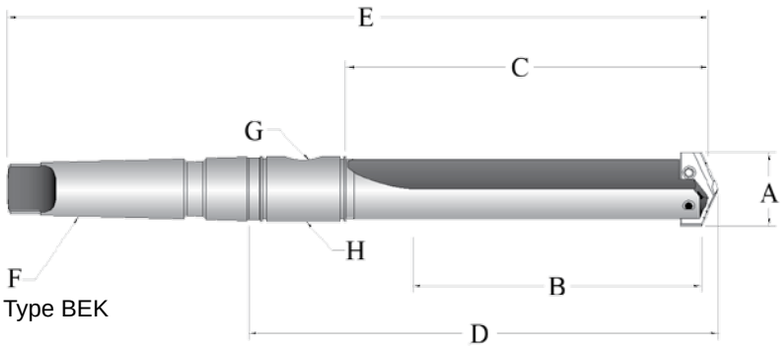
Shaded diameters will also fit 2.5 series T-A® Holders. Please refer to the T-A® Holder section of this catalog.

Can be supplied with other coatings as a non-stocked standard. Process fee applies. Example:

TiN	XXXT-XXXX
TiAlN	XXXA-XXXX
TiCN	XXXN-XXXX
AM200®	XXXH-XXXX

2 and 2.5 Series T-A® Holders

Range: 0.961 to 1.380 inch (24,41mm to 35,05mm)



*Metric Per ISO 296 Type BEK

Taper Shank Straight Flute Holders

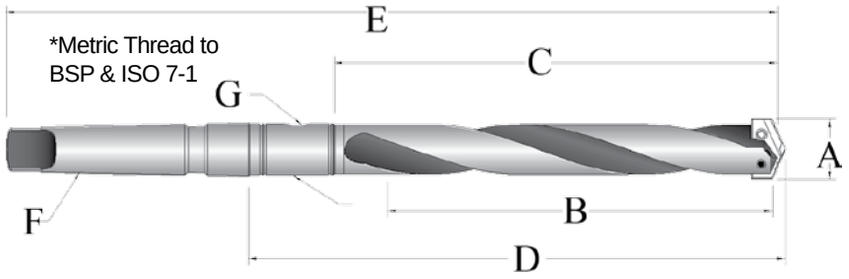
Length	Item Number		A	B	C	D	E	F	G	H
	NEW	OLD	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	MT	Pipe Tap	RCA
Short	22020S-003I	212T-0003	31/32” - 1-3/8”	3-3/8”	4-1/2”	6-15/64”	9-25/32”	#3	1/8”	2T-3SR
	22020S-004I	212T-0004	31/32” - 1-3/8”	3-3/8”	4-1/2”	6-19/64”	10-25/32”	#4	1/8”	2T-3SR
Short	22025S-003I	212.5T-0003	1-3/16” - 1-3/8”	3-3/8”	4-1/2”	6-15/64”	9-25/32”	#3	1/8”	2T-3SR
	22025S-004I	212.5T-0004	1-3/16” - 1-3/8”	3-3/8”	4-1/2”	6-37/64”	11-1/16”	#4	1/4”	2T-4SR
Intermediate	23020S-004I	N/A	31/32” - 1-3/8”	5-3/8”	6-1/2”	8-19/64”	12-25/32”	#4	1/8”	2T-3SR
Intermediate	23025S-004I	N/A	1-3/16” - 1-3/8”	5-3/8”	6-1/2”	8-37/64”	13-1/16”	#4	1/4”	2T-4SR
Standard	24020S-003I	N/A	31/32” - 1-3/8”	7-3/8”	8-1/2”	10-15/64”	13-25/32”	#3	1/8”	2T-3SR
	24020S-004I	N/A	31/32” - 1-3/8”	7-3/8”	8-1/2”	10-19/64”	14-25/32”	#4	1/8”	2T-3SR
Standard	24025S-003I	N/A	1-3/16” - 1-3/8”	7-3/8”	8-1/2”	10-15-64”	13-25/32”	#3	1/8”	2T-3SR
	24025S-004I	N/A	1-3/16” - 1-3/8”	7-3/8”	8-1/2”	10-37/64”	15-1/16”	#4	1/8”	2T-4SR
Extended	25020S-004I	N/A	31/32” - 1-3/8”	11-3/8”	12-1/2”	14-15/64”	18-25/32”	#4	1/4”	2T-3SR
Extended	25025S-004I	N/A	1-3/16” - 1-3/8”	11-3/8”	12-1/2”	14-37/64”	19-1/16”	#4	1/4”	2T-4SR
***Metric (mm)**										
Short	22020S-004M	212T-04	25,0 - 35,0	85,7	114,3	160,4	273,8	#4	1/8”	2T-3SRM
Short	22025S-004M	212.5T-04	30,0 - 35,0	85,7	114,3	167,6	281,0	#4	1/4”	2T-4SRM

Note: AMEC Recommends the use of the 0.5, 1.5, or 2.5 series holders where appropriate.

White	2 Series
Grey	2.5 Series

2 and 2.5 Series T-A® Holders

Range: 0.961 to 1.380 inch (24,41mm to 35,05mm)



*Metric Per ISO 296 Type BEK

Taper Shank Helical Flute Holders

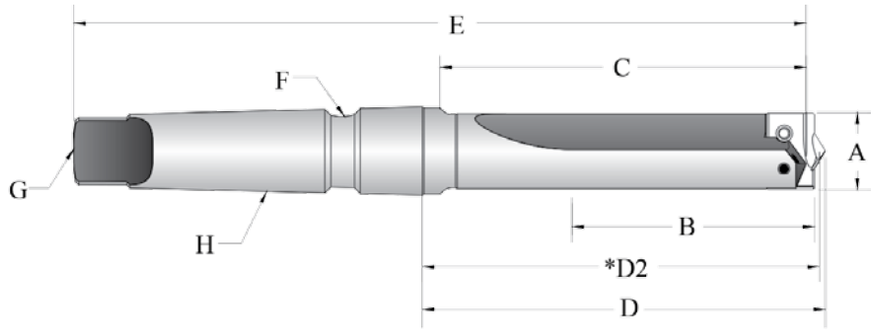
Length	Item Number		A	B	C	D	E	F	G	H
	NEW	OLD	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	MT	Pipe Tap	RCA
Intermediate	23020H-004I	2102T-0004	31/32” - 1-3/8”	5-3/8”	6-1/2”	8-19/64”	12-25/32”	#4	1/8”	2T-3SR
Intermediate	23025H-004I	2102.5T-0004	1-3/16” - 1-3/8”	5-3/8”	6-1/2”	8-37/64”	13-1/16”	#4	1/4”	2T-4SR
Standard	24020H-003I	222T-0003	31/32” - 1-3/8”	7-3/8”	8-1/2”	10-15/64”	13-25/32”	#3	1/8”	2T-3SR
	24020H-004I	222T-0004	31/32” - 1-3/8”	7-3/8”	8-1/2”	10-19/64”	14-25/32”	#4	1/8”	2T-3SR
Standard	24025H-003I	222.5T-0003	1-3/16” - 1-3/8”	7-3/8”	8-1/2”	10-15/64”	13-25/32”	#3	1/8”	2T-3SR
	24025H-004I	222.5T-0004	1-3/16” - 1-3/8”	7-3/8”	8-1/2”	10-37/64”	15-1/16”	#4	1/4”	2T-4SR
Extended	25020H-004I	252T-0004	31/32” - 1-3/8”	11-3/8”	12-1/2”	14-15/64”	18-25/32”	#4	1/8”	2T-3SR
Extended	25025H-004I	252.5T-0004	1-3/16” - 1-3/8”	11-3/8”	12-1/2”	14-37/64”	19-1/16”	#4	1/4”	2T-4SR
***Metric (mm)**										
Intermediate	23020H-004M	2102T-04	25,0 - 35,0	136,5	165,1	211,2	324,6	#4	1/8”	2T-3SRM
Intermediate	23025H-004M	21020.5T-04	30,0 - 35,0	136,5	165,1	218,4	331,8	#4	1/4”	2T-4SRM
Standard	24020H-004M	222T-04	25,0 - 35,0	187,3	215,9	262,0	375,4	#4	1/8”	2T-3SRM
Standard	24025H-004M	222.5T-04	30,0 - 35,0	187,3	215,9	269,2	382,6	#4	1/4”	2T-4SRM
Extended	25020H-004M	252T-04	25,0 - 35,0	289,0	317,5	363,6	477,0	#4	1/8”	2T-3SRM
Extended	25025H-004M	252.5T-04	30,0 - 35,0	289,0	317,5	370,8	484,2	#4	1/4”	2T-3SRM

Note: AMEC Recommends the use of the 0.5, 1.5, or 2.5 series holders where appropriate.

White	2 Series
Grey	2.5 Series

2 and 2.5 Series T-A® Holders

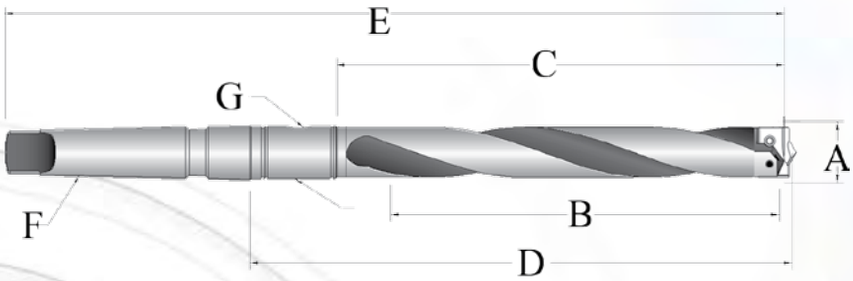
Range: 0.961 to 1.380 inch (24,41mm to 35,05mm)



Structural Steel Taper Shank Helical Flute Holders

Length	Item Number	A Drill Insert Range	B Max. Drill Depth	C Body Length	D Ref. Length	*D2 Ref. Length	E Overall Length	F MT	G Coolant Inlet Style	H
Short	22020S-004IS100	1” - 1-3/8”	3-3/8”	4-1/2”	4-63/64”	4-57/64”	9-3/8”	#4	TTC	TSC
Short	22025S-004IS112	1-3/16” - 1-3/8”	3-3/8”	4-1/2”	4-63/64”	4-57/64”	9-3/8”	#4	TTC	TSC

*Dimension if using a Structural Steel Holder with Notch Point® T-A® Drill Insert Geometry.



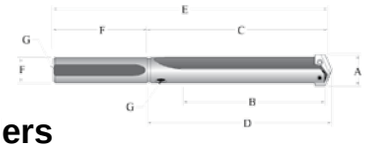
Structural Steel Taper Shank Helical Flute Holders

Length	Item Number	A Drill Insert Range	B Max. Drill Depth	C Body Length	D Ref. Length	*D2 Ref. Length	E Overall Length	F MT	G Coolant Inlet Style	H
Standard	24020H-004IS100	1” - 1-3/8”	5-3/8”	6-1/2”	6-63/64”	6-57/64”	11-3/8”	#4	TTC	TSC
Standard	24025H-004IS112	1-3/16” - 1-3/8”	5-3/8”	6-1/2”	6-63/64”	6-57/64”	11-3/8”	#4	TTC	TSC
Extended	25020H-003IS100	1” - 1-3/8”	6-1/2	9-11/32”	9-3/4”	9-29/64”	13-7/32”	#3	TTC	TSC
Extended	25020H-004IS100	1” - 1-3/8”	6-1/2	9-7/32”	9-3/4”	9-43/64”	14-5/32”	#4	TTC	TSC
Long	26020H-004IS100	1” - 1-3/8”	6-1/2	16”	16-15/32”	16-25/64”	20-7/8”	#4	TTC	TSC

*Dimension if using a Structural Steel Holder with Notch Point® T-A® Drill Insert Geometry.

2 and 2.5 Series T-A® Holders

Range: 0.961 to 1.380 inch (24,41mm to 35,05mm)

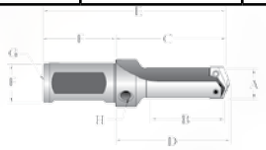


Straight Shank Straight Flute Holders

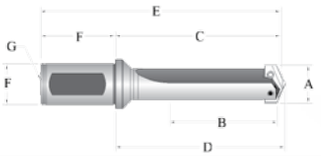
Length	Item Number NEW	Item Number OLD	A Drill Insert Range	B Max. Drill Depth	C Body Length	D Ref. Length	E Overall Length	F Shank Dia.	F Shank Length	G Pipe Tap
Short	22020S-100L	232T-1000	31/32” - 1-3/8”	3-3/8”	4-1/2”	4-41/64”	8”	1”	3-1/2”	1/8”
	22020S-125L	232T-1250	31/32” - 1-3/8”	3-3/8”	4-1/2”	4-41/64”	8”	1-1/4”	3-1/2”	1/8”
Short	22025S-100L	232.5T-1000	1-3/16” - 1-3/8”	3-3/8”	4-1/2”	4-41/64”	8”	1”	3-1/2”	1/8”
	22025S-125L	232.5T-1250	1-3/16” - 1-3/8”	3-3/8”	4-1/2”	4-41/64”	8”	1-1/4”	3-1/2”	1/8”
Intermediate	23020S-125L	2112T-1250	31/32” - 1-3/8”	5-3/8”	6-1/2”	6-41/64”	10”	1-1/4”	3-1/2”	1/8”
Intermediate	23025S-125L	2112.5T-1250	1-3/16” - 1-3/8”	5-3/8”	6-1/2”	6-41/64”	10”	1-1/4”	3-1/2”	1/8”
Standard	24020S-100L	242T-1000	31/32” - 1-3/8”	7-3/8”	8-1/2	8-41/64”	12”	1”	3-1/2”	1/8”
	24020S-125L	242T-1250	31/32” - 1-3/8”	7-3/8”	8-1/2	8-41/64”	12”	1-1/4”	3-1/2”	1/8”
Standard	24025S-100L	242.5T-1000	1-3/16” - 1-3/8”	7-3/8”	8-1/2	8-41/64”	12”	1”	3-1/2”	1/8”
	24025S-125L	242.5T-1250	1-3/16” - 1-3/8”	7-3/8”	8-1/2	8-41/64”	12”	1-1/4”	3-1/2”	1/8”
Extended	25020S-125L	262T-1250	31/32” - 1-3/8”	11-3/8”	12-1/2”	12-41/64”	16”	1-1/4”	3-1/2”	1/8”
Extended	25025S-125L	252.5T-1250	1-3/16” - 1-3/8”	11-3/8”	12-1/2”	12-41/64”	16”	1-1/4”	3-1/2”	1/8”
XL	27020S-125L	N/A	31/32” - 1-3/8”	20-1/8”	21-1/4”	21-25/64”	24-3/4”	1-1/4”	3-1/2”	1/8”
3XL	29020S-125L	N/A	31/32” - 1-3/8”	27-1/4”	28-3/8”	28-33/64”	31-7/8”	1-1/4”	3-1/2”	1/8”

*Metric Thread to
BSP & ISO 7-1

*Metric Per ISO 296 Type BEK



*Metric Thread to
BSP & ISO 7-1



Flanged Shank Straight Flute Holders

Length	Item Number NEW	Item Number OLD	A Drill Insert Range	B Max. Drill Depth	C Body Length	D Ref. Length	E Overall Length	F Shank Dia	F Shank Length	G Pipe Tap Rear	H Pipe Tap Side
Stub	21020S-125F	N/A	31/32” - 1-3/8”	2-1/4”	3-31/64”	3-5/8”	5-49/64”	1-1/4”	2-9/32”	1/4”	1/8”
Stub	21025S-125F	N/A	1-3/16” - 1-3/8”	3-5/8”	4-55/64”	5”	7-9/64”	1-1/4”	2-9/32”	1/4”	1/8”
Short	22020S-125F	272T-1250	31/32” - 1-3/8”	3-3/8”	5-1/16”	5-13/64”	7-11/32”	1-1/4”	2-9/32”	1/4”	N/A
Short	22025S-125F	272.5T-1250	1-3/16” - 1-3/8”	3-3/8”	5-1/16”	5-13/64”	7-11/32”	1-1/4”	2-9/32”	1/4”	N/A
Intermediate	23020S-125F	N/A	31/32” - 1-3/8”	5-3/8”	7-1/16”	7-13/64”	9-11/32”	1-1/4”	2-9/32”	1/4”	N/A
Intermediate	23025S-125F	N/A	1-3/16” - 1-3/8”	5-3/8”	7-1/16”	7-13/64”	9-11/32”	1-1/4”	2-9/32”	1/4”	N/A
Standard	24020S-125F	N/A	31/32” - 1-3/8”	7-3/8”	9-1/16”	9-13/64”	11-11/32”	1-1/4”	2-9/32”	1/4”	N/A
Standard	24025S-125F	N/A	1-3/16” - 1-3/8”	7-3/8”	9-1/16”	9-13/64”	11-11/32”	1-1/4”	2-9/32”	1/4”	N/A
Extended	25020S-125F	N/A	31/32” - 1-3/8”	11-3/8”	13-1/16”	13-13/64”	15-11/32”	1-1/4”	2-9/32”	1/4”	N/A
Extended	25025S-125F	N/A	1-3/16” - 1-3/8”	11-3/8”	13-1/16”	13-13/64”	15-11/32”	1-1/4”	2-9/32”	1/4”	N/A
***Metric (mm)**											
Stub	21020S-32FM	N/A	25,0 - 35,0	57,2	88,5	92,1	146,4	32,0	57,9	1/4”	1/8”
Stub	21025S-32FM	N/A	30,0 - 35,0	92,1	123,4	127,0	181,3	32,0	57,9	1/4”	1/8”
Short	22020S-32FM	272T-32	25,0 - 35,0	85,7	128,6	132,2	186,5	32,0	57,9	1/4”	N/A
Short	22025S-32FM	272.5T	30,0 - 35,0	85,7	128,6	132,2	186,5	32,0	57,9	1/4”	N/A
XL	27020S-32FM	N/A	25,0 - 35,0	511	554,1	557,7	612,0	32,0	57,9	1/4”	N/A
3XL	29020S-32FM	N/A	25,0 - 35,0	692	735,1	738,7	793,0	32,0	57,9	1/4”	N/A

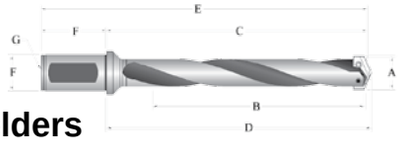
Note: AMEC Recommends the use of the 0.5, 1.5, or 2.5 series holders where appropriate.

White	2 Series
Grey	2.5 Series

2 and 2.5 Series T-A® Holders

Range: 0.961 to 1.380 inch (24,41mm to 35,05mm)

*Metric Thread to BSP & ISO 7-1



Flanged Shank Helical Flute Holders

	Item Number		A	B	C	D	E	F		G	H
								Shank		Pipe Tap	
Length	NEW	OLD	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	Dia.	Length	Rear	Side
Intermediate	23020H-125F	2122T-1250	31/32” - 1-3/8”	5-3/8”	7-1/16”	7-13/64”	9-11/32”	1-1/4”	2-9/32”	1/4”	N/A
Intermediate	23025H-125F	2122.5T-1250	1-3/16” - 1-3/8”	5-3/8”	7-1/16”	7-13/64”	9-11/32”	1-1/4”	2-9/32”	1/4”	N/A
Standard	24020H-125F	282T-1250	31/32” - 1-3/8”	7-3/8”	9-1/16”	9-13/64”	11-11/32”	1-1/4”	2-9/32”	1/4”	N/A
Standard	24025H-125F	282.5T-1250	1-3/16” - 1-3/8”	7-3/8”	9-1/16”	9-13/64”	11-11/32”	1-1/4”	2-9/32”	1/4”	N/A
Extended	25020H-125F	2132T-1250	31/32” - 1-3/8”	11-3/8”	13-1/16”	13-13/64”	15-11/32”	1-1/4”	2-9/32”	1/4”	N/A
Extended	25025H-125F	2132.5T-1250	1-3/16” - 1-3/8”	11-3/8”	13-1/16”	13-13/64”	15-11/32”	1-1/4”	2-9/32”	1/4”	N/A
Metric (mm)											
Intermediate	23020H-32FM	2122T-32	25,0 - 35,0	136,5	179,4	183,0	237,3	32,0	57,9	1/4”	N/A
Intermediate	23025H-32FM	2122.5T-32	30,0 - 35,0	136,5	179,4	183,0	237,3	32,0	57,9	1/4”	N/A
Standard	24020H-32FM	282T-32	25,0 - 35,0	187,3	230,2	233,8	288,1	32,0	57,9	1/4”	N/A
Standard	24025H-32FM	282.5T-32	30,0 - 35,0	187,3	230,2	233,8	288,1	32,0	57,9	1/4”	N/A
Extended	25020H-32FM	262T-32	25,0 - 35,0	288,9	331,8	335,4	389,7	32,0	57,9	1/4”	N/A
Extended	25025H-32FM	262.5T-32	30,0 - 35,0	288,9	331,8	335,4	389,7	32,0	57,9	1/4”	N/A

Note: AMEC Recommends the use of the 0.5, 1.5, or 2.5 series holders where appropriate.

White	0 Series
Grey	0.5 Series

T-ACR 45® Chamfer Ring and Accessories

Item Number	Minimum Drill Diameter (inch)	Maximum Drill Diameter (inch)	Maximum Chamfer Diameter (inch)	Chamfer Ring Diameter	Chanfer Ring Length
T-ACR-45-2	0.9610	1.380	1.568	1-51/64”	1”

Insert Number (2 Pc Pack)	Insert Screw (10 Pieces)	TORX Plus Driver	Clamping Screw (10 Pieces)	TORX Plus Driver
T-ACRI-45-B-C5A	7255-IP8-10	8IP-8	7514-IP20-10	8IP-20

T-ACR 45® Chamfer Rings are designed for use with stub, short, intermediate, and standard length T-A® Drilling System holders only.

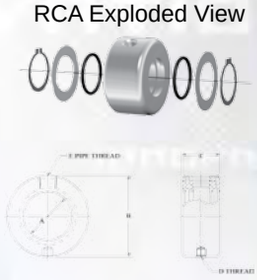
Rotary Coolant Adapter (RCA) and Accessories

	Item Number	A I.D.	B O.D.	C Length	D Thread for Driving Rod	E Pipe Tap
Inch	2T-3SR	1”	2-1/8”	1-1/8”	5/15” - NC	1/8”
	2T-4SR	1-1/4”	2-1/2”	1-3/8”	3/8” - NC	1/4”
Metric	2T-3SRM	25,40	53,97	28,57	M8 X 1,25	❖1/8”
	2T-4SRM	31,75	63,50	34,92	M10 X 1,50	❖1/4”

RCA Repair Kit Item Number **
2T1-3SR
2T1-4SR
2T1-3SR
2T1-4SR

O RCA O-ring Replacements 10 Pieces
2T1-3OR-10
2T1-4OR-10
2T1-3OR-10
2T1-4OR-10

RCA Exploded View



❖ Thread to BSP & ISO 7-1

** RCA Repair Kit includes (2) O-rings, (2) snap rings and (2) thrust washers.

Replacement TORX Plus Screws

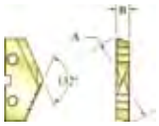
(supplied in 10 piece packages)

Holder Series	TORX Plus Screws 10 Pieces	Nylon Locking TORX Plus Screw 10 Pieces	TORX Plus Hand Driver	Preset Torque TORX Plus Hand Driver	Replacement TORX Plus Tips	INCH		METRIC	
						Drill Range Used With	TORX Plus Screw Admissible Tightening Torque (in.-lbs.)	Drill Range Used With	TORX Plus Screw Admissible Tightening Torque (N-cm)
2	7495-IP15-10	7495N-IP15-10	8IP-15	8IP-15TL	8IP-15B	31/32” - 1-3/8”	61.0	25,0mm - 35,00mm	690
2.5	7495-IP15-10	7495N-IP15-10	8IP-15	8IP-15TL	8IP-15B	1-3/16” - 1-3/8”	61.0	30,0mm - 35,00mm	690

Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength.

3 Series Original T-A® Drill Inserts

Range: 1.353 to 1.882 inch (34,36mm to 47,80mm)



T-A® Drill Inserts

(supplied in 1 piece packages)

Material	A (Diameter)			B	Item Number, Coating and Availability	
	Fractional Equivalent	(mm)	(Inch)	Thickness	TiN	❶
Super Cobalt	1-13/32”	35,72	1.4063	1/4”	153T-0113	❍
		36,00	1.4173		153T-36	❍
	1-7/16”	36,51	1.4375		153T-0114	❍
		37,00	1.4567		153T-37	❍
	1-15/32”	37,31	1.4688		153T-0115	❍
		38,00	1.4961		153T-38	❍
	1-1/2”	38,10	1.5000		153T-0116	❍
	1-17/32”	38,89	1.5313		153T-0117	❍
		39,00	1.5354		153T-39	❍
	19/16”	39,69	1.5625		153T-0118	❍
		40,00	1.5748		153T-40	❍
	1-19/32”	40,48	1.5938		153T-0119	❍
		41,00	1.6142		153T-41	❍
	1-5/8”	41,28	1.6250		153T-0120	❍
		42,00	1.6535		153T-42	❍
	1-21/32”	42,07	1.6563		153T-0121	❍
	1-11/16”	42,86	1.6875		153T-0122	❍
		43,00	1.6929		153T-43	❍
	1-23/32”	43,66	1.7188		153T-0123	❍
		44,00	1.7323		153T-44	❍
	1-3/4”	44,45	1.7500		153T-0124	❍
		45,00	1.7717		153T-45	❍
	1-25/32	45,24	1.7813		153T-0125	❍
		46,00	1.8110		153T-46	❍
	1-13/16”	46,04	1.8125		153T-0126	❍
	1-27/32”	46,83	1.8438		153T-0127	❍
		47,00	1.8504		153T-47	❍
	1-7/8”	47,63	1.8750		153T-0128	❍

Geometries available (see page 151 for details): -CI, -SK, -CR, -HI, -HR, -BR, -NC, -WC.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.

Can be supplied with other coatings as a non-stocked standard. Process fee applies. Example:

TiN	XXXT-XXXX
TiAlN	XXXA-XXXX
TiCN	XXXN-XXXX
AM200®	XXXH-XXXX

3 Series T-A® HSS Drill Inserts

Range: 1.353 to 1.882 inch (34,36mm to 47,80mm)

GEN2 T-A®
(supplied in 1 piece packages)

Material	A (Diameter) Fractional Equivalent	(mm)	(Inch)	B Thickness	Item Number, Coating and Availability TiN	❶
HSS	1-13/32”	35,72	1.4063	1/4”	433T-0113	❍
		36,00	1.4173		433T-36	❍
	1-7/16”	36,51	1.4375		433T-0114	❍
		37,00	1.4567		433T-37	❍
	1-15/32”	37,31	1.4688		433T-0115	❍
		38,00	1.4961		433T-38	❍
	1-1/2”	38,10	1.5000		433T-0116	❍
	1-17/32”	38,89	1.5313		433T-0117	❍
		39,00	1.5354		433T-39	❍
	1-9/16”	39,69	1.5625		433T-0118	❍
		40,00	1.5748		433T-40	❍
	1-19/32”	40,48	1.5938		433T-0119	❍
		41,00	1.6142		433T-41	❍
	1-5/8”	41,28	1.6250		433T-0120	❍
		42,00	1.6535		433T-42	❍
	1-21/32”	42,07	1.6563		433T-0121	❍
	1-11/16”	42,86	1.6875		433T-0122	❍
		43,00	1.6929		433T-43	❍
	1-23/32”	43,66	1.7188		433T-0123	❍
		44,00	1.7323		433T-44	❍
	1-3/4”	44,45	1.7500		433T-0124	❍
		45,00	1.7717		433T-45	❍
	1-25/32”	45,24	1.7813		433T-0125	❍
		46,00	1.8110		433T-46	❍
	1-13/16”	46,04	1.8125		433T-0126	❍
	1-27/32”	46,83	1.8438		433T-0127	❍
		47,00	1.8504		433T-47	❍
	1-7/8”	47,63	1.8750		433T-0128	❍

GEN2 T-A® Provides:
- Lower drilling forces
- Increased drill stability
- Smoother breakouts on through holes
- Improved chip formation

Geometries available (see page 151 for details): -CI, -SK, -CR, -HI, -HR, -BR, -NC, -WC.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.

❶ Availability Codes
❍ Stocked
▲ Non-stocked

Sizes not shown (Non-Standard Diameters) are available. When ordering, please follow the examples shown below:

64th = 1-35/64”, TiN, 3 Series, Super Cobalt	=453T-1.5469
Decimals = 1.6500”, TiAlN, 3 Series, Super Cobalt	=453A-1.6500
Metric = 47,25 mm TiCN, 2 Series, C5	=1C53N-47.25

3 Series T-A® HSS Drill Inserts

Range: 1.353 to 1.882 inch (34,36mm to 47,80mm)

GEN2 T-A®
(supplied in 1 piece packages)

U.S. Patent No.: 6,685,402 & 6,986,628 & 7,011,478
& 7,018,145 & 7,144,893 & 7,371,035
Euro Patent No.: 1 372 894 DE, GB, IT, FR
Other U.S. & International Patents Pending

Material	A (Diameter) Fractional Equivalent	(mm)	(Inch)	B Thickness	Item Number, Coating and Availability TiN	❶	AM200®	❶
Super Cobalt	1-13/32”	35,72	1.4063	1/4”	453T-0113	❍	453H-0113	❍
		36,00	1.4173		453T-36	❍	453H-36	❍
	1-7/16”	36,51	1.4375		453T-0114	❍	453H-0114	❍
		37,00	1.4567		453T-37	❍	453H-37	❍
	1-15/32”	37,31	1.4688		453T-0115	❍	453H-0115	❍
		38,00	1.4961		453T-38	❍	453H-38	❍
	1-1/2”	38,10	1.5000		453T-0116	❍	453H-0116	❍
	1-17/32”	38,89	1.5313		453T-0117	❍	453H-0117	❍
		39,00	1.5354		453T-39	❍	453H-39	❍
		39,29	1.5470		453T-1.547	❍	453H-1.547	❍
	1-9/16”	39,69	1.5625		453T-0118	❍	453H-0118	❍
		40,00	1.5748		453T-40	❍	453H-40	❍
	1-19/32”	40,48	1.5938		453T-0119	❍	453H-0119	❍
		41,00	1.6142		453T-41	❍	453H-41	❍
	1-5/8”	41,28	1.6250		453T-0120	❍	453H-0120	❍
		42,00	1.6535		453T-42	❍	453H-42	❍
	1-21/32”	42,07	1.6563		453T-0121	❍	453H-0121	❍
	1-11/16”	42,86	1.6875		453T-0122	❍	453H-0122	❍
		43,00	1.6929		453T-43	❍	453H-43	❍
	1-23/32”	43,66	1.7188		453T-0123	❍	453H-0123	❍
		44,00	1.7323		453T-44	❍	453H-44	❍
	1-3/4”	44,45	1.7500		453T-0124	❍	453H-0124	❍
		45,00	1.7717		453T-45	❍	453H-45	❍
	1-25/32”	45,24	1.7813		453T-0125	❍	453H-0125	❍
		45,50	1.7913		453T-45.5	❍	453H-45.5	❍
		45,64	1.7970		453T-1.797	❍	453H-1.797	❍
		46,00	1.8110		453T-46	❍	453H-46	❍
	1-13/16”	46,04	1.8125		453T-0126	❍	453H-0126	❍
	1-27/32”	46,83	1.8438		453T-0127	❍	453H-0127	❍
		47,00	1.8504		453T-47	❍	453H-47	❍
	1-7/8”	47,63	1.8750		453T-0128	❍	453H-0128	❍
Premium Cobalt	1-13/32”	35,72	1.4063		483T-0113	▲	483H-0113	▲
		36,00	1.4173		483T-36	▲	483H-36	▲
	1-7/16”	36,51	1.4375		483T-0114	▲	483H-0114	▲
		37,00	1.4567		483T-37	▲	483H-37	▲
	1-15/32”	37,31	1.4688		483T-0115	▲	483H-0115	▲
		38,00	1.4961		483T-38	▲	483H-38	▲
	1-1/2”	38,10	1.5000		483T-0116	▲	483H-0116	▲
	1-17/32”	38,89	1.5313		483T-0117	▲	483H-0117	▲
		39,00	1.5354		483T-1.797	▲	483H-1.797	▲
	1-9/16”	39,69	1.5625		483T-0118	▲	483H-0118	▲
		40,00	1.5748		483T-40	▲	483H-40	▲
	1-19/32”	40,48	1.5938		483T-0119	▲	483H-0119	▲
		41,00	1.6142		483T-41	▲	483H-41	▲
	1-5/8”	41,28	1.6250		483T-0120	▲	483H-0120	▲
		42,00	1.6535		483T-42	▲	483H-42	▲
	1-21/32”	42,07	1.6563		483T-0121	▲	483H-0121	▲
	1-11/16”	42,86	1.6875		483T-0122	▲	483H-0122	▲
		43,00	1.6929		483T-43	▲	483H-43	▲
	1-23/32”	43,66	1.7188		483T-0123	▲	483H-0123	▲
		44,00	1.7323		483T-44	▲	483H-44	▲
	1-3/4”	44,45	1.7500		483T-0124	▲	483H-0124	▲
		45,00	1.7717		483T-45.5	▲	483H-45.5	▲
	1-25/32”	45,24	1.7813		483T-1.547	▲	483H-1.547	▲
		46,00	1.8110		483T-46	▲	483H-46	▲
	1-13/16”	46,04	1.8125		483T-0126	▲	483H-0126	▲
	1-27/32”	46,83	1.8438		483T-0127	▲	483H-0127	▲
		47,00	1.8504		483T-47	▲	483H-47	▲
	1-7/8”	47,63	1.8750		483T-0128	▲	483H-0128	▲

GEN2 T-A® Provides:

- Lower drilling forces
- Increased drill stability
- Smoother breakouts on through holes
- Improved chip formation
- Super Cobalt Supplied with AMEC’s exclusive AM200® coating for increased tool life

Can be supplied with other coatings as a non-stocked standard. Process fee applies. Example:

TiN	XXXT-XXXX
TiAlN	XXXA-XXXX
TiCN	XXXN-XXXX
AM200®	XXXH-XXXX

3 Series T-A® Carbide Drill Inserts

Range: 1.353 to 1.882 inch (34,36mm to 47,80mm)

T-A® Carbide Drill Inserts

(supplied in 1 piece packages)

Material	A (Diameter) Fractional Equivalent	A (Diameter) (mm)	A (Diameter) (Inch)	B Thickness	Item Number, Coating and Availability TiN	❶	TiAIN	❶
C2 (K20)	1-13/32”	35,72	1.4063	1/4”	1C23T-0113	❍	1C23A-0113	❍
		36,00	1.4173		1C23T-36	❍	1C23A-36	❍
	1-7/16”	36,51	1.4375		1C23T-0114	❍	1C23A-0114	❍
		37,00	1.4567		1C23T-37	❍	1C23A-37	❍
	1-15/32”	37,31	1.4688		1C23T-0115	❍	1C23A-0115	❍
		38,00	1.4961		1C23T-38	❍	1C23A-38	❍
	1-1/2”	38,10	1.5000		1C23T-0116	❍	1C23A-0116	❍
	1-17/32”	38,89	1.5313		1C23T-0117	❍	1C23A-0117	❍
		39,00	1.5354		1C23T-39	❍	1C23A-39	❍
	1-9/16”	39,69	1.5625		1C23T-0118	❍	1C23A-0118	❍
		40,00	1.5748		1C23T-40	❍	1C23A-40	❍
	1-19/32”	40,48	1.5938		1C23T-0119	❍	1C23A-0119	❍
		41,00	1.6142		1C23T-41	❍	1C23A-41	❍
	1-5/8”	41,28	1.6250		1C23T-0120	❍	1C23A-0120	❍
		42,00	1.6535		1C23T-42	❍	1C23A-42	❍
	1-21/32”	42,07	1.6563		1C23T-0121	❍	1C23A-0121	❍
	1-11/16”	42,86	1.6875		1C23T-0122	❍	1C23A-0122	❍
		43,00	1.6929		1C23T-43	❍	1C23A-43	❍
	1-23/32”	43,66	1.7188		1C23T-0123	❍	1C23A-0123	❍
		44,00	1.7323		1C23T-44	❍	1C23A-44	❍
	1-3/4”	44,45	1.7500		1C23T-0124	❍	1C23A-0124	❍
		45,00	1.7717		1C23T-45	❍	1C23A-45	❍
	1-25/32”	45,24	1.7813		1C23T-0125	❍	1C23A-0125	❍
		46,00	1.8110		1C23T-46	❍	1C23A-46	❍
	1-13/16”	46,04	1.8125		1C23T-0126	❍	1C23A-0126	❍
	1-27/32”	46,83	1.8438		1C23T-0127	❍	1C23A-0127	❍
		47,00	1.8504		1C23T-47	❍	1C23A-47	❍
	1-7/8”	47,63	1.8750		1C23T-0128	❍	1C23A-0128	❍
C5 (P40)	1-13/32”	35,72	1.4063		1C53T-0113	❍	1C53A-0113	❍
		36,00	1.4173		1C53T-36	❍	1C53A-36	❍
	1-7/16”	36,51	1.4375		1C53T-0114	❍	1C53A-0114	❍
		37,00	1.4567		1C53T-37	❍	1C53A-37	❍
	1-15/32”	37,31	1.4688		1C53T-0115	❍	1C53A-0115	❍
		38,00	1.4961		1C53T-38	❍	1C53A-38	❍
	1-1/2”	38,10	1.5000		1C53T-0116	❍	1C53A-0116	❍
	1-17/32”	38,89	1.5313		1C53T-0117	❍	1C53A-0117	❍
		39,00	1.5354		1C53T-39	❍	1C53A-39	❍
		39,29	1.5470		1C53T-1.547	❍	1C53A-1.547	❍
	1-9/16”	39,69	1.5625		1C53T-0118	❍	1C53A-0118	❍
		40,00	1.5748		1C53T-40	❍	1C53A-40	❍
	1-19/32”	40,48	1.5938		1C53T-0119	❍	1C53A-0119	❍
		41,00	1.6142		1C53T-41	❍	1C53A-41	❍
	1-5/8”	41,28	1.6250		1C53T-0120	❍	1C53A-0120	❍
		42,00	1.6535		1C53T-42	❍	1C53A-42	❍
	1-21/32”	42,07	1.6563		1C53T-0121	❍	1C53A-0121	❍
	1-11/16”	42,86	1.6875		1C53T-0122	❍	1C53A-0122	❍
		43,00	1.6929		1C53T-43	❍	1C53A-43	❍
	1-23/32”	43,66	1.7188		1C53T-0123	❍	1C53A-0123	❍
		44,00	1.7323		1C53T-44	❍	1C53A-44	❍
	1-3/4”	44,45	1.7500		1C53T-0124	❍	1C53A-0124	❍
		45,00	1.7717		1C53T-45	❍	1C53A-45	❍
	1-25/32”	45,24	1.7813		1C53T-0125	❍	1C53A-0125	❍
		45,50	1.7913		1C53T-45.5	❍	1C53A-45.5	❍
		45,64	1.7970		1C53T-1.797	❍	1C53A-1.797	❍
		46,00	1.8110		1C53T-46	❍	1C53A-46	❍
	1-13/16”	46,04	1.8125		1C53T-0126	❍	1C53A-0126	❍
	1-27/32”	46,83	1.8438		1C53T-0127	❍	1C53A-0127	❍
		47,00	1.8504		1C53T-47	❍	1C53A-47	❍
	1-7/8”	47,63	1.8750		1C53T-0128	❍	1C53A-0128	❍

Geometries available (see page 151 for details): -CI, -SK, -CR, -HI, -HR, -BR, -CP, -NP, -IN, -RN, -CN, -NC, -WC, -AN.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.

❶ Availability Codes
❍ Stocked
▲ Non-stocked

Sizes not shown (Non-Standard Diameters) are available. When ordering, please follow the examples shown below:

64th = 1-35/64”, TiN, 3 Series, Super Cobalt	=453T-1.5469
Decimals = 1.6500”, TiAIN, 3 Series, Super Cobalt	=453A-1.6500
Metric = 47,25 mm TiCN, 2 Series, C5	=1C53N-47.25

3 Series T-A® HSS Drill Inserts

Range: 1.353 to 1.882 inch (34,36mm to 47,80mm)


90º Spot and Chamfer T-A® Drill Inserts

(supplied in 1 piece packages)

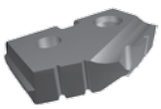
U.S. Patent No.: 6,848,869

Material	A (Diameter) Fractional Equivalent	(mm)	(Inch)	B Thickness	Item Number, Coating and Availability TiN	❶	TiAlN	❶	TiCN	❶
Super Cobalt	1-13/32”	35,72	1.4063	1/4”	153T-0113-SP	▲	153A-0113-SP	▲	153N-0113-SP	▲
		36,00	1.4173		153T-36-SP	▲	153A-36-SP	▲	153N-36-SP	▲
	1-7/16”	36,51	1.4375		153T-0114-SP	▲	153A-0114-SP	▲	153N-0114-SP	▲
		37,00	1.4567		153T-37-SP	▲	153A-37-SP	▲	153N-37-SP	▲
	1-15/32”	37,31	1.4688		153T-0115-SP	▲	153A-0115-SP	▲	153N-0115-SP	▲
		38,00	1.4961		153T-38-SP	▲	153A-38-SP	▲	153N-38-SP	▲
	1-1/2”	38,10	1.5000		153T-0116-SP	❍	153A-0116-SP	❍	153N-0116-SP	❍
	1-17/32”	38,89	1.5313		153T-0117-SP	▲	153A-0117-SP	▲	153N-0117-SP	▲
		39,00	1.5354		153T-39-SP	▲	153A-39-SP	▲	153N-39-SP	▲
	1-9/16”	39,69	1.5625		153T-0118-SP	▲	153A-0118-SP	▲	153N-0118-SP	▲
		40,00	1.5748		153T-40-SP	▲	153A-40-SP	▲	153N-40-SP	▲
	1-19/32”	40,48	1.5938		153T-0119-SP	▲	153A-0119-SP	▲	153N-0119-SP	▲
		41,00	1.6142		153T-41-SP	▲	153A-41-SP	▲	153N-41-SP	▲
	1-5/8”	41,28	1.6250		153T-0120-SP	▲	153A-0120-SP	▲	153N-0120-SP	▲
		42,00	1.6535		153T-42-SP	▲	153A-42-SP	▲	153N-42-SP	▲
	1-21/32”	42,07	1.6563		153T-0121-SP	▲	153A-0121-SP	▲	153N-0121-SP	▲
	1-11/16”	42,86	1.6875		153T-0122-SP	▲	153A-0122-SP	▲	153N-0122-SP	▲
		43,00	1.6929		153T-43-SP	▲	153A-43-SP	▲	153N-43-SP	▲
	1-23/32”	43,66	1.7188		153T-0123-SP	▲	153A-0123-SP	▲	153N-0123-SP	▲
		44,00	1.7323		153T-44-SP	▲	153A-44-SP	▲	153N-44-SP	▲
	1-3/4”	44,45	1.7500		153T-0124-SP	▲	153A-0124-SP	▲	153N-0124-SP	▲
		45,00	1.7717		153T-45-SP	▲	153A-45-SP	▲	153N-45-SP	▲
	1-25/32”	45,24	1.7813		153T-0125-SP	▲	153A-0125-SP	▲	153N-0125-SP	▲
		46,00	1.8110		153T-46-SP	▲	153A-46-SP	▲	153N-46-SP	▲
	1-13/16”	46,04	1.8125		153T-0126-SP	▲	153A-0126-SP	▲	153N-0126-SP	▲
	1-27/32”	46,83	1.8438		153T-0127-SP	▲	153A-0127-SP	▲	153N-0127-SP	▲
		47,00	1.8504		153T-47-SP	▲	153A-47-SP	▲	153N-47-SP	▲
	1-7/8”	47,63	1.8750		153T-0128-SP	❍	153A-0128-SP	❍	153N-0128-SP	❍

Geometries available (see page 151 for details): -SW.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.

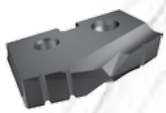
*Thin Wall

U.S. Patent No.: 7,147,414



**Notch Point®

U.S. Patent No.: 6,685,402 & 6,986,628 & 7,114,893 & 7,371,035
Euro Patent No.: 1 372 894 DE, GB, IT, FR
Other U.S. & International Patents Pending



**150º Structural Steel

U.S. Patent No.: 6,685,402 & 6,986,628 & 7,114,893 & 7,371,035
Euro Patent No.: 1 372 894 DE, GB, IT, FR
Other U.S. & International Patents Pending

Structural Steel T-A® Drill Inserts

(supplied in 1 piece packages)

Material	A (Diameter) Fractional Equivalent	(mm)	(Inch)	B Thickness	Item Number, Coating and Availability *Thin Wall TiAlN	❶	**Notch Point® TiAlN	❶	**150º Structural Steel TiCN	❶
Super Cobalt	1-7/16”	36,51	1.4375	1/4”	153A-0114-TW	❍	153A-0114-NP	❍	153A-0114-SS	❍
	1-1/2”	38,10	1.5000		153A-0116-TW	❍	153A-0116-NP	❍	153A-0116-SS	❍
		39,00	1.5354		153A-39-TW	❍	153A-39-NP	❍	153A-39-SS	❍
	1-9/16”	39,69	1.5625		153A-0118-TW	❍	153A-0118-NP	❍	153A-0118-SS	❍

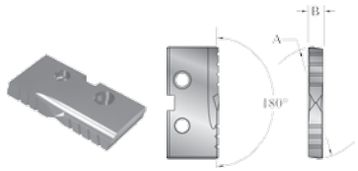
*Use Thin Wall Drill Inserts for material up to 7/16” thick.
**Use Notch Point® Geometry or 150º Structural Steel Drill Inserts for material over 7/16” thick. Use 150º Structural Steel for reduced exir burr.

Can be supplied with other coatings as a non-stocked standard. Process fee applies. Example:

TiN	XXXT-XXXX
TiAlN	XXXA-XXXX
TiCN	XXXN-XXXX
AM200®	XXXH-XXXX

3 Series T-A® Flat Bottom Drill Inserts

Range: 1.353 to 1.882 inch (34,36mm to 47,80mm)



Flat Bottom T-A® Drill Inserts

(supplied in 1 piece packages)

Material	A (Diameter) Fractional Equivalent	A (Diameter) (mm)	A (Diameter) (Inch)	B Thickness	Item Number, Coating and Availability TiN	❶
Super Cobalt	1-13/32”	35,72	1.4063	1/4”	153T-0113-FB	❍
		36,00	1.4173		153T-36-FB	❍
	1-7/16”	36,51	1.4375		153T-0114-FB	❍
		37,00	1.4567		153T-37-FB	❍
	1-15/32”	37,31	1.4688		153T-0115-FB	❍
		38,00	1.4961		153T-38-FB	❍
	1-1/2”	38,10	1.5000		153T-0116-FB	❍
	1-17/32”	38,89	1.5313		153T-0117-FB	❍
		39,00	1.5354		153T-39-FB	❍
	19/16”	39.69	1.5625		153T-0118-FB	❍
		40,00	1.5748		153T-40-FB	❍
	1-19/32”	40,48	1.5938		153T-0119-FB	❍
		41,00	1.6142		153T-41-FB	❍
	1-5/8”	41,28	1.6250		153T-0120-FB	❍
		42,00	1.6535		153T-42-FB	❍
	1-21/32”	42,07	1.6563		153T-0121-FB	❍
	1-11/16”	42,86	1.6875		153T-0122-FB	❍
		43,00	1.6929		153T-43-FB	❍
	1-23/32”	43,66	1.7188		153T-0123-FB	❍
		44,00	1.7323		153T-44-FB	❍
	1-3/4”	44,45	1.7500		153T-0124-FB	❍
		45,00	1.7717		153T-45-FB	❍
	1-25/32	45,24	1.7813		153T-0125-FB	❍
		46,00	1.8110		153T-46-FB	❍
	1-13/16”	46,04	1.8125		153T-0126-FB	❍
	1-27/32”	46,83	1.8438		153T-0127-FB	❍
		47,00	1.8504		153T-47-FB	❍
	1-7/8”	47,63	1.8750		153T-0128-FB	❍

Geometries available (see page 151 for details): -FN
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.

❶ Availability Codes
❍ Stocked
▲ Non-stocked

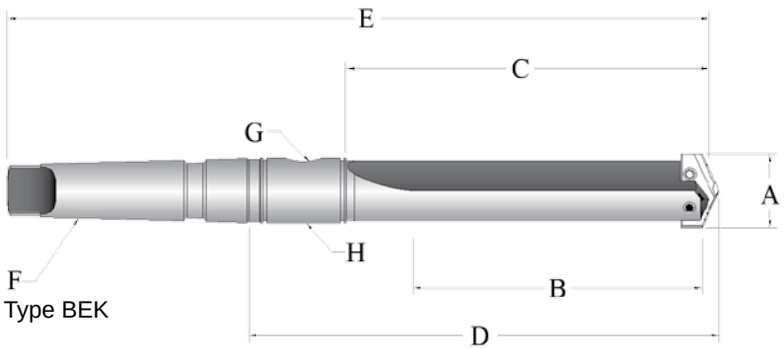
Sizes not shown (Non-Standard Diameters) are available. When ordering, please follow the examples shown below:

64th = 1-35/64”, TiN, 3 Series, Super Cobalt	=453T-1.5469
Decimals = 1.6500”, TiAlN, 3 Series, Super Cobalt	=1453A-1.6500
Metric = 47,25 mm TiCN, 2 Series, C5	=1C53N-47.25

3 Series T-A® Holders

Range: 1.353 to 1.882 inch (34,36mm to 47,80mm)

*Metric Thread to BSP & ISO 7-1

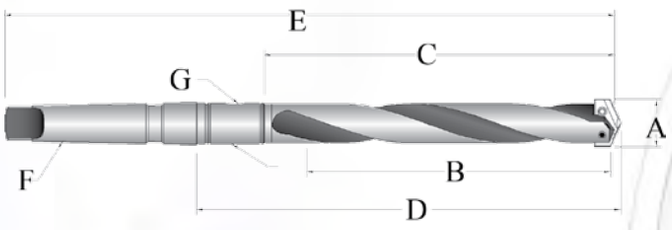


*Metric Per ISO 296 Type BEK

Taper Shank Straight Flute Holders

Length	Item Number		A	B	C	D	E	F	G	H
	NEW	OLD	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	MT	Pipe Tap	RCA
Short	22030S-004I	213T-0004	1-13/32"- 1-7/8"	4-3/4"	6"	8-1/8"	12-9/16"	#4	1/4"	2T-4SR
	22030S-005I	213T-0005	1-13/32"- 1-7/8"	4-3/4"	6"	8-1/8"	13-13/16"	#5	1/4"	2T-5SR
Intermediate	23030S-004I	2103T-0004	1-13/32"- 1-7/8"	6-1/2"	7-3/4"	9-7/8"	14-5/16"	#4	1/4"	2T-4SR
Standard	24030S-004I	223T-0004	1-13/32"- 1-7/8"	8-1/4"	9-1/2"	11-5/8"	16-1/16"	#4	1/4"	2T-4SR
	24030S-005I	223T-0005	1-13/32"- 1-7/8"	8-1/4"	9-1/2"	11-5/8"	17-5/16"	#5	1/4"	2T-5SR
Extended	25030S-004I	N/A	1-13/32"- 1-7/8"	13-3/4"	15"	17-1/8"	21-9/16"	#4	1/4"	2T-4SR
XL	27030S-004I	N/A	1-13/32"- 1-7/8"	22"	23-1/4"	25-3/8"	29-13/16"	#4	1/4"	2T-4SR
3XL	29030S-004I	N/A	1-13/32"- 1-7/8"	31"	32-1/4"	34-3/8"	38-13/16"	#4	1/4"	2T-4SR
***Metric (mm)**										
Short	22030S-004M	213T-04	36,0 - 47,0	120,6	152,4	206,4	319,1	#4	1/4"	2T-4SRM
Extended	25030S-004M	N/A	36,0 - 47,0	349,3	381,0	435,0	547,7	#4	1/4"	2T-4SRM
XL	27030S-004M	N/A	36,0 - 47,0	558,8	590,6	644,6	757,2	#4	1/4"	2T-4SRM
3XL	29030S-004M	N/A	36,0 - 47,0	787,4	819,2	873,2	985,8	#4	1/4"	2T-4SRM

*Metric Thread to BSP & ISO 7-1



*Metric Per ISO 296 Type BEK

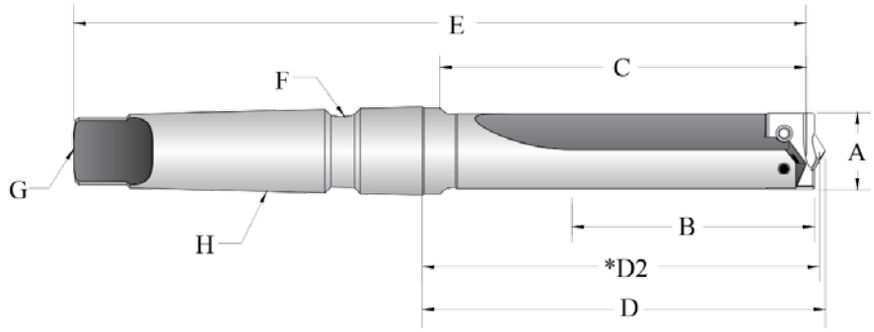
Taper Shank Helical Flute Holders

Length	Item Number		A	B	C	D	E	F	G	H
	NEW	OLD	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	MT	Pipe Tap	RCA
***Metric (mm)**										
Intermediate	23030H-004M	2103T-04	36,0 - 47,0	165,1	196,9	250,9	363,6	#4	1/4"	2T-4SRM
Standard	24030H-004M	223T-04	36,0 - 47,0	209,5	241,3	295,3	408,0	#4	1/4"	2T-4SRM

Note: AMEC Recommends the use of the 0.5, 1.5, or 2.5 series holders where appropriate.

3 Series T-A® Holders

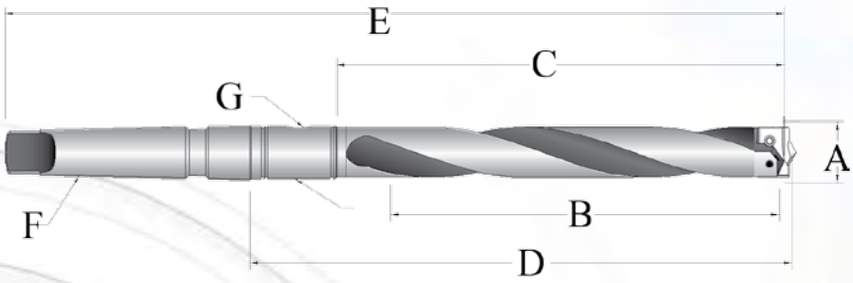
Range: 1.353 to 1.882 inch (34,36mm to 47,80mm)



Structural Steel Taper Shank Straight Flute Holders

Length	Item Number	A Drill Insert Range	B Max. Drill Depth	C Body Length	D Ref. Length	*D2 Ref. Length	E Overall Length	F MT	G Coolant Inlet Style	H
Short	22030S-004IS126	1-13/32” - 1-7/8”	4-3/4”	6”	6-1/2”	6-7/16”	10-7/8”	#4	TTC	TSC

*Dimension if using a Structural Steel Holder with Notch Point® T-A® Drill Insert Geometry.



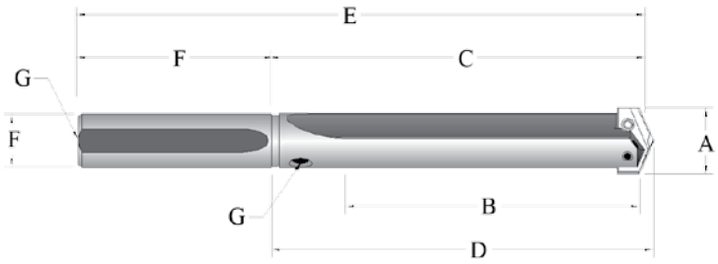
Structural Steel Taper Shank Helical Flute Holders

Length	Item Number	A Drill Insert Range	B Max. Drill Depth	C Body Length	D Ref. Length	*D2 Ref. Length	E Overall Length	F MT	G Coolant Inlet Style	H
Standard	24030H-004IS126	1-13/32” - 1-7/8”	6-1/2”	7-3/4”	8-1/4”	8-3/16”	12-5/8”	#4	TTC	TSC

*Dimension if using a Structural Steel Holder with Notch Point® T-A® Drill Insert Geometry.

3 Series T-A® Holders

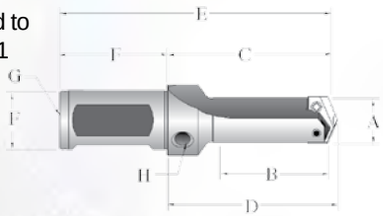
Range: 1.353 to 1.882 inch (34,36mm to 47,80mm)



Straight Shank Straight Flute Holders

Length	Item Number		A	B	C	D	E	F		G
	NEW	OLD	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	Shank Dia.	Shank Length	Pipe Tap
Short	22030S-125L	233T-1250	1-13/32" - 1-7/8"	4-3/4"	6"	6-3/16"	10"	1-1/4"	4"	1/4"
	22030S-150L	233T-1500	1-13/32" - 1-7/8"	4-3/4"	6"	6-3/16"	10"	1-1/2"	4"	1/4"
Intermediate	23030S-150L	2113T-1500	1-13/32" - 1-7/8"	6-1/2"	7-3/4"	7-15/16"	11-3/4"	1-1/2"	4"	1/4"
Standard	24030S-125L	243T-1250	1-13/32" - 1-7/8"	8-1/4"	9-1/2"	9-11/16"	13-1/2"	1-1/4"	4"	1/4"
	24030S-150L	243T-1500	1-13/32" - 1-7/8"	8-1/4"	9-1/2"	9-11/16"	13-1/2"	1-1/2"	4"	1/4"
Extended	25030S-125L	N/A	1-13/32" - 1-7/8"	13-3/4"	15"	15-3/16"	19"	1-1/4"	4"	1/4"
XL	27030S-150L	N/A	1-13/32" - 1-7/8"	22"	23-1/4"	23-7-16"	27-1/4"	1-1/2"	4"	1/4"
3XL	29030S-150L	N/A	1-13/32" - 1-7/8"	31"	32-1/4"	32-7/16"	36-1/4"	1-1/2"	4"	1/4"

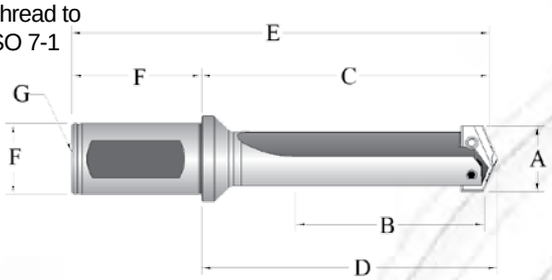
*Metric Thread to BSP & ISO 7-1



*Metric Per ISO 296 Type BEK

Stub Length Flanged Shank Holder

*Metric Thread to BSP & ISO 7-1



Flanged Shank Straight Flute Holders

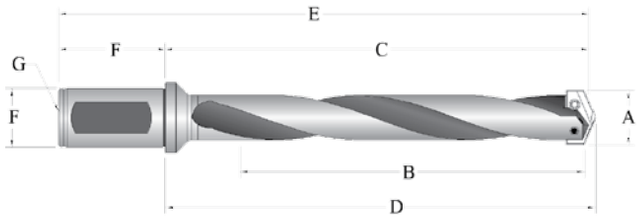
Length	Item Number		A	B	C	D	E	F		G	H
	NEW	OLD	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	Shank Dia	Shank Length	Pipe Tap Rear	Pipe Tap Side
Stub	21030S-150F	N/A	1-13/32" - 1-7/8"	3"	4-59/64"	5-7/64"	7-39/64"	1-1/2"	2-11/16"	1/4"	1/4"
Short	22030S-150F	273T-1500	1-13/32" - 1-7/8"	4-3/4"	6-13/16"	7"	9-1/2"	1-1/2"	2-11/16"	1/4"	N/A
Intermediate	23030S-150F	N/A	1-13/32" - 1-7/8"	6-1/2"	8-9/16"	8-3/4"	11-1/4"	1-1/2"	2-11/16"	1/4"	N/A
Standard	24030S-150F	N/A	1-13/32" - 1-7/8"	8-1/4"	10-5/16"	10-1/2"	13"	1-1/2"	2-11/16"	1/4"	N/A
***Metric (mm)**											
Stub	21030S-40FM	N/A	36,0 - 47,0	76,2	125,0	129,8	195,1	40,0	70,1	1/4"	1/4"
Short	22030S-40FM	273T-40	36,0 - 47,0	120,7	173,0	177,8	243,1	40,0	70,1	1/4"	N/A
Extended	25030S-40FM	N/A	36,0 - 47,0	349,3	401,6	406,4	471,7	40,0	70,1	1/4"	N/A
XL	27030S-40FM	N/A	36,0 - 47,0	558,8	611,1	615,9	681,2	40,0	70,1	1/4"	N/A
3XL	29030S-40FM	N/A	36,0 - 47,0	787,4	839,7	844,5	909,8	40,0	70,1	1/4"	N/A

Note: AMEC Recommends the use of the 0.5, 1.5, or 2.5 series holders where appropriate.

3 Series T-A® Holders

Range: 1.353 to 1.882 inch (34,36mm to 47,80mm)

*Metric Thread to BSP & ISO 7-1



Flanged Shank Helical Flute Holders

Length	Item Number NEW	Item Number OLD	A Drill Insert Range	B Max. Drill Depth	C Body Length	D Ref. Length	E Overall Length	F Shank Dia.	F Shank Length	G Pipe Tap Rear
Intermediate	23030H-150F	2123T-1500	1-13/32" - 1-7/8"	6-1/2"	8-9/16"	8-3/4"	11-1/4"	1-1/2"	2-11/16"	1/4"
Standard	24030H-150F	283T-1500	1-13/32" - 1-7/8"	8-1/4"	10-5/16"	10-1/2"	13"	1-1/2"	2-11/16"	1/4"
Metric (mm)										
Intermediate	23030H-40FM	2123T-40	36,0 - 47,0	165,1	217,5	222,3	287,6	40,0	70,1	1/4"
Standard	24030H-40FM	283T-40	36,0 - 47,0	209,6	261,9	266,7	332,0	40,0	70,1	1/4"

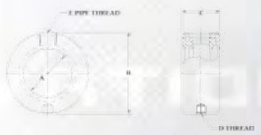
Rotary Coolant Adapter (RCA) and Accessories

	Item Number	A I.D.	B O.D.	C Length	D Thread for Driving Rod	E Pipe Tap
Inch	2T-4SR	1-1/4"	2-1/2"	1-3/8"	3/8" - NC	1/4"
	2T-5SR	1-3/4"	3"	1-3/8"	3/8" - NC	1/4"
Metric	2T-4SRM	31,75	63,50	34,92	M10 X 1,50	❖1/4"
	2T-5SRM	44,45	76,20	34,92	M10 X 1,50	❖1/4"

RCA Repair Kit Item Number **
2T1-4SR
2T1-5SR
2T1-4SR
2T1-5SR

O RCA O-ring Replacements 10 Pieces
2T1-4OR-10
2T1-5OR-10
2T1-4OR-10
2T1-5OR-10

RCA Exploded View



❖ Thread to BSP & ISO 7-1

** RCA Repair Kit includes (2) O-rings, (2) snap rings and (2) thrust washers.

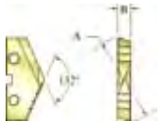
Replacement TORX Plus Screws

(supplied in 10 piece packages)

Holder Series	 TORX Plus Screws 10 Pieces	Nylon Locking TORX Plus Screw 10 Pieces	TORX Plus Hand Driver	INCH Drill Range Used With	INCH TORX Plus Screw Admissible Tightening Torque (in.-lbs.)	METRIC Drill Range Used With	METRIC TORX Plus Screw Admissible Tightening Torque (N-cm)
3	7514-IP20-10	7514N-IP20-10	8IP-20	1-13/32" - 1-7/8"	212.3	36,0mm - 65,0mm	1370

Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength.

4 Series Original T-A® Drill Inserts
Range: 1.850 to 2.570 inch (46,99mm to 65,28mm)

T-A® Drill Inserts
(supplied in 1 piece packages)

Material	A (Diameter)			B	Item Number, Coating and Availability	
	Fractional Equivalent	(mm)	(Inch)	Thickness	TiN	❶
Super Cobalt		48,00	1.8898	5/16”	154T-48	❍
	1-29/32”	48,42	1.9063		154T-0129	❍
		49,00	1.9291		154T-49	❍
	1-15/16”	49,21	1.9375		154T-0130	❍
		50,00	1.9685		154T-50	❍
	1-31/32”	50,01	1.9688		154T-0131	❍
	2”	50,80	2.0000		154T-0200	❍
		51,00	2.0079		154T-51	❍
	2-1/32”	51,59	2.0313		154T-0201	❍
	2-3/64”	52,00	2.0472		154T-52	❍
	2-1/16”	52,39	2.0625		154T-0202	❍
		53,00	2.0866		154T-53	❍
	2-3/32”	53,18	2.0938		154T-0203	❍
	2-1/8”	53,98	2.1250		154T-0204	❍
		54,00	2.1260		154T-54	❍
	2-5/32”	54,77	2.1563		154T-0205	❍
		55,00	2.1654		154T-55	❍
	2-3/16”	55,56	2.1875		154T-0206	❍
		56,00	2.2047		154T-56	❍
	2-7/32”	56,36	2.2188		154T-0207	❍
		57,00	2.2441		154T-57	❍
	2-1/4”	57,15	2.2500		154T-0208	❍
	2-9/32”	57,94	2.2813		154T-0209	❍
		58,00	2.2835		154T-58	❍
	2-5/16”	58,74	2.3125		154T-0210	❍
		59,00	2.3228		154T-59	❍
	2-11/32”	59,53	2.3438		154T-0211	❍
		60,00	2.3622		154T-60	❍
	2-3/8”	60,33	2.3750		154T-0212	❍
		61,00	2.4016		154T-61	❍
	2-13/32”	61,12	2.4063		154T-0213	❍
	2-7/16”	61,91	2.4375		154T-214	❍
		62,00	2.4409		154T-62	❍
	2-15/32”	62,71	2.4688		154T-00215	❍
		63,00	2.4803		154T-63	❍
	2-1/2”	63,50	2.5000		154T-0216	❍
		64,00	2.5197		154T-64	❍
	2-17/32”	64,29	2.5313		154T-0217	❍
		65,00	2.5591		154T-65	❍
	2-9/16”	65,09	2.5625		154T-0218	❍

Geometries available (see page 151 for details): -CI, -SK, -CR, -HI, -HR, -BR, -NC, -WC.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.

Can be supplied with other coatings as a non-stocked standard. Process fee applies. Example:

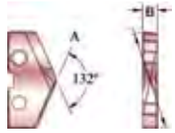
TiN	XXXT-XXXX
TiAlN	XXXA-XXXX
TiCN	XXXN-XXXX
AM200®	XXXH-XXXX

4 Series T-A® HSS Drill Inserts

Range: 1.850 to 2.570 inch (46,99mm to 65,28mm)

GEN2 T-A®
(supplied in 1 piece packages)

U.S. Patent No.: 6,685,402 & 6,986,628 & 7,011,478
& 7,018,145 & 7,144,893 & 7,371,035
Euro Patent No.: 1 372 894 DE, GB, IT, FR
Other U.S. & International Patents Pending



Material	A (Diameter) Fractional Equivalent	(mm)	(Inch)	B Thickness	Item Number, Coating and Availability TiN	❶
HSS		48,00	1.8898	5/16”	434T-48	❍
	1-29/32”	48,42	1.9063		434T-0129	❍
		49,00	1.9291		434T-49	❍
	1-15/16”	49,21	1.9375		434T-0130	❍
		50,00	1.9685		434T-50	❍
	1-31/32”	50,01	1.9688		434T-0131	❍
	2”	50,80	2.0000		434T-0200	❍
		51,00	2.0079		434T-51	❍
	2-1/32”	51,59	2.0313		434T-0201	❍
	2-3/64”	52,00	2.0472		434T-52	❍
	2-1/16”	52,39	2.0625		434T-0202	❍
		53,00	2.0866		434T-53	❍
	2-3/32”	53,18	2.0938		434T-0203	❍
	2-1/8”	53,98	2.1250		434T-0204	❍
		54,00	2.1260		434T-54	❍
	2-5/32”	54,77	2.1563		434T-0205	❍
		55,00	2.1654		434T-55	❍
	2-3/16”	55,56	2.1875		434T-0206	❍
		56,00	2.2047		434T-56	❍
	2-7/32”	56,36	2.2188		434T-0207	❍
		57,00	2.2441		434T-57	❍
	2-1/4”	57,15	2.2500		434T-0208	❍
	2-9/32”	57,94	2.2813		434T-0209	❍
		58,00	2.2835		434T-58	❍
	2-5/16”	58,74	2.3125		434T-0210	❍
		59,00	2.3228		434T-59	❍
	2-11/32”	59,53	2.3438		434T-0211	❍
		60,00	2.3622		434T-60	❍
	2-3/8”	60,33	2.3750		434T-0212	❍
		61,00	2.4016		434T-61	❍
	2-13/32”	61,12	2.4063		434T-0213	❍
	2-7/16”	61,91	2.4375		434T-0214	❍
		62,00	2.4409		434T-62	❍
	2-15/32”	62,71	2.4688		434T-0215	❍
		63,00	2.4803		434T-63	❍
	2-1/2”	63,50	2.5000		434T-0216	❍
		64,00	2.5197		434T-64	❍
	2-17/32”	64,29	2.5313		434T-0217	❍
		65,00	2.5591		434T-65	❍
	2-9/16”	65,09	2.5625		434T-0218	❍

GEN2 T-A® Provides:
- Lower drilling forces
- Increased drill stability
- Smoother breakouts on through holes
- Improved chip formation

Geometries available (see page 151 for details): -CI, -SK, -CR, -HI, -HR, -BR, -NC, -WC.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.

❶ Availability Codes
❍ Stocked
▲ Non-stocked

Sizes not shown (Non-Standard Diameters) are available. When ordering, please follow the examples shown below:

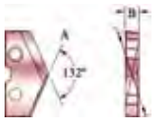
64th =1-35/64”, TiN, 3 Series, Super Cobalt, Spot & Chamfer	=132T-1.0781
Decimals = 1.9200”, TiAIN, 3 Series, Super Cobalt	=152A-1.1450
Metric = 57,10 mm TiCN, 4 Series, HSS	=182N-29.50

4 Series T-A® HSS Drill Inserts

Range: 1.850 to 2.570 inch (46,99mm to 65,28mm)

GEN2 T-A®
(supplied in 1 piece packages)

U.S. Patent No.: 6,685,402 & 6,986,628
& 7,144,893 & 7,371,035
Euro Patent No.: 1 372 894 DE, GB, IT, FR
Other U.S. & International Patents Pending



Material	A (Diameter) Fractional Equivalent	(mm)	(Inch)	B Thickness	❍ Item Number, Coating and Availability TiN	❶	AM200®	❶
Super Cobalt		48,00	1.8898	5/16”	454T-48	❍	454H-48	❍
	1-29/32”	48,42	1.9063		454T-0129	❍	454H-0129	❍
		49,00	1.9291		454T-49	❍	454H-49	❍
	1-15/16”	49,21	1.9375		454T-0130	❍	454H-0130	❍
		50,00	1.9685		454T-50	❍	454H-50	❍
	1-31/32”	50,01	1.9688		454T-0131	❍	454H-0131	❍
	2”	50,80	2.0000		454T-0200	❍	454H-0200	❍
		51,00	2.0079		454T-51	❍	454H-51	❍
	2-1/32”	51,59	2.0313		454T-0201	❍	454H-0201	❍
	2-3/64”	52,00	2.0472		454T-52	❍	454H-52	❍
	2-1/16”	52,39	2.0625		454T-0202	❍	454H-0202	❍
		53,00	2.0866		454T-53	❍	454H-53	❍
	2-3/32”	53,18	2.0938		454T-0203	❍	454H-0203	❍
	2-1/8”	53,98	2.1250		454T-0204	❍	454H-0204	❍
		54,00	2.1260		454T-54	❍	454H-54	❍
	2-5/32”	54,77	2.1563		454T-0205	❍	454H-0205	❍
		55,00	2.1654		454T-55	❍	454H-55	❍
	2-3/16”	55,56	2.1875		454T-0206	❍	454H-0206	❍
		56,00	2.2047		454T-56	❍	454H-56	❍
	2-7/32”	56,36	2.2188		454T-0207	❍	454H-0207	❍
		57,00	2.2441		454T-57	❍	454H-57	❍
	2-1/4”	57,15	2.2500		454T-0208	❍	454H-0208	❍
	2-9/32”	57,94	2.2813		454T-0209	❍	454H-0209	❍
		58,00	2.2835		454T-58	❍	454H-58	❍
	2-5/16”	58,74	2.3125		454T-0210	❍	454H-0210	❍
		59,00	2.3228		454T-59	❍	454H-59	❍
	2-11/32”	59,53	2.3438		454T-0211	❍	454H-0211	❍
		60,00	2.3622		454T-60	❍	454H-60	❍
	2-3/8”	60,33	2.3750		454T-0212	❍	454H-0212	❍
		61,00	2.4016		454T-61	❍	454H-61	❍
	2-13/32”	61,12	2.4063		454T-0213	❍	454H-0213	❍
		61,29	2.4130		454T-2.413	❍	454H-2.413	❍
		61,50	2.4213		454T-61.5	❍	454H-61.5	❍
	2-7/16”	61,91	2.4375		454T-0214	❍	454H-0214	❍
		62,00	2.4409		454T-62	❍	454H-62	❍
	2-15/32”	62,71	2.4688		454T-0215	❍	454H-0215	❍
		63,00	2.4803		454T-63	❍	454H-63	❍
	2-1/2”	63,50	2.5000		454T-0216	❍	454H-0216	❍
		64,00	2.5197		454T-64	❍	454H-64	❍
	2-17/32”	64,29	2.5313		454T-0217	❍	454H-0217	❍
		65,00	2.5591		454T-65	❍	454H-65	❍
	2-9/16”	65,09	2.5625		454T-0218	❍	454H-0218	❍

GEN2 T-A® Provides:
- Lower drilling forces
- Increased drill stability
- Smoother breakouts on through holes
- Improved chip formation
- Super Cobalt Supplied with AMEC’s exclusive AM200® coating for increased tool life

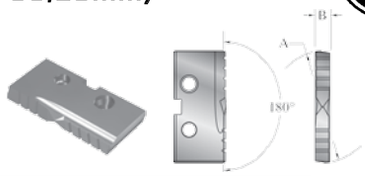
Geometries available (see page 151 for details): -CI, -SK, -CR, -HI, -HR, -BR, -NC, -WC.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.

Can be supplied with other coatings as a non-stocked standard. Process fee applies. Example:

TiN	XXXT-XXXX
TiAlN	XXXA-XXXX
TiCN	XXXN-XXXX
AM200®	XXXH-XXXX

4 Series T-A® Flat Bottom Drill Inserts

Range: 1.850 to 2.570 inch (46,99mm to 65,28mm)



T-A® Drill Inserts

(supplied in 1 piece packages)

Material	A (Diameter)			B	Item Number, Coating and Availability	
	Fractional Equivalent	(mm)	(Inch)	Thickness	TiN	❶
Super Cobalt		48,00	1.8898	5/16”	154T-48-FB	❍
	1-29/32”	48,42	1.9063		154T-0129-FB	❍
		49,00	1.9291		154T-49-FB	❍
	1-15/16”	49,21	1.9375		154T-0130-FB	❍
		50,00	1.9685		154T-50-FB	❍
	1-31/32”	50,01	1.9688		154T-0131-FB	❍
	2”	50,80	2.0000		154T-0200-FB	❍
		51,00	2.0079		154T-51-FB	❍
	2-1/32”	51,59	2.0313		154T-0201-FB	❍
	2-3/64”	52,00	2.0472		154T-52-FB	❍
	2-1/16”	52,39	2.0625		154T-0202-FB	❍
		53,00	2.0866		154T-53-FB	❍
	2-3/32”	53,18	2.0938		154T-0203-FB	❍
	2-1/8”	53,98	2.1250		154T-0204-FB	❍
		54,00	2.1260		154T-54-FB	❍
	2-5/32”	54,77	2.1563		154T-0205-FB	❍
		55,00	2.1654		154T-55-FB	❍
	2-3/16”	55,56	2.1875		154T-0206-FB	❍
		56,00	2.2047		154T-56-FB	❍
	2-7/32”	56,36	2.2188		154T-0207-FB	❍
		57,00	2.2441		154T-57-FB	❍
	2-1/4”	57,15	2.2500		154T-0208-FB	❍
	2-9/32”	57,94	2.2813		154T-0209-FB	❍
		58,00	2.2835		154T-58-FB	❍
	2-5/16”	58,74	2.3125		154T-0210-FB	❍
		59,00	2.3228		154T-59-FB	❍
	2-11/32”	59,53	2.3438		154T-0211-FB	❍
		60,00	2.3622		154T-60-FB	❍
	2-3/8”	60,33	2.3750		154T-0212-FB	❍
		61,00	2.4016		154T-61-FB	❍
	2-13/32”	61,12	2.4063		154T-0213-FB	❍
	2-7/16”	61,91	2.4375		154T-214-FB	❍
		62,00	2.4409		154T-62-FB	❍
	2-15/32”	62,71	2.4688		154T-00215-FB	❍
		63,00	2.4803		154T-63-FB	❍
	2-1/2”	63,50	2.5000		154T-0216-FB	❍
		64,00	2.5197		154T-64-FB	❍
	2-17/32”	64,29	2.5313		154T-0217-FB	❍
		65,00	2.5591		154T-65-FB	❍
	2-9/16”	65,09	2.5625		154T-0218-FB	❍

Geometries available (see page 151 for details): -FN.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.

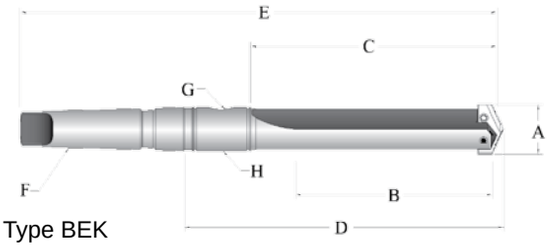
❶ Availability Codes
❍ Stocked
▲ Non-stocked

Sizes not shown (Non-Standard Diameters) are available. When ordering, please follow the examples shown below:

64th = 1-5/64”, TiN, 2 Series, HSS	=132T-1.0781
Decimals = 1.1450”, TiAlN, 2 Series, Super Cobalt	=152A-1.1450
Metric = 29,50 mm TiCN, 2 Series, Premium Cobalt	=182N-29.50

4 Series T-A® Holders

Range: 1.850 to 2.570 inch (46,99mm to 65,28mm)

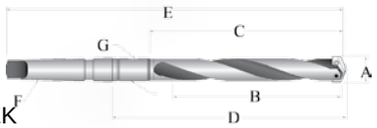


*Metric Per ISO 296 Type BEK

Taper Shank Straight Flute Holders

Length	Item Number		A	B	C	D	E	F	G	H
	NEW	OLD	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	MT	Pipe Tap	RCA
Short	22040S-004I	214T-0004	1-29/32" - 2-9/16"	5-1/8"	6-1/2"	8-5/8"	13-1/16"	#4	1/4"	2T-4SR
	22040S-005I	241T-0005	1-29/32" - 2-9/16"	5-1/8"	6-1/2"	8-5/8"	14-5/16"	#5	1/4"	2T-5SR
Standard	24040S-004I	224T-0004	1-29/32" - 2-9/16"	9-1/8"	10-1/2"	12-5/8"	17-1/16"	#4	1/4"	2T-4SR
	24040S-005I	224T-0005	1-29/32" - 2-9/16"	9-1/8"	10-1/2"	12-5/8"	18-5/16"	#5	1/4"	2T-5SR
Extended	25040S-005I	N/A	1-29/32" - 2-9/16"	16-5/8"	18"	20-1/8"	25-13/16"	#5	1/4"	2T-5SR
XL	27040S-005I	N/A	1-29/32" - 2-9/16"	24-5/8"	26"	28-1/8"	33-13/16"	#5	1/4"	2T-5SR
3XL	29040S-005I	N/A	1-29/32" - 2-9/16"	34-5/8"	36"	38-1/8"	43-13/16"	#5	1/4"	2T-5SR
***Metric (mm)**										
Short	22040S-005M	214T-05	48,0 - 65,0	130,1	165,1	219,1	363,5	#5	1/4"	2T-5SRM
Extended	25040S-005M	N/A	48,0 - 65,0	422,3	457,2	511,2	655,6	#5	1/4"	2T-5SRM
XL	27040S-005M	N/A	48,0 - 65,0	625	660,4	714,4	858,8	#5	1/4"	2T-5SRM
3XL	29040S-005M	N/A	48,0 - 65,0	879	914,4	968,4	1112,8	#5	1/4"	2T-5SRM

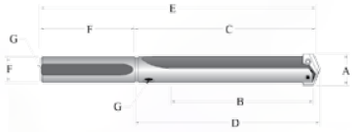
*Metric Thread to
BSP & ISO 7-1



*Metric Per ISO 296 Type BEK

Taper Shank Helical Flute Holders

Length	Item Number		A	B	C	D	E	F	G	H
	NEW	OLD	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	MT	Pipe Tap	RCA
***Metric (mm)**										
Standard	24040H-005M	224T-05	48,0 - 65,0	231,8	266,7	320,7	465,1	#5	1/4"	2T-5SRM



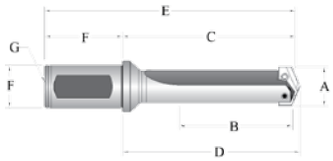
Straight Shank Straight Flute Holders

Length	Item Number		A	B	C	D	E	F		G
	NEW	OLD	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	Shank Dia.	Shank Length	Pipe Tap
Short	22040S-150L	234T-1500	1-29/32" - 2-9/16"	5-1/8"	6-1/2"	6-11/16"	10-1/2"	1-1/2"	4"	1/4"
	22040S-175L	234T-1750	1-29/32" - 2-9/16"	5-1/8"	6-1/2"	6-11/16"	10-1/2"	1-3/4"	4"	1/4"
Standard	24040S-150L	244T-1500	1-29/32" - 2-9/16"	9-1/8"	10-1/2"	10-11/16"	14-1/2"	1-1/2"	4"	1/4"
	24040S-175L	244T-1750	1-29/32" - 2-9/16"	9-1/8"	10-1/2"	10-11/16"	14-1/2"	1-3/4"	4"	1/4"
Extended	25040S-150L	N/A	1-29/32" - 2-9/16"	16-5/8"	18"	18-3/16"	22"	1-1/2"	4"	1/4"
XL	27040S-150L	N/A	1-29/32" - 2-9/16"	24-5/8"	26"	26-3/16"	30"	1-1/2"	4"	1/4"
3XL	29040S-150L	N/A	1-29/32" - 2-9/16"	34-5/8"	36"	36-3/16"	40"	1-1/2"	4"	1/4"

4 Series T-A® Holders

Range: 1.850 to 2.570 inch (46,99mm to 65,28mm)

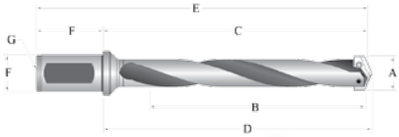
*Metric Thread to BSP & ISO 7-1



Flanged Shank Straight Flute Holders

	Item Number		A	B	C	D	E	F		G
Length	NEW	OLD	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	Shank Dia.	Shank Length	Pipe Tap Rear
Short	22040S-150F	274T-1500	1-29/32" - 2-9/16"	5-1/8"	7-1/16"	7-1/4"	9-3/4"	1-1/2"	2-11/16"	1/4"
Standard	24040S-150F	N/A	1-29/32" - 2-9/16"	9-1/8"	11-1/16"	11-1/4"	13-3/4"	1-1/2"	2-11/16"	1/4"
Metric (mm)										
Short	22040S-40FM	274T-40	48,0 - 65,0	130,2	179,4	184,2	249,5	40,0	70,1	1/4"
Extended	25040S-40FM	N/A	48,0 - 65,0	422,3	471,5	476,3	541,6	40,0	70,1	1/4"
XL	27040S-40FM	N/A	48,0 - 65,0	625	674,7	679,5	744,8	40,0	70,1	1/4"
3XL	29040S-40FM	N/A	48,0 - 65,0	879	928,7	933,5	998,8	40,0	70,1	1/4"

*Metric Thread to BSP & ISO 7-1



Flanged Shank Helical Flute Holders

	Item Number		A	B	C	D	E	F		G
Length	NEW	OLD	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	Shank Dia.	Shank Length	Pipe Tap Rear
Standard	24040H-150F	284T-1500	1-29/32" - 2-9/16"	9-1/8"	11-1/16"	11-1/4"	13-3/4"	1-1/2"	2-11/16"	1/4"
Metric (mm)										
Standard	24040H-40FM	284T-40	48,0 - 65,0	231,8	281,0	285,8	351,1	40,0	70,1	1/4"

Rotary Coolant Adapter (RCA) and Accessories

		A	B	C	D	E	RCA Repair Kit Item Number **	O RCA O-ring Replacements 10 Pieces
	Item Number	I.D.	O.D.	Length	Thread for Driving Rod	Pipe Tap		
Inch	2T-4SR	1-1/4"	2-1/2"	1-3/8"	3/8" - NC	1/4"	2T1-4SR	2T1-4OR-10
	2T-5SR	1-1/4"	3"	1-3/8"	3/8" - NC	1/4"	2T1-5SR	2T1-5OR-10
Metric	2T-4SRM	31,75	63,50	34,92	M10 X 1,50	❖1/4"	2T1-4SR	2T1-4OR-10
	2T-5SRM	44,45	76,20	34,92	M10 X 1,50	❖1/4"	2T1-5SR	2T1-5OR-10

RCA Exploded View

❖ Thread to BSP & ISO 7-1

** RCA Repair Kit includes (2) O-rings, (2) snap rings and (2) thrust washers.

Replacement TORX Plus Screws

(supplied in 10 piece packages)

				INCH		METRIC	
Holder Series	TORX Plus Screws 10 Pieces	Nylon Locking TORX Plus Screw 10 Pieces	TORX Plus Hand Driver	Drill Range Used With	TORX Plus Screw Admissible Tightening Torque (in.-lbs.)	Drill Range Used With	TORX Plus Screw Admissible Tightening Torque (N-cm)
4	7514-IP20-10	7514N-IP20-10	8IP-20	1-29/32"-2-9/16"	121.3	36,0mm-65,0mm	1370

Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength.

5 Series Original T-A® Drill Inserts

Range: 2.456 to 3.000 inch (62,38mm to 76,20mm)

T-A® Drill Inserts

(supplied in 1 piece packages)

Material	A (Diameter)			B	Item Number, Coating and Availability	
	Fractional Equivalent	(mm)	(Inch)	Thickness	TiN	❶
HSS	2-1/2”	63,50	2.5000	7/16”	135T-0216	❍
		64,00	2.5197		135T-64	❍
	2-17/32”	64,29	2.5313		135T-0217	❍
	2-9/16”	65,09	2.5625		135T-0218	❍
	2-19/32”	65,88	2.5938		135T-0219	❍
		66,00	2.5984		135T-66	❍
	2-5/8”	66,68	2.6250		135T-0220	❍
	2-21/32”	67,47	2.6563		135T-0221	❍
		68,00	2.6772		135T-68	❍
	2-11/16”	68,26	2.6875		135T-0222	❍
	2-23/32”	69,05	2.7188		135T-0223	❍
	2-3/4”	69,85	2.7500		135T-0224	❍
		70,00	2.759		135T-70	❍
	2-25/32”	70,64	2.7813		135T-0225	❍
	2-13/16”	71,44	2.8125		135T-0226	❍
		72,00	2.8346		135T-72	❍
	2-27/32”	72,23	2.8438		135T-0227	❍
	2-7/8”	73,03	2.8750		135T-0228	❍
	2-29/32”	73,82	2.9063		135T-0229	❍
		74,00	2.9134		135T-74	❍
	2-15/16”	74,41	2.9375		135T-0230	❍
	2-31/32”	75,61	2.9688		135T-0231	❍
		76,00	2.9921		135T-76	❍
	3”	76,20	3.0000		135T-0300	❍

Geometries available (see page 151 for details): -CI, -SK, -CR, -HI, -HR, -BR, -NC, -WC.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.

Can be supplied with other coatings as a non-stocked standard. Process fee applies. Example:

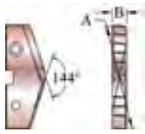
TiN	XXXT-XXXX
TiAlN	XXXA-XXXX
TiCN	XXXN-XXXX
AM200®	XXXH-XXXX

5 Series T-A® HSS Drill Inserts

Range: 2.456 to 3.000 inch (62,38mm to 76,20mm)

GEN2 T-A®
(supplied in 1 piece packages)

U.S. Patent No.: 6,685,402 & 6,986,628 & 7,011,478
& 7,018,145 & 7,144,893 & 7,371,035
Euro Patent No.: 1 372 894 DE, GB, IT, FR
Other U.S. & International Patents Pending



Material	A (Diameter) Fractional Equivalent	A (Diameter) (mm)	A (Diameter) (Inch)	B Thickness	Item Number, Coating and Availability AM200®	❶
Super Cobalt	2-1/2”	63,50	2.5000	7/16”	455H-0216	❍
		64,00	2.5197		455H-64	❍
	2-17/32”	64,29	2.5313		455H-0217	❍
	2-9/16”	65,09	2.5625		455H-0218	❍
	2-19/32”	65,88	2.5938		455H-0219	❍
		66,00	2.5984		455H-66	❍
	2-5/8”	66,68	2.6250		455H-0220	❍
	2-21/32”	67,47	2.6563		455H-0221	❍
		68,00	2.6772		455H-68	❍
	2-11/16”	68,26	2.6875		455H-0222	❍
	2-23/32”	69,05	2.7188		455H-0223	❍
	2-3/4”	69,85	2.7500		455H-0224	❍
		70,00	2.7559		455H-70	❍
	2-25/32”	70,64	2.7813		455H-0225	❍
	2-13/16”	71,44	2.8125		455H-0226	❍
		72,00	2.8346		455H-72	❍
	2-27/32”	72,23	2.8438		455H-0227	❍
	2-7/8”	73,03	2.8750		455H-0228	❍
	2-29/32”	73,82	2.9063		455H-0229	❍
		74,00	2.9134		455H-74	❍
	2-15/16”	74,41	2.9375		455H-0230	❍
	2-31/32”	75,61	2.9688		455H-0231	❍
		76,00	2.9921		455H-76	❍
	3”	76,20	3.0000		455H-0300	❍

GEN2 T-A® Provides:
- Lower drilling forces
- Increased drill stability
- Smoother breakouts on through holes
- Improved chip formation
- Super Cobalt Supplied with AMEC’s exclusive AM200® coating for increased tool life

Geometries available (see page 151 for details): -CI, -SK, -CR, -HI, -HR, -BR, -NC, -WC.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.

❶ Availability Codes
❍ Stocked
▲ Non-stocked

Sizes not shown (Non-Standard Diameters) are available. When ordering, please follow the examples shown below:

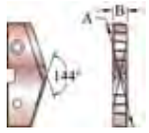
64ths =1-35/64”, TiN, 3 Series, Super Cobalt, Spot & Chamfer	=132T-1.0781
Decimals = 1.9200”, TiAlN, 3 Series, Super Cobalt	=152A-1.1450
Metric = 57,10 mm TiCN, 4 Series, HSS	=182N-29.50

5 Series T-A® HSS Drill Inserts

Range: 2.456 to 3.000 inch (62,38mm to 76,20mm)

GEN2 T-A®
(supplied in 1 piece packages)

U.S. Patent No.: 6,685,402 & 6,986,628 & 7,011,478
& 7,018,145 & 7,144,893 & 7,371,035
Euro Patent No.: 1 372 894 DE, GB, IT, FR
Other U.S. & International Patents Pending



Material	A (Diameter) Fractional Equivalent	A (Diameter) (mm)	A (Diameter) (Inch)	B Thickness	Item Number, Coating and Availability TiN	❶
HSS	2-1/2”	63,50	2.5000	7/16”	435T-0216	❍
		64,00	2.5197		435T-64	❍
	2-17/32”	64,29	2.5313		435T-0217	❍
	2-9/16”	65,09	2.5625		435T-0218	❍
	2-19/32”	65,88	2.5938		435T-0219	❍
		66,00	2.5984		435T-66	❍
	2-5/8”	66,68	2.6250		435T-0220	❍
	2-21/32”	67,47	2.6563		435T-0221	❍
		68,00	2.6772		435T-68	❍
	2-11/16”	68,26	2.6875		435T-0222	❍
	2-23/32”	69,05	2.7188		435T-0223	❍
	2-3/4”	69,85	2.7500		435T-0224	❍
		70,00	2.7559		435T-70	❍
	2-25/32”	70,64	2.7813		435T-0225	❍
	2-13/16”	71,44	2.8125		435T-0226	❍
		72,00	2.8346		435T-72	❍
	2-27/32”	72,23	2.8438		435T-0227	❍
	2-7/8”	73,03	2.8750		435T-0228	❍
	2-29/32”	73,82	2.9063		435T-0229	❍
		74,00	2.9134		435T-74	❍
	2-15/16”	74,41	2.9375		435T-0230	❍
	2-31/32”	75,61	2.9688		435T-0231	❍
		76,00	2.9921		435T-76	❍
	3”	76,20	3.0000		435T-0300	❍

GEN2 T-A® Provides:
- Lower drilling forces
- Increased drill stability
- Smoother breakouts on through holes
- Improved chip formation

Geometries available (see page 151 for details): -CI, -SK, -CR, -HI, -HR, -BR, -NC, -WC.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.

Can be supplied with other coatings as a non-stocked standard. Process fee applies. Example:

TiN	XXXT-XXXX
TiAlN	XXXA-XXXX
TiCN	XXXN-XXXX
AM200®	XXXH-XXXX

6 Series Original T-A® Drill Inserts

Range: 3.001 to 3.507 inch (76,22mm to 89,08mm)

For use with 5 Series Holders

T-A® Drill Inserts

(supplied in 1 piece packages)

Material	A (Diameter)			B	Item Number, Coating and Availability	
	Fractional Equivalent	(mm)	(Inch)	Thickness	TiN	❶
HSS	3-1/32”	76,99	3.0313	7/16”	136T-0301	❍
	3-1/16”	77,79	3.0625		136T-0302	❍
		78,00	3.0709		136T-78	❍
	3-3/32”	78,58	3.0938		136T-0303	❍
	3-1/8”	79,38	3.1250		136T-0304	❍
		80,00	3.1496		136T-80	❍
	3-5/32”	80,17	3.1563		136T-0305	❍
	3-3/16”	80,96	3.1875		136T-0306	❍
	3-7/32”	81,76	3.2188		136T-0307	❍
		82,00	3.2283		136T-82	❍
	3-1/4”	82,55	3.2500		136T-0308	❍
	3-9/32”	83,34	3.2813		136T-0309	❍
		84,00	3.3071		136T-84	❍
	3-5/16”	84,14	3.3125		136T-0310	❍
	3-11/32”	84,93	3.3438		136T-0311	❍
	3-3/8”	85,73	3.3750		136T-0312	❍
		86,00	3.3858		136T-86	❍
	3-13/32”	86,52	3.4063		136T-0313	❍
	3-7/16”	87,31	3.4375		136T-0314	❍
		88,00	3.4646		136T-88	❍
	3-15/32”	88,11	3.4688		136T-0315	❍
	3-1/2”	88,90	3.5000		136T-0316	❍

Geometries available (see page 151 for details): -CI, -SK, -CR, -HI, -HR, -BR, -NC, -WC.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.

❶ Availability Codes
❍ Stocked
▲ Non-stocked

Sizes not shown (Non-Standard Diameters) are available. When ordering, please follow the examples shown below:

64ths =1-35/64”, TiN, 3 Series, Super Cobalt, Spot & Chamfer	=132T-1.0781
Decimals = 1.9200”, TiAlN, 3 Series, Super Cobalt	=152A-1.1450
Metric = 57,10 mm TiCN, 4 Series, HSS	=182N-29.50

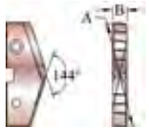
6 Series T-A® HSS Drill Inserts

Range: 3.001 to 3.507 inch (76,22mm to 89,08mm)

For use with 5 Series Holders

GEN2 T-A®
(supplied in 1 piece packages)

U.S. Patent No.: 6,685,402 & 6,986,628 & 7,011,478
& 7,018,145 & 7,144,893 & 7,371,035
Euro Patent No.: 1 372 894 DE, GB, IT, FR
Other U.S. & International Patents Pending



Material	A (Diameter) Fractional Equivalent	(mm)	(Inch)	B Thickness	Item Number, Coating and Availability TiN	❶	GEN2 T-A® Provides:
HSS	3-1/32”	76,99	3.0313	7/16”	436T-0301	❍	• Lower drilling forces • Increased drill stability • Smoother breakouts on through holes • Improved chip formation
	3-1/16”	77,79	3.0625		436T-0302	❍	
		78,00	3.0709		436T-78	❍	
	3-3/32”	78,58	3.0938		436T-0303	❍	
	3-1/8”	79,38	3.1250		436T-0304	❍	
		80,00	3.1496		436T-80	❍	
	3-5/32”	80,17	3.1563		436T-0305	❍	
	3-3/16”	80,96	3.1875		436T-0306	❍	
	3-7/32”	81,76	3.2188		436T-0307	❍	
		82,00	3.2283		436T-82	❍	
	3-1/4”	82,55	3.2500		436T-0308	❍	
	3-9/32”	83,34	3.2813		436T-0309	❍	
		84,00	3.3071		436T-84	❍	
	3-5/16”	84,14	3.3125		436T-0310	❍	
	3-11/32”	84,93	3.3438		436T-0311	❍	
	3-3/8”	85,73	3.3750		436T-0312	❍	
		86,00	3.3858		436T-86	❍	
	3-13/32”	86,52	3.4063		436T-0313	❍	
	3-7/16”	87,31	3.4375		436T-0114	❍	
		88,00	3.4646		436T-88	❍	
	3-15/32”	88,11	3.4688		436T-0315	❍	
	3-1/2”	88,90	3.5000		436T-0316	❍	

Material	A (Diameter) Fractional Equivalent	(mm)	(Inch)	B Thickness	Item Number, Coating and Availability AM200®	❶	GEN2 T-A® Provides:
Super Cobalt	3-1/32”	76,99	3.0313	7/16”	456H-0301	❍	• Lower drilling forces • Increased drill stability • Smoother breakouts on through holes • Improved chip formation • Super Cobalt Supplied with AMEC’s exclusive AM200® coating for increased tool life
	3-1/16”	77,79	3.0625		456H-0302	❍	
		78,00	3.0709		456H-78	❍	
	3-3/32”	78,58	3.0938		456H-0303	❍	
	3-1/8”	79,38	3.1250		456H-0304	❍	
		80,00	3.1496		456H-80	❍	
	3-5/32”	80,17	3.1563		456H-0305	❍	
	3-3/16”	80,96	3.1875		456H-0306	❍	
	3-7/32”	81,76	3.2188		456H-0307	❍	
		82,00	3.2283		456H-82	❍	
	3-1/4”	82,55	3.2500		456H-0308	❍	
	3-9/32”	83,34	3.2813		456H-0309	❍	
		84,00	3.3071		456H-84	❍	
	3-5/16”	84,14	3.3125		456H-0310	❍	
	3-11/32”	84,93	3.3438		456H-0311	❍	
	3-3/8”	85,73	3.3750		456H-0312	❍	
		86,00	3.3858		456H-86	❍	
	3-13/32”	86,52	3.4063		456H-0313	❍	
	3-7/16”	87,31	3.4375		456H-0114	❍	
		88,00	3.4646		456H-88	❍	
	3-15/32”	88,11	3.4688		456H-0315	❍	
	3-1/2”	88,90	3.5000		456H-0316	❍	

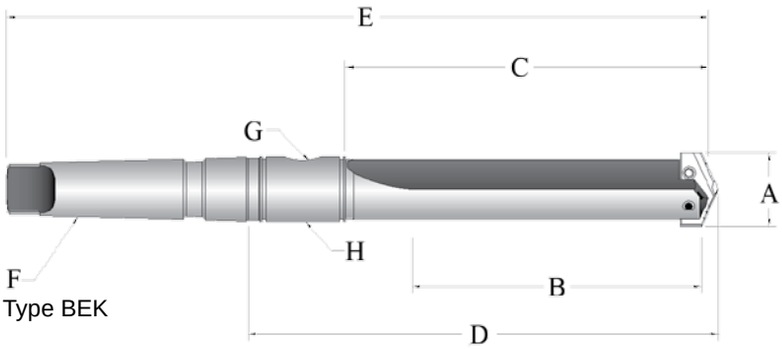
Geometries available (see page 151 for details): -CI, -SK, -CR, -HI, -HR, -BR, -NC, -WC.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.

Can be supplied with other coatings as a non-stocked standard. Process fee applies. Example:

TiN	XXXT-XXXX
TiAlN	XXXA-XXXX
TiCN	XXXN-XXXX
AM200®	XXXH-XXXX

5 Series T-A® Holders

Range: 2.456 to 3.507 inch (62,38mm to 89,08mm)

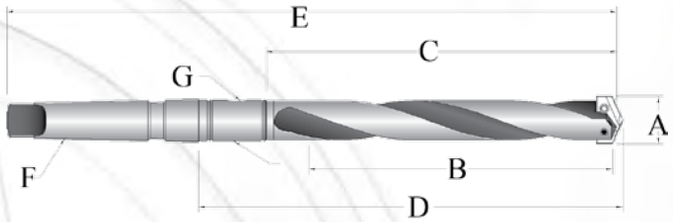


*Metric Per ISO 296 Type BEK

Taper Shank Straight Flute Holders

Length	Item Number NEW	Item Number OLD	A Drill Insert Range	B Max. Drill Depth	C Body Length	D Ref. Length	E Overall Length	F MT	G Pipe Tap	H RCA
Short	22050S-005I	215T-0005	2-1/2" - 3-1/2"	6-3/4"	8-1/2"	11-5/16"	16-15/16"	#5	1/2"	2T-6SR
Standard	24050S-005I	225T-0005	2-1/2" - 3-1/2"	10-3/4"	12-1/2"	15-5/16"	20-15/16"	#5	1/2"	2T-6SR
Extended	25050S-005I	N/A	2-1/2" - 3-1/2"	18-1/4"	20"	22-13/16"	28-7/16"	#5	1/2"	2T-6SR
XL	27050S-005I	N/A	2-1/2" - 3-1/2"	26"	27-3/4"	30-9/16"	36-3/16"	#5	1/2"	2T-6SR
3XL	29050S-005I	N/A	2-1/2" - 3-1/2"	35"	36-3/4"	39-9/16"	45-3/16"	#5	1/2"	2T-6SR
***Metric (mm)**										
Short	22050S-005M	215T-05	64,0 - 88,0	171,5	215,9	287,3	430,2	#5	1/2"	2T-6SRM
Extended	25050S-005M	N/A	64,0 - 88,0	463,6	508,0	579,4	722,3	#5	1/2"	2T-6SRM
XL	27050S-005M	N/A	64,0 - 88,0	660	704,8	776,2	919,1	#5	1/2"	2T-6SRM
3XL	29050S-005M	N/A	64,0 - 88,0	889	933,4	1004,8	1147,7	#5	1/2"	2T-6SRM

*Metric Thread to
BSP & ISO 7-1



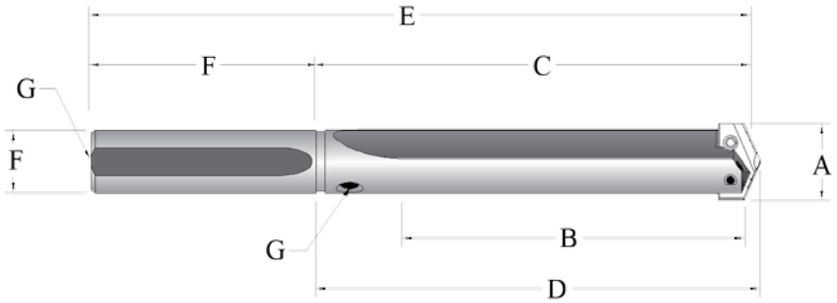
*Metric Per ISO 296 Type BEK

Taper Shank Helical Flute Holders

Length	Item Number NEW	Item Number OLD	A Drill Insert Range	B Max. Drill Depth	C Body Length	D Ref. Length	E Overall Length	F MT	G Pipe Tap	H RCA
***Metric (mm)**										
Standard	24050H-005M	225T-05	64,0 - 88,0	273,1	317,5	388,9	531,8	#5	1/2"	2T-6SRM

5 Series T-A® Holders

Range: 2.456 to 3.507 inch (62,38mm to 89,08mm)



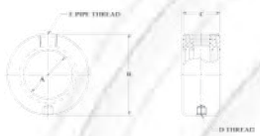
Straight Shank Straight Flute Holders

Length	Item Number		A	B	C	D	E	F		G
	NEW	OLD	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	Shank		Pipe Tap
								Dia.	Length	Rear
Short	22050S-200L	235T-2000	2-1/2" - 3-1/2"	6-3/4"	8-1/2"	8-3/4"	12-1/2"	2"	4"	1/2"
Standard	24050S-200L	245T-2000	2-1/2" - 3-1/2"	10-3/4"	12-1/2"	12-3/4"	16-1/2"	2"	4"	1/2"
Extended	25050S-200L	N/A	2-1/2" - 3-1/2"	18-1/4"	20"	20-1/4"	24"	2"	4"	1/2"
XL	27050S-200L	N/A	2-1/2" - 3-1/2"	26"	27-3/4"	28"	31-3/4"	2"	4"	1/2"
3XL	29050S-200L	N/A	2-1/2" - 3-1/2"	35"	36-3/4"	37"	40-3/4"	2"	4"	1/2"

Rotary Coolant Adapter (RCA) and Accessories

	Item Number	A	B	C	D	E	RCA Repair Kit Item Number **	O RCA O-ring Replacements 10 Pieces
		I.D.	O.D.	Length	Thread for Driving Rod	Pipe Tap		
Inch	2T-6SR	2-1/4"	3-3/4"	1-3/4"	1/2" - NC	1/2"	2T1-6SR	2T1-6OR-10
Metric	2T-6SRM	57,15	95,27	44,45	M12 X 1,75	❖1/2"	2T1-6SR	2T1-6OR-10

RCA Exploded View



❖ Thread to BSP & ISO 7-1

** RCA Repair Kit includes (2) O-rings, (2) snap rings and (2) thrust washers.

Replacement TORX Plus Screws

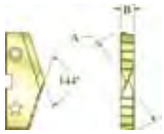
(supplied in 10 piece packages)

Holder Series	 TORX Plus Screws 10 Pieces	Nylon Locking TORX Plus Screw 10 Pieces	TORX Plus Hand Driver	INCH		METRIC	
				Drill Range Used With	TORX Plus Screw Admissible Tightening Torque (in.-lbs.)	Drill Range Used With	TORX Plus Screw Admissible Tightening Torque (N-cm)
5	7619-IP25-10	N/A	8IP-25	2-1/2" - 4-1/2"	155.0	64,0mm - 114,0mm	1750

Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength.

7 Series Original T-A® Drill Inserts

Range: 3.5315 to 4.000 inch (89,96mm to 101,60mm)



T-A® Drill Inserts

(supplied in 1 piece packages)

Material	A (Diameter)			B	Item Number, Coating and Availability	
	Fractional Equivalent	(mm)	(Inch)	Thickness	TiN	❶
HSS	3-17/32”	89,96	3.5313	7/16”	137T-0317	❍
		90,00	3.5433		137T-90	❍
	3-9/16”	90,49	3.5625		137T-0318	❍
	3-19/32”	91,28	3.5938		137T-0319	❍
		92,00	3.6221		137T-92	❍
	3-5/8”	92,08	3.6250		137T-0320	❍
	3-21/32”	92,87	3.6563		137T-0321	❍
	3-11/16”	93,66	3.6875		137T-0322	❍
		94,00	3.7008		137T-94	❍
	3-23/32”	94,46	3.7188		137T-0323	❍
	3-3/4”	95,25	3.7500		137T-0324	❍
		96,00	3.7795		137T-96	❍
	3-25/32”	96,04	3.7813		137T-0325	❍
	3-13/16”	96,84	3.8125		137T-0326	❍
	3-27/32”	97,63	3.8438		137T-0327	❍
		98,00	3.8583		137T-98	❍
	3-7/8”	98,43	3.8750		137T-0328	❍
	3-29/32”	99,22	3.9063		137T-0329	❍
		100,00	3.9370		137T-100	❍
	3-15/16”	100,01	3.9375		137T-0330	❍
	3-31/32”	100,81	3.9688		137T-0331	❍
	4”	101,60	4.0000		137T-0400	❍

Geometries available (see page 151 for details): -SK, -CR, -HI, -HR, -BR, -NC, -WC.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.

❶ Availability Codes
❍ Stocked
▲ Non-stocked

Sizes not shown (Non-Standard Diameters) are available. When ordering, please follow the examples shown below:

64^{ths} =3-63/64”, TiAlN, 7 Series, HSS	=437A-3.9843
Decimals = 3.5420”, TiAlN, 7 Series, Super Cobalt	=457A-3.5420
Metric = 102,75 mm TiAlN, 8 Series, HSS	=438A-102.75

7 Series T-A® HSS Drill Inserts

Range: 3.455 to 4.000 inch (87,76mm to 101,60mm)

GEN2 T-A®

Supplied in 1-piece packages

U.S. Patent No.: 6,685,402 & 6,986,628 & 7,011,478 & 7,018,145 & 7,144,893 & 7,371,035
Euro Patent No.: 1 372 894 DE, GB, IT, FR
Other U.S. & International Patents Pending

Material	A (Diameter) Fractional Equivalent	A (Diameter) (mm)	A (Diameter) (Inch)	B Thickness	Item Number, Coating and Availability TiN	❶
HSS	3-17/32”	89,69	3.5313	7/16”	437T-0317	❍
		90,00	3.5433		437T-90	❍
	3-9/16”	90,49	3.5625		437T-0318	❍
	3-19/32”	91,28	3.5938		437T-0319	❍
		92,00	3.6221		437T-92	❍
	3-5/8”	92,08	3.6250		437T-0320	❍
	3-21/32”	92,87	3.6563		437T-0321	❍
	3-11/16”	93,66	3.6875		437T-0322	❍
		94,00	3.7008		437T-94	❍
	3-23/32”	94,46	3.7188		437T-0323	❍
	3-3/4”	95,25	3.7500		437T-0324	❍
		96,00	3.7795		437T-96	❍
	3-25/32”	96,04	3.7813		437T-0325	❍
	3-13/16”	96,84	3.8125		437T-0326	❍
	3-27/32”	97,63	3.8438		437T-0327	❍
		98,00	3.8583		437T-98	❍
	3-7/8”	98,43	3.8750		437T-0328	❍
	3-29/32”	99,22	3.9063		437T-0329	❍
		100,00	3.9370		437T-100	❍
	3-15/16”	100,01	3.9375		437T-0330	❍
	3-31/32”	100,81	3.9688		437T-0331	❍
	4”	101,60	4.0000		437T-0400	❍

GEN2 T-A® Provides:

- Lower drilling forces
- Increased drill stability
- Smoother breakouts on through holes
- Improved chip formation

Material	A (Diameter) Fractional Equivalent	A (Diameter) (mm)	A (Diameter) (Inch)	B Thickness	Item Number, Coating and Availability AM200®	❶
Super Cobalt	3-17/32”	89,69	3.5313	7/16”	457H-0317	❍
		90,00	3.5433		457H-90	❍
	3-9/16”	90,49	3.5625		457H-0318	❍
	3-19/32”	91,28	3.5938		457H-0319	❍
		92,00	3.6221		457H-92	❍
	3-5/8”	92,08	3.6250		457H-0320	❍
	3-21/32”	92,87	3.6563		457H-0321	❍
	3-11/16”	93,66	3.6875		457H-0322	❍
		94,00	3.7008		457H-94	❍
	3-23/32”	94,46	3.7188		457H-0323	❍
	3-3/4”	95,25	3.7500		457H-0324	❍
		96,00	3.7795		457H-96	❍
	3-25/32”	96,04	3.7813		457H-0325	❍
	3-13/16”	96,84	3.8125		457H-0326	❍
	3-27/32”	97,63	3.8438		457H-0327	❍
		98,00	3.8583		457H-98	❍
	3-7/8”	98,43	3.8750		457H-0328	❍
	3-29/32”	99,22	3.9063		457H-0329	❍
		100,00	3.9370		457H-100	❍
	3-15/16”	100,01	3.9375		457H-0330	❍
	3-31/32”	100,81	3.9688		457H-0331	❍
	4”	101,60	4.0000		457H-0400	❍

GEN2 T-A® Provides:

- Lower drilling forces
- Increased drill stability
- Smoother breakouts on through holes
- Improved chip formation
- Super Cobalt Supplied with AMEC’s exclusive AM200® coating for increased tool life

Geometries available (see page 151 for details): -SK, -CR, -HI, -HR, -BR, -NC, -WC.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.

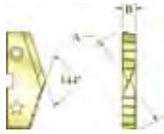
Can be supplied with other coatings as a non-stocked standard. Process fee applies. Example:

TiN	XXXT-XXXX
TiAlN	XXXA-XXXX
TiCN	XXXN-XXXX
AM200®	XXXH-XXXX

8 Series OriginalT-A® Drill Inserts

Range: 4.001 to 4.507 inch (101.63mm to 114.48mm)

For use with 7 Series Holders



T-A® Drill Inserts

(supplied in 1 piece packages)

Material	A (Diameter)			B	Item Number, Coating and Availability	
	Fractional Equivalent	(mm)	(Inch)	Thickness	TiN	❶
HSS	4-1/64”	102,00	4.0157	7/16”	138T-102	❍
	4-1/16”	103,19	4.0625		138T-0402	❍
		104,00	4.0945		138T-104	❍
	4-1/8”	104,75	4.1250		138T-0404	❍
		106,00	4.1732		138T-106	❍
	4-3/16”	106,36	4.1875		138T-0406	❍
	4-1/4”	107,95	4.2500		138T-0408	❍
		108,00	4.2520		138T-108	❍
	4-5/16”	109,54	4.3125		138T-0410	❍
		110,00	4.3307		138T-110	❍
	4-3/8”	111,13	4.3750		138T-0412	❍
		112,00	4.4094		138T-112	❍
	4-7/16”	112,71	4.4375		138T-0414	❍
		114,00	4.4882		138T-114	❍
	4-1/2”	114,30	4.5000		138T-0416	❍

Geometries available (see page 151 for details): -SK, -CR, -HI, -HR, -BR, -NC, -WC.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.

❶ Availability Codes
❍ Stocked
▲ Non-stocked

Sizes not shown (Non-Standard Diameters) are available. When ordering, please follow the examples shown below:

64ths =3-63/64”, TiAlN, 7 Series, HSS	=437A-3.9843
Decimals = 3.5420”, TiAlN, 7 Series, Super Cobalt	=457A-3.5420
Metric = 102,75 mm TiAlN, 8 Series, HSS	=438A-102.75

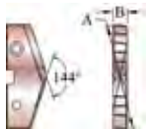
8 Series T-A® HSS Drill Inserts

Range: 4.001 to 4.507 inch (101,63mm to 114,48mm)

For use with 7 Series Holders

GEN2 T-A®
(supplied in 1 piece packages)

U.S. Patent No.: 6,685,402 & 6,986,628 & 7,011,478
& 7,018,145 & 7,144,893 & 7,371,035
Euro Patent No.: 1 372 894 DE, GB, IT, FR
Other U.S. & International Patents Pending



Material	A (Diameter) Fractional Equivalent	A (Diameter) (mm)	A (Diameter) (Inch)	B Thickness	Item Number, Coating and Availability TiN	❶
HSS	4-1/64”	102,0	4.0157	7-16”	438T-102	❍
	4-1/16”	103,19	4.0625		438T-0402	❍
	4-3/32”	104,00	4.0945		438T-104	❍
	4-1/8”	104,75	4.1250		438T-0404	❍
		106,00	4.1732		438T-106	▲
	4-3/16”	106,36	4.1875		438T-0406	❍
	4-1/4”	107,95	4.2500		438T-0408	❍
		108,00	4.2520		438T-108	❍
	4-5/16”	109,54	4.3125		438T-0410	❍
		110,00	4.3307		438T-110	❍
	4-3/8”	111,13	4.3750		438T-0412	❍
		112,00	4.4094		438T-112	❍
	4-7/16”	112,71	4.4375		438T-0414	❍
		114,00	4.4882		438T-114	❍
	4-1/2”	114,30	4.5000		438T-0416	❍

GEN2 T-A® Provides:

- Lower drilling forces
- Increased drill stability
- Smoother breakouts on through holes
- Improved chip formation

Material	A (Diameter) Fractional Equivalent	A (Diameter) (mm)	A (Diameter) (Inch)	B Thickness	Item Number, Coating and Availability AM200®	❶
Super Cobalt	4-1/64”	102,00	4.0157	7-16”	458H-102	❍
	4-1/16”	103,19	4.0625		458H-0402	❍
	4-3/32”	104,00	4.0945		458H-104	❍
	4-1/8”	104,75	4.1250		458H-0404	❍
		106,00	4.1732		458H-106	❍
	4-3/16”	106,36	4.1875		458H-0406	❍
	4-1/4”	107,95	4.2500		458H-0408	❍
		108,00	4.2520		458H-108	❍
	4-5/16”	109,54	4.3125		458H-0410	❍
		110,00	4.3307		458H-110	❍
	4-3/8”	111,13	4.3750		458H-0412	❍
		112,00	4.4094		458H-112	❍
	4-7/16”	112,71	4.4375		458H-0414	❍
		114,00	4.4882		458H-114	❍
	4-1/2”	114,30	4.5000		458H-0416	❍

GEN2 T-A® Provides:

- Lower drilling forces
- Increased drill stability
- Smoother breakouts on through holes
- Improved chip formation
- Super Cobalt Supplied with AMEC’s exclusive AM200® coating for increased tool life

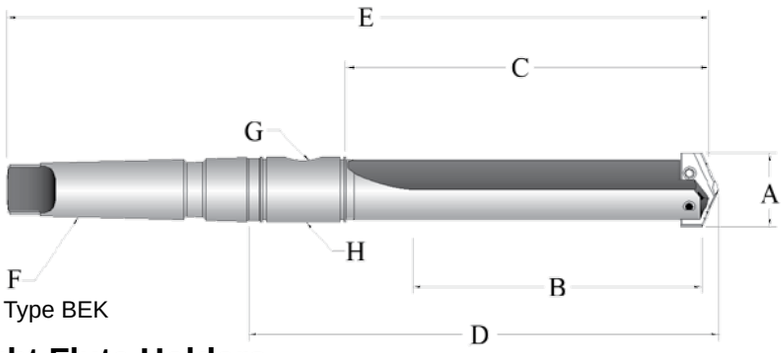
Geometries available (see page 151 for details): -SK, -CR, -HI, -HR, -BR, -NC, -WC.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.

Can be supplied with other coatings as a non-stocked standard. Process fee applies. Example:

TiN	XXXT-XXXX
TiAlN	XXXA-XXXX
TiCN	XXXN-XXXX
AM200®	XXXH-XXXX

7 Series T-A® Holders

Range: 3.5315 to 4.000 inch (89,96mm to 101,60mm)

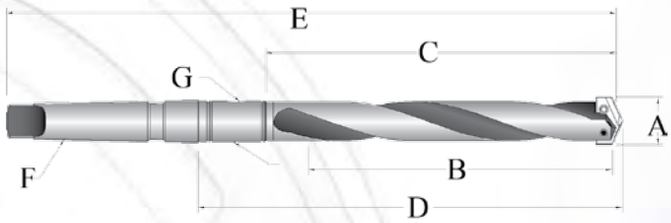


*Metric Per ISO 296 Type BEK

Taper Shank Straight Flute Holders

Length	Item Number NEW	Item Number OLD	A Drill Insert Range	B Max. Drill Depth	C Body Length	D Ref. Length	E Overall Length	F MT	G Pipe Tap	H RCA
Short	22070S-005I	217T-0005	3-17/32" - 4-1/2"	6-3/4"	8-7/8"	11-11/16"	17-5/16"	#5	1/2"	2T-6SR
Standard	24070S-005I	227T-0005	3-17/32" - 4-1/2"	10-3/4"	12-7/8"	15-11/16"	21-5/16"	#5	1/2"	2T-6SR
Extended	25070S-005I	N/A	3-17/32" - 4-1/2"	21-7/8"	24"	26-13/16"	32-7/16"	#5	1/2"	2T-6SR
XL	27070S-005I	N/A	3-17/32" - 4-1/2"	27"	29-1/8"	31-15/16"	37-9/16"	#5	1/2"	2T-6SR
3XL	29070S-005I	N/A	3-17/32" - 4-1/2"	37"	39-1/8"	41-5/16"	47-9/16"	#5	1/2"	2T-6SR
***Metric (mm)**										
Short	22070S-005M	217T-05	90,0 - 114,0	171,5	225,4	296,8	439,7	#5	1/2"	2T-6SRM
Extended	25070S-005M	N/A	90,0 - 114,0	555,6	609,6	681,1	823,9	#5	1/2"	2T-6SRM
XL	27070S-005M	N/A	90,0 - 114,0	685	739,7	811,2	954,0	#5	1/2"	2T-6SRM
3XL	29070S-005M	N/A	90,0 - 114,0	939	993,7	1065,2	1208,0	#5	1/2"	2T-6SRM

*Metric Thread to
BSP & ISO 7-1



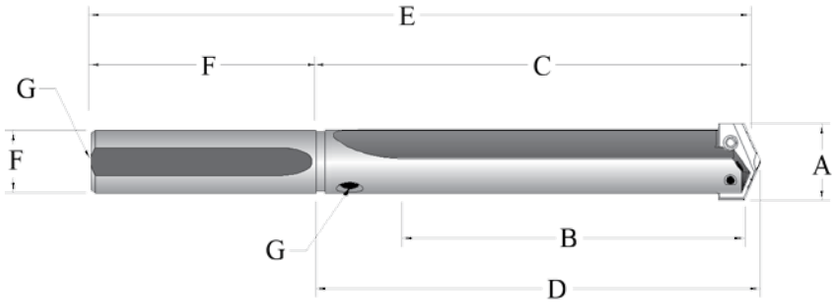
*Metric Per ISO 296 Type BEK

Taper Shank Helical Flute Holders

Length	Item Number NEW	Item Number OLD	A Drill Insert Range	B Max. Drill Depth	C Body Length	D Ref. Length	E Overall Length	F MT	G Pipe Tap	H RCA
***Metric (mm)**										
Standard	24070H-005M	227T-05	90,0 - 114,0	273,1	327,0	398,5	541,3	#5	1/2"	2T-6SRM

7 Series T-A® Holders

Range: 3.5315 to 4.507 inch (89,96mm to 114,48mm)



Straight Shank Straight Flute Holders

Length	Item Number		A	B	C	D	E	F		G
	NEW	OLD	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	Shank		Pipe Tap
								Dia.	Length	Rear
Short	22070S-300L	237T-3000	3-17/32" - 4-1/2"	6-3/4"	8-7/8"	9-1/8"	13-7/8"	3"	5"	1/2"
Standard	24070S-300L	247T-3000	3-17/32" - 4-1/2"	10-3/4"	12-7/8"	13-1/8"	17-7/8"	3"	5"	1/2"
Extended	25070S-300L	N/A	3-17/32" - 4-1/2"	21-7/8"	24"	24-1/4"	29"	3"	5"	1/2"
XL	27070S-300L	N/A	3-17/32" - 4-1/2"	27"	29-1/8"	29-3/8"	34-1/8"	3"	5"	1/2"
3XL	29070S-300L	N/A	3-17/32" - 4-1/2"	37"	39-1/8"	39-3/8"	44-1/8"	3"	5"	1/2"

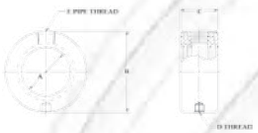
Rotary Coolant Adapter (RCA) and Accessories

	Item Number	A I.D.	B O.D.	C Length	D Thread for Driving Rod	E Pipe Tap
Inch	2T-6SR	2-1/4"	3-3/4"	1-3/4"	1/2" - NC	1/2"
Metric	2T-6SRM	57,15	95,27	44,45	M12 X 1,75	❖1/2"

RCA Repair Kit Item Number **
2T1-6SR
2T1-6SR

O RCA O-ring Replacements 10 Pieces
2T1-6OR-10
2T1-6OR-10

RCA Exploded View



❖ Thread to BSP & ISO 7-1

** RCA Repair Kit includes (2) O-rings, (2) snap rings and (2) thrust washers.

Replacement TORX Plus Screws

(supplied in 10 piece packages)

Holder Series	 TORX Plus Screws 10 Pieces	Nylon Locking TORX Plus Screw 10 Pieces	TORX Plus Hand Driver	INCH		METRIC	
				Drill Range Used With	TORX Plus Screw Admissible Tightening Torque (in.-lbs.)	Drill Range Used With	TORX Plus Screw Admissible Tightening Torque (N-cm)
7	7619-IP25-10	N/A	8IP-25	3-17/32" - 4-1/2"	155.0	64,0mm - 114,0mm	1750

Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength.

Recommended Speeds and Feeds
T-A® HSS Drill Inserts
Inch

Material	Material Hardness (BHN)	HSS							
						FEED (IPR)			
		* Tool Steel Grade	TiN SFM	** TiAlN SFM	TiCN SFM	3/8" to 1/2"	33/64" to 11/16"	45/64" to 15/16"	31/32" to 1-3/8"
Free Machining Steel 1118, 1215,12L14, etc.	100 - 150 150 - 200 200 - 250	HSS HSS HSS	200 180 160	280 260 240	260 235 210	0.007 0.007 0.006	0.010 0.010 0.010	0.013 0.013 0.013	0.016 0.016 0.016
Low Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85 - 125 125 - 175 175 - 225 225 - 275	HSS HSS HSS HSS	170 160 150 140	250 240 225 210	220 210 195 180	0.006 0.006 0.005 0.005	0.009 0.009 0.008 0.008	0.012 0.012 0.010 0.010	0.015 0.015 0.014 0.014
Medium Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	125 - 175 175 - 225 225 - 275 275 - 325	HSS HSS HSS SC, PC	160 150 140 130	240 225 210 195	210 195 180 170	0.006 0.005 0.005 0.004	0.009 0.008 0.008 0.007	0.012 0.010 0.010 0.009	0.015 0.014 0.014 0.012
Alloy Steel 4140, 5140, 8640, etc.	125 - 175 175 - 225 225 - 275 275 - 325 325 - 375	HSS HSS HSS SC, PC SC, PC	150 140 130 120 110	210 195 180 170 155	195 180 170 155 145	0.006 0.005 0.005 0.004 0.003	0.008 0.008 0.007 0.006 0.006	0.010 0.010 0.010 0.009 0.009	0.014 0.014 0.014 0.012 0.012
High Strength Alloy 4340, 4330V, 300M, etc.	225 - 300 300 - 350 350 - 400	SC, PC SC, PC PC	80 60 50	110 85 70	100 80 65	0.005 0.004 0.003	0.007 0.007 0.006	0.009 0.009 0.008	0.010 0.010 0.009
Structural Steel A36, A285, A516, etc.	100 - 150 150 - 250 250 - 350	HSS HSS SC, PC	140 120 100	200 170 140	180 155 130	0.006 0.005 0.004	0.010 0.009 0.008	0.012 0.010 0.009	0.014 0.012 0.010
High Temp Alloy Hastelloy B, Inconel 600, etc.	140 - 220 220 - 310	SC, PC PC	30 25	40 35	35 30	0.003 0.003	0.007 0.006	0.008 0.007	0.010 0.008
Stainless Steel 303, 416, 420, 17-4 PH, etc.	135 - 185 185 - 275	HSS HSS	75 60	105 90	95 80	0.006 0.005	0.008 0.007	0.009 0.008	0.011 0.010
Tool Steel H-13, H-21, A-4, 0-2, S-3, etc.	150 - 200 200 - 250	SC SC, PC	80 60	110 90	105 85	0.004 0.004	0.006 0.006	0.008 0.008	0.010 0.010
Aluminum	30 180	HSS HSS	600 300	850 450	750 400	0.008 0.008	0.003 0.003	0.016 0.016	0.020 0.018
Cast Iron Grey, Ductile, Nodular	120 - 150 150 - 200 200 - 220 220 - 260 260 - 320	HSS HSS HSS SC, PC SC, PC	170 150 130 110 90	250 225 195 165 135	220 195 170 145 120	0.007 0.006 0.006 0.005 0.004	0.012 0.011 0.009 0.007 0.006	0.016 0.014 0.012 0.009 0.007	0.020 0.018 0.016 0.012 0.009

Formulas: IPM = RPM • IPR **SFM = RPM • 0.262 • DIA** **RPM = SFM • 3.82/DIA**

SPEED AND FEED MULTIPLIER

For various tool lengths

	Holder Length							
	Stub	Short	Intermediate	Standard	Extended	Long	XL	3XL
SPEED	See above chart				0.090	0.85	0.80	0.75
FEED	See above chart					0.95	0.90	0.90

SPEED AND FEED RECOMMENDATION EXAMPLE: If recommended speed and feed is 200 SFR and 0.008 IPR for a Standard length holder, then the speed and feed using a 3XL holder in the same application would be 150 SFM and 0.007 IPR.

200 SFM • .075 = 150 SFM **0.008 IPR • 0.90 = 0.007 IPR**

* HSS= High Speed Steel, SC = Super Cobalt, PC = Premium Cobalt. Super and Premium Cobalt tools should be used primarily when drilling exotic and high alloy material. They may also be used in normal applications to increase SFM and as a buffer against rapid tool wear once the coating is worn away! Super Cobalt has high abrasion resistance, and Premium Cobalt has high abrasion resistance along with very high red hardness.

** The speeds recommended for TiAlN coated tools are based on empirical data obtained under "Optimum Conditions." Many applications do not exhibit "Optimum Conditions." Reductions in speed parameters may be required due to excessive tool wear generated in the application.

The speeds and feeds listed above are considered a general starting point for all applications. Factory technical assistance is also available for your specific applications through our Application Engineering Team. Please have item number, hole diameter, depth, material grade, BHN hardness and coolant pressure information available when you call. Additional information such as part and machine rigidity, horsepower and thrust limits, vertical or horizontal spindle, revolving or stationary tool, flood or through holder coolant are also very helpful to our Application Engineers.

Recommended Speeds and Feeds
T-A® Carbide Drill Inserts
Inch

Material	Material Hardness (BHN)	Grade	T-A® CARBIDE DRILL INSERTS TiN SFM	** TiAIN SFM	TiCN SFM	FEED (IPR) 3/8" to 1/2"	33/64" to 11/16"	45/64" to 15/16"	31/32" to 1-3/8"	1-13/32" to 1-7/8"
Free Machining Steel	100 - 150	C5	320	420	375	0.008	0.012	0.015	0.018	0.021
1118, 1215,12L14, etc.	150 - 200	C5	280	360	325	0.007	0.011	0.014	0.016	0.019
	200 - 250	C5	260	340	295	0.006	0.010	0.013	0.015	0.017
Low Carbon Steel	85 - 125	C5	300	390	360	0.008	0.010	0.013	0.017	0.019
1010, 1020, 1025, 1522,	125 - 175	C5	260	340	295	0.007	0.010	0.013	0.016	0.018
1144, etc.	175 - 225	C5	240	310	270	0.006	0.009	0.012	0.015	0.017
	225 - 275	C5	210	270	245	0.005	0.009	0.012	0.015	0.017
Medium Carbon Steel	125 - 175	C5	260	340	295	0.007	0.010	0.013	0.016	0.018
1030, 1040, 1050, 1527, 1140,	175 - 225	C5	240	310	275	0.006	0.009	0.012	0.015	0.017
1151, etc.	225 - 275	C5	210	270	235	0.006	0.009	0.012	0.015	0.017
	275 - 325	C5	180	230	205	0.005	0.008	0.011	0.014	0.016
Alloy Steel	125 - 175	C5	250	325	285	0.007	0.010	0.013	0.016	0.018
4140, 5140, 8640, etc.	175 - 225	C5	230	300	260	0.006	0.009	0.012	0.015	0.017
	225 - 275	C5	210	270	235	0.006	0.009	0.012	0.015	0.017
	275 - 325	C5	200	250	225	0.005	0.008	0.011	0.014	0.016
	325 - 375	C5	170	220	195	0.004	0.007	0.010	0.013	0.015
High Strength Alloy	225 - 300	C5	160	200	180	0.006	0.009	0.010	0.012	0.015
4340, 4330V, 300M, etc.	300 - 350	C5	140	180	160	0.005	0.008	0.009	0.011	0.014
	350 - 400	C5	120	160	140	0.004	0.007	0.008	0.010	0.012
Structural Steel	100 - 150	C5	240	310	275	0.008	0.011	0.014	0.016	0.018
A36, A285, A516, etc.	150 - 250	C5	200	250	225	0.006	0.010	0.012	0.014	0.016
	250 - 350	C5	180	230	205	0.005	0.009	0.011	0.012	0.014
High Temp Alloy	140 - 220	C2	80	105	90	0.004	0.007	0.009	0.011	0.013
Hastelloy B, Inconel 600, etc.	220 - 310	C2	60	85	70	0.004	0.006	0.008	0.010	0.012
Stainless Steel	135 - 185	C2	160	210	185	0.007	0.009	0.012	0.014	0.016
303, 416, 420, 17-4 PH, etc.	185 - 275	C2	120	160	140	0.006	0.008	0.011	0.012	0.014
Tool Steel	150 - 200	C5	160	220	190	0.004	0.007	0.009	0.011	0.013
H-13, H-21, A-4, 0-2, S-3, etc.	200 - 250	C5	120	170	145	0.004	0.007	0.009	0.011	0.013
Aluminum	30	C2	1200	1500	1350	0.010	0.015	0.018	0.020	0.022
	180	C2	800	1000	900	0.009	0.013	0.016	0.018	0.020
Cast Iron	120 - 150	C2, C3*	320	460	415	0.008	0.012	0.015	0.019	0.023
Grey, Ductile, Nodular	150 - 200	C2, C3*	270	400	335	0.007	0.011	0.013	0.017	0.021
	200 - 220	C2, C3*	240	360	305	0.006	0.009	0.012	0.015	0.018
	220 - 260	C2, C3*	210	310	260	0.005	0.008	0.011	0.013	0.015
	260 - 320	C2, C3*	180	270	225	0.005	0.007	0.010	0.011	0.013

Formulas: IPM = RPM • IPR **SFM = RPM • 0.262 • DIA** **RPM = SFM • 3.82/DIA**

SPEED AND FEED MULTIPLIER

For various tool lengths

	Holder Length							
	Stub	Short	Intermediate	Standard	Extended	Long	XL	3XL
SPEED	See above chart				0.090	0.85	0.80	0.75
FEED	See above chart					0.95	0.90	0.90

SPEED AND FEED RECOMMENDATION EXAMPLE: If recommended speed and feed is 200 SFR and 0.008 IPR for a Standard length holder, then the speed and feed using a 3XL holder in the same application would be 150 SFM and 0.007 IPR.

200 SFM • .075 = 150 SFM **0.008 IPR • 0.90 = 0.007 IPR**

* Designed for Grey Cast Iron only.

** The speeds recommended for TiAIN coated tools are based on empirical data obtained under "Optimum Conditions." Many applications do not exhibit "Optimum Conditions." Reductions in speed parameters may be required due to excessive tool wear generated in the application.

The speeds and feeds listed above are considered a general starting point for all applications. Factory technical assistance is also available for your specific applications through our Application Engineering Team. Please have item number, hole diameter, depth, material grade, BHN hardness and coolant pressure information available when you call. Additional information such as part and machine rigidity, horsepower and thrust limits, vertical or horizontal spindle, revolving or stationary tool, flood or through holder coolant are also very helpful to our Application Engineers.

Recommended Speeds and Feeds

GEN2 T-A®

HSS - Inch

Material	Material Hardness (BHN)	GEN2 T-A® T-A® CARBIDE DRILL INSERTS									
					FEED (IPR)						
		Grade	TiN SFM	** AM200® SFM	3/8" to 1/2"	33/64" to 11/16"	45/64" to 15/16"	31/32" to 1-3/8"	1-13/32" to 1-7/8"	1-29/32" to 2-9/16"	2-19/32" to 4-1/2"
Free Machining Steel 1118, 1215,12L14, etc.	100 - 150 150 - 200 200 - 250	HSS HSS HSS	200 180 160	325 300 280	0.008 0.007 0.006	0.012 0.011 0.010	0.016 0.015 0.014	0.019 0.017 0.016	0.020 0.020 0.020	0.023 0.023 0.023	0.028 0.028 0.028
Low Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85 - 125 125 - 175 175 - 225 225 - 275	HSS HSS HSS HSS	170 160 150 140	290 275 260 240	0.008 0.007 0.006 0.005	0.010 0.010 0.009 0.009	0.014 0.014 0.013 0.013	0.018 0.017 0.016 0.016	0.019 0.019 0.018 0.018	0.023 0.021 0.021 0.019	0.027 0.024 0.024 0.022
Medium Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	125 - 175 175 - 225 225 - 275 275 - 325	HSS HSS HSS SC	160 150 140 130	275 260 240 225	0.007 0.006 0.006 0.005	0.010 0.009 0.009 0.008	0.014 0.013 0.013 0.012	0.017 0.016 0.016 0.015	0.019 0.018 0.018 0.016	0.023 0.021 0.021 0.019	0.027 0.024 0.024 0.022
Alloy Steel 4140, 5140, 8640, etc.	125 - 175 175 - 225 225 - 275 275 - 325 325 - 375	HSS HSS HSS SC SC	150 140 130 120 110	240 225 210 195 180	0.007 0.006 0.006 0.005 0.004	0.010 0.009 0.009 0.008 0.007	0.014 0.013 0.013 0.012 0.011	0.017 0.016 0.016 0.015 0.014	0.017 0.017 0.017 0.015 0.015	0.019 0.019 0.019 0.017 0.017	0.022 0.022 0.022 0.020 0.020
High Strength Alloy 4340, 4330V, 300M, etc.	225 - 300 300 - 350 350 - 400	SC SC SC	80 60 50	125 100 80	0.006 0.005 0.004	0.009 0.008 0.007	0.011 0.010 0.009	0.013 0.012 0.011	0.014 0.014 0.012	0.017 0.017 0.015	0.020 0.020 0.018
Structural Steel A36, A285, A516, etc.	100 - 150 150 - 250 250 - 350	HSS HSS SC	140 120 100	235 190 160	0.008 0.006 0.005	0.011 0.010 0.009	0.015 0.013 0.012	0.017 0.015 0.013	0.018 0.016 0.014	0.021 0.019 0.017	0.026 0.024 0.020
High Temp Alloy Hastelloy B, Inconel 600, etc.	140 - 220 220 - 310	SC SC	30 25	45 40	0.004 0.004	0.007 0.006	0.009 0.008	0.011 0.010	0.012 0.010	0.015 0.012	0.017 0.014
Stainless Steel 303, 416, 420, 17-4 PH, etc.	135 - 185 185 - 275	HSS HSS	75 60	120 105	0.007 0.006	0.009 0.008	0.012 0.011	0.014 0.012	0.014 0.012	0.016 0.014	0.020 0.018
Tool Steel H-13, H-21, A-4, 0-2, S-3, etc.	150 - 200 200 - 250	SC SC	80 60	125 105	0.004 0.004	0.007 0.007	0.010 0.010	0.012 0.012	0.012 0.012	0.015 0.015	0.017 0.017
Aluminum	30 180	HSS HSS	600 300	- -	- -	- -	- -	- -	0.022 0.022	0.025 0.025	0.025 0.025
Cast Iron Grey, Ductile, Nodular	120 - 150 150 - 200 200 - 220 220 - 260 260 - 320	HSS HSS HSS SC SC	170 150 130 110 90	290 260 225 190 155	0.008 0.007 0.006 0.005 0.005	0.012 0.011 0.009 0.008 0.007	0.016 0.015 0.013 0.011 0.010	0.020 0.019 0.017 0.014 0.012	0.024 0.022 0.018 0.014 0.012	0.027 0.025 0.021 0.017 0.014	0.030 0.028 0.024 0.020 0.016

Formulas: IPM = RPM • IPR **SFM = RPM • 0.262 • DIA** **RPM = SFM • 3.82/DIA**

SPEED AND FEED MULTIPLIER

For various tool lengths

	Holder Length							
	Stub	Short	Intermediate	Standard	Extended	Long	XL	3XL
SPEED	See above chart				0.090	0.85	0.80	0.75
FEED	See above chart					0.95	0.90	0.90

SPEED AND FEED RECOMMENDATION EXAMPLE: If recommended speed and feed is 200 SFR and 0.008 IPR for a Standard length holder, then the speed and feed using a 3XL holder in the same application would be 150 SFM and 0.007 IPR.

200 SFM • .075 = 150 SFM **0.008 IPR • 0.90 = 0.007 IPR**

* HSS= High Speed Steel, SC = Super Cobalt, PC = Premium Cobalt. Super and Premium Cobalt tools should be used primarily when drilling exotic and high alloy material. They may also be used in normal applications to increase SFM and as a buffer against rapid tool wear once the coating is worn away! Super Cobalt has high abrasion resistance, and Premium Cobalt has high abrasion resistance along with very high red hardness.

** The speeds recommended for TiAlN coated tools are based on empirical data obtained under "Optimum Conditions." Many applications do not exhibit "Optimum Conditions." Reductions in speed parameters may be required due to excessive tool wear generated in the application.

The speeds and feeds listed above are considered a general starting point for all applications. Factory technical assistance is also available for your specific applications through our Application Engineering Team. Please have item number, hole diameter, depth, material grade, BHN hardness and coolant pressure information available when you call. Additional information such as part and machine rigidity, horsepower and thrust limits, vertical or horizontal spindle, revolving or stationary tool, flood or through holder coolant are also very helpful to our Application Engineers.

Recommended Speeds and Feeds

GEN2 T-A®

Carbide - Inch

Material	Material Hardness (BHN)	GEN2 T-A CARBIDE DRILL INSERTS					
		Grade	AM200® SFM	FEED (IPR) 3/8" to 1/2"	33/64" to 11/16"	45/64" to 15/16"	31/32" to 1-3/8"
Free Machining Steel 1118, 1215,12L14, etc.	100 - 150 150 - 200 200 - 250	C1 C1 C1	480 415 390	0.008 0.007 0.006	0.012 0.011 0.010	0.016 0.015 0.014	0.019 0.017 0.016
Low Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85 - 125 125 - 175 175 - 225 225 - 275	C1 C1 C1 C1	450 390 355 310	0.008 0.007 0.006 0.005	0.010 0.010 0.009 0.009	0.014 0.014 0.013 0.013	0.018 0.017 0.016 0.016
Medium Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	125 - 175 175 - 225 225 - 275 275 - 325	C1 C1 C1 C1	390 355 310 265	0.007 0.006 0.006 0.005	0.010 0.009 0.009 0.008	0.014 0.013 0.013 0.012	0.017 0.016 0.016 0.015
Alloy Steel 4140, 5140, 8640, etc.	125 - 175 175 - 225 225 - 275 275 - 325 325 - 375	C1 C1 C1 C1 C1	375 345 310 285 255	0.007 0.006 0.006 0.005 0.004	0.010 0.009 0.009 0.008 0.007	0.014 0.013 0.013 0.012 0.011	0.017 0.016 0.016 0.015 0.014
High Strength Alloy 4340, 4330V, 300M, etc.	225 - 300 300 - 350 350 - 400	C1 C1 C1	230 205 185	0.006 0.005 0.004	0.009 0.008 0.007	0.011 0.010 0.009	0.013 0.012 0.011
Structural Steel A36, A285, A516, etc.	100 - 150 150 - 250 250 - 350	C1 C1 C1	355 285 265	0.008 0.006 0.005	0.011 0.010 0.009	0.015 0.013 0.012	0.017 0.015 0.013
High Temp Alloy Hastelloy B, Inconel 600, etc.	140 - 220 220 - 310	C2 C2	120 95	0.004 0.004	0.007 0.006	0.009 0.008	0.011 0.010
Stainless Steel 303, 416, 420, 17-4 PH, etc.	135 - 185 185 - 275	C2 C2	240 185	0.007 0.006	0.009 0.008	0.012 0.011	0.014 0.012
Tool Steel H-13, H-21, A-4, 0-2, S-3, etc.	150 - 200 200 - 250	C1 C1	255 195	0.007 0.007	0.007 0.007	0.010 0.010	0.012 0.012
Cast Iron Grey, Ductile, Nodular	120 - 150 150 - 200 200 - 220 220 - 260 260 - 320	C2 C2 C2 C2 C2	500 480 430 370 335	0.008 0.007 0.006 0.005 0.005	0.012 0.011 0.009 0.008 0.007	0.015 0.013 0.012 0.011 0.010	0.019 0.017 0.015 0.013 0.011

Formulas: IPM = RPM • IPR **SFM = RPM • 0.262 • DIA** **RPM = SFM • 3.82/DIA**

SPEED AND FEED MULTIPLIER

For various tool lengths

	Holder Length							
	Stub	Short	Intermediate	Standard	Extended	Long	XL	3XL
SPEED	See above chart				0.090	0.85	0.80	0.75
FEED	See above chart					0.95	0.90	0.90

SPEED AND FEED RECOMMENDATION EXAMPLE: If recommended speed and feed is 200 SFR and 0.008 IPR for a Standard length holder, then the speed and feed using a 3XL holder in the same application would be 150 SFM and 0.007 IPR.

200 SFM • .075 = 150 SFM **0.008 IPR • 0.90 = 0.007 IPR**

** The speeds recommended for AM200® coated tools are based on empirical data obtained under "optimum Conditions." many applications do not exhibit "optimum Conditions." Reductions in speed parameters may be required due to excessive tool wear generated in the application.

The speeds and feeds listed above are considered a general starting point for all applications. Factory technical assistance is also available for your specific applications through our Application Engineering Team. Please have item number, hole diameter, depth, material grade, BHN hardness and coolant pressure information available when you call. Additional information such as part and machine rigidity, horsepower and thrust limits, vertical or horizontal spindle, revolving or stationary tool, flood or through holder coolant are also very helpful to our Application Engineers.

Super Cobalt Thin Web Drill Insert

MATERIAL	MATERIAL HARDNESS (BHN)	**-TW** TiAIN Mist Coolant (SFM)	FEED (IPR) 9/16" to 11/16"	13/16" to 15/16"	1" to 1-3/8"	1-13/32" to 1-7/8"
Structural Steel A36,A285,A516, etc.	100 - 150 150 - 250 250 - 350	110 100 90	0.012 0.011 0.010	0.018 0.016 0.014	0.019 0.017 0.016	0.020 0.019 0.018

Super Cobalt Notch Point® and 150º Structural Steel Drill Insert

MATERIAL	MATERIAL HARDNESS (BHN)	**-NP** TiAIN Mist Coolant (SFM)	FEED (IPR) 9/16" to 11/16"	13/16" to 15/16"	1" to 1-3/8"	1-13/32" to 1-7/8"
Structural Steel A36,A285,A516, etc.	100 - 150 150 - 250 250 - 350	110 100 90	0.010 0.009 0.008	0.012 0.011 0.010	0.014 0.012 0.011	0.018 0.016 0.014

Formulas: IPM = RPM ● IPR SFM=RPM ● 0.262 l DIA RPM = SFM ● 3.82/DIA

NOTE: Above speed and feed recommendations are based on rigid setup utilizing air mist through tool coolant. Speed may be increased up to 50% if using high pressure flood

NOTE: If drilling dry without coolant, speed must be reduced significantly based on setup, drill depth, and material harness. Up to 50% speed and feed reduction may be necessary in these types of applications.

Recommended Speeds and Feeds
HSS and Carbide Flat Bottom T-A® Drill Inserts

Inch

Material	Material Hardness (BHN)	TiN SFM	** TiAlN SFM	TiCN SFM	FEED (IPR) 3/8" to 1/2"	33/64" to 11/16"	45/64" to 15/16"	31/32" to 1-3/8"	1-13/32" to 1-7/8"	1-29/32" to 2-9/16"	GRADE	TiN SFM	** TiAlN SFM	TiCN SFM	AM200® SFM	FEED (IPR) 3/8" to 1/2"	33/64" to 11/16"	45/64" to 15/16"	31/32" to 1-3/8"
Free Machining Steel	100 - 150	170	250	230	0.006	0.009	0.011	0.014	0.016	0.018	C2	270	380	325	425	0.007	0.010	0.013	0.015
1118, 1215,12L14, etc.	150 - 200	155	230	205	0.006	0.009	0.011	0.014	0.016	0.018	C2	240	320	280	375	0.006	0.009	0.012	0.014
	200 - 250	140	210	185	0.005	0.009	0.011	0.014	0.015	0.017	C2	220	300	260	350	0.005	0.009	0.011	0.013
Low Carbon Steel	85 - 125	150	220	195	0.005	0.008	0.010	0.013	0.015	0.017	C2	260	345	315	410	0.007	0.009	0.011	0.014
1010, 1020, 1025, 1522,	125 - 175	140	210	185	0.005	0.008	0.010	0.013	0.015	0.016	C2	220	300	260	350	0.006	0.009	0.011	0.014
1144, etc.	175 - 225	130	195	175	0.004	0.007	0.009	0.012	0.014	0.016	C2	200	280	235	320	0.005	0.008	0.010	0.013
	225 - 275	120	185	155	0.004	0.007	0.009	0.012	0.014	0.015	C2	180	240	215	285	0.004	0.008	0.010	0.013
Medium Carbon Steel	125 - 175	140	210	185	0.005	0.008	0.010	0.013	0.015	0.018	C2	220	300	260	350	0.006	0.009	0.011	0.014
1030, 1040, 1050, 1527,	175 - 225	130	195	175	0.004	0.007	0.009	0.012	0.014	0.017	C2	200	280	240	320	0.005	0.008	0.010	0.013
1140, 1151, etc.	225 - 275	120	185	155	0.004	0.007	0.009	0.012	0.014	0.017	C2	180	240	210	285	0.005	0.008	0.010	0.013
	275 - 325	110	175	150	0.004	0.006	0.008	0.010	0.013	0.015	C2	150	210	180	240	0.004	0.007	0.009	0.012
Alloy Steel	125 - 175	130	185	175	0.005	0.007	0.009	0.012	0.013	0.016	C2	215	290	250	340	0.006	0.009	0.011	0.014
4140, 5140, 8640, etc.	175 - 225	120	175	155	0.004	0.007	0.009	0.012	0.013	0.016	C2	200	270	230	320	0.005	0.008	0.010	0.013
	225 - 275	110	155	145	0.004	0.006	0.009	0.012	0.013	0.016	C2	180	230	205	290	0.005	0.008	0.010	0.013
	275 - 325	105	145	135	0.004	0.005	0.008	0.010	0.012	0.015	C2	175	215	190	280	0.004	0.007	0.009	0.012
	325 - 375	95	135	125	0.003	0.005	0.008	0.010	0.012	0.014	C2	145	190	170	230	0.003	0.006	0.009	0.011
High Strength Alloy	225 - 300	70	95	85	0.004	0.006	0.008	0.009	0.010	0.012	C2	140	170	160	220	0.005	0.008	0.009	0.010
4340, 4330V, 300M, etc.	300 - 350	50	75	70	0.003	0.006	0.008	0.009	0.010	0.012	C2	120	160	140	190	0.004	0.007	0.008	0.009
	350 - 400	45	65	60	0.003	0.005	0.007	0.008	0.009	0.011	C2	100	145	120	160	0.003	0.006	0.007	0.009
Structural Steel	100 - 150	120	170	155	0.005	0.009	0.010	0.012	0.015	0.017	C2	205	265	240	325	0.007	0.009	0.012	0.014
A36, A285, A516, etc.	150 - 250	105	145	135	0.004	0.008	0.009	0.010	0.013	0.016	C2	170	215	200	270	0.005	0.009	0.010	0.012
	250 - 350	85	120	110	0.004	0.007	0.008	0.009	0.012	0.015	C2	155	200	180	240	0.004	0.008	0.009	0.010
High Temp Alloy	140 - 220	25	35	30	0.003	0.006	0.007	0.009	0.010	0.012	C2	70	90	80	110	0.003	0.006	0.008	0.009
Hastelloy B, Inconel 600, etc.	220 - 310	20	30	25	0.003	0.005	0.006	0.007	0.008	0.010	C2	50	70	60	80	0.003	0.005	0.007	0.009
Stainless Steel	135 - 185	65	90	85	0.005	0.007	0.008	0.010	0.012	0.014	C2	140	180	160	220	0.006	0.008	0.010	0.012
303, 416, 420, 17-4 PH, etc.	185 - 275	50	80	70	0.004	0.006	0.007	0.009	0.010	0.011	C2	100	140	120	160	0.005	0.007	0.009	0.010
Tool Steel	150 - 200	70	95	90	0.004	0.005	0.007	0.009	0.010	0.012	C2	140	190	160	220	0.003	0.006	0.008	0.009
H-13, H-21, A-4, 0-2, S-3, etc.	200 - 250	50	80	75	0.004	0.005	0.007	0.009	0.009	0.011	C2	100	150	120	160	0.003	0.006	0.008	0.009
Aluminum	30	525	750	650	0.007	0.011	0.014	0.017	0.018	0.019	C2	1050	1325	1150	0	0.009	0.013	0.015	0.017
	180	260	400	350	0.007	0.011	0.014	0.016	0.017	0.019	C2	690	900	775	0	0.008	0.011	0.014	0.015
Cast Iron	120 - 150	150	220	195	0.006	0.010	0.014	0.017	0.019	0.020	C2	270	405	360	425	0.007	0.010	0.013	0.016
Grey, Ductile, Nodular	150 - 200	130	195	175	0.005	0.009	0.012	0.016	0.018	0.019	C2	230	350	290	360	0.006	0.009	0.011	0.014
	200 - 220	110	175	150	0.005	0.008	0.010	0.014	0.016	0.017	C2	200	320	260	310	0.005	0.008	0.010	0.013
	220 - 260	95	150	125	0.004	0.006	0.008	0.010	0.013	0.014	C2	180	270	220	280	0.004	0.007	0.009	0.011
	260 - 320	80	120	105	0.004	0.005	0.006	0.008	0.010	0.012	C2	160	240	200	255	0.004	0.006	0.009	0.009

Flat Bottom Drill Inserts Made Under U.S. Patent No.: 6,135,681

Formulas: IPM = RPM • IPR **SFM = RPM • 0.262 • DIA** **RPM = SFM • 3.82/DIA**

SPEED AND FEED MULTIPLIER

For various tool lengths

	Holder Length							
	Stub	Short	Intermediate	Standard	Extended	Long	XL	3XL
SPEED	See above chart				0.090	0.85	0.80	0.75
FEED	See above chart					0.95	0.90	0.90

SPEED AND FEED RECOMMENDATION EXAMPLE: If recommended speed and feed is 200 SFR and 0.008 IPR for a Standard length holder, then the speed and feed using a 3XL holder in the same application would be 150 SFM and 0.007 IPR.

200 SFM • .075 = 150 SFM **0.008 IPR • 0.90 = 0.007 IPR**

** The speeds recommended for TiAlN coated tools are based on empirical data obtained under “Optimum Conditions.” Many applications do not exhibit “Optimum Conditions.” Reductions in speed parameters may be required due to excessive tool wear generated in the application.

The speeds and feeds listed above are considered a general starting point for all applications. Factory technical assistance is also available for your specific applications through our Application Engineering Team. Please have item number, hole diameter, depth, material grade, BHN hardness and coolant pressure information available when you call. Additional information such as part and machine rigidity, horsepower and thrust limits, vertical or horizontal spindle, revolving or stationary tool, flood or through holder coolant are also very helpful to our Application Engineers.

Recommended Speeds and Feeds
Diamond Coated T-A® Carbide Drill Inserts

Inch

MATERIAL		GRADE	CVD Diamond SFM	T-A® CARBIDE DRILL INSERTS FEED (IPR) 3/8" to 1/2"	33/64" to 11/16"	45/64" to 15/16"	31/32" to 1-3/8"
Polymer Matrix Composites	Carbon (Hard)	N2	1000-2000	0.004-0.006	0.008-0.010	0.010-0.012	0.012-0.014
	Carbon Fiber						
	Carbon/Glass Fiber						
	Fiberglass						
	Graphite						
	Plastics	N2	250-1000	0.004-0.006	0.008-0.010	0.010-0.012	0.012-0.014
	Epoxy Resin						
	Bismaleimide Resin						
	Polyester Resin						
	Phenolic Resin						
	Rubber						
Metal Matrix Composites	Aluminum Si<10%	N2	1000	0.008	0.013	0.016	0.02
	10%<Si<15%	N2	850-1000	0.008	0.013	0.016	0.02
	15%<Si<20%	N2	650-850	0.008	0.013	0.016	0.02
	20%<Si<25%	N2	500-650	0.008	0.013	0.016	0.02
	25%<Si	N2	200-500	0.008	0.013	0.016	0.02
	Brass	N2	250-500	0.008	0.013	0.016	0.02
	Bronze						
	Copper	N2	100-250	0.004-0.006	0.008-0.010	0.010-0.012	0.012-0.014
	Copper Alloys						
	Lead Alloys						
	Magnesium Alloys						
	Precious Metals						
Ceramic Matrix Composites	Carbide (Green)	N2	50-250	0.004-0.006	0.008-0.010	0.010-0.012	0.012-0.014
	Ceramic (Green)						
	Ceramic (Pre-Sintered)						

Formulas: IPM = RPM • IPR **SFM = RPM • 0.262 • DIA** **RPM = SFM • 3.82/DIA**

SPEED AND FEED MULTIPLIER

For various tool lengths

	Holder Length							
	Stub	Short	Intermediate	Standard	Extended	Long	XL	3XL
SPEED	See above chart				0.09	0.85	0.80	0.75
FEED	See above chart					0.95	0.90	0.90

SPEED AND FEED RECOMMENDATION EXAMPLE: If recommended speed and feed is 200 SFR and 0.008 IPR for a Standard length holder, then the speed and feed using a 3XL holder in the same application would be 150 SFM and 0.007 IPR.

200 SFM • .075 = 150 SFM **0.008 IPR • 0.90 = 0.007 IPR**

** The speeds recommended for Diamond Film coated tools are based on empirical data obtained under "Optimum Conditions." Many applications do not exhibit "Optimum Conditions." Reductions in speed parameters may be required due to excessive tool wear generated in the application.

The speeds and feeds listed above are considered a general starting point for all applications. Factory technical assistance is also available for your specific applications through our Application Engineering Team. Please have item number, hole diameter, depth, material grade, BHN hardness and coolant pressure information available when you call. Additional information such as part and machine rigidity, horsepower and thrust limits, vertical or horizontal spindle, revolving or stationary tool, flood or through holder coolant are also very helpful to our Application Engineers.

Recommended Speeds and Feeds

T-A® HSS Drill Inserts

Metric

Material	Material Hardness (BHN)	HSS * Tool Steel Grade	HSS TiN M/min	HSS ** TiAlN M/min	HSS TiCN M/min	HSS FEED (mm/rev) 9,5 to 12,5	HSS FEED (mm/rev) 13 to 17,5	HSS FEED (mm/rev) 18 to 24	HSS FEED (mm/rev) 25 to 35
Free Machining Steel 1118, 1215,12L14, etc.	100 - 150	HSS	61	86	80	0.18	0.25	0.33	0.41
	150 - 200	HSS	55	80	72	0.18	0.25	0.33	0.41
	200 - 250	HSS	49	73	64	0.15	0.25	0.33	0.41
Low Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85 - 125	HSS	52	76	67	0.15	0.23	0.30	0.38
	125 - 175	HSS	49	73	64	0.15	0.23	0.30	0.38
	175 - 225	HSS	46	69	60	0.13	0.20	0.25	0.36
	225 - 275	HSS	43	64	55	0.13	0.20	0.25	0.36
Medium Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	125 - 175	HSS	49	73	64	0.15	0.23	0.30	0.38
	175 - 225	HSS	46	69	60	0.13	0.20	0.25	0.36
	225 - 275	HSS	43	64	55	0.13	0.20	0.25	0.36
	275 - 325	SC, PC	40	60	52	0.10	0.18	0.23	0.30
Alloy Steel 4140, 5140, 8640, etc.	125 - 175	HSS	46	64	60	0.15	0.20	0.25	0.36
	175 - 225	HSS	43	60	55	0.13	0.20	0.25	0.36
	225 - 275	HSS	40	55	52	0.13	0.18	0.25	0.36
	275 - 325	SC, PC	37	52	47	0.10	0.15	0.23	0.30
	325 - 375	SC, PC	34	47	44	0.08	0.15	0.23	0.30
High Strength Alloy 4340, 4330V, 300M, etc.	225 - 300	SC, PC	24	34	31	0.13	0.18	0.23	0.25
	300 - 350	SC, PC	18	26	24	0.10	0.18	0.23	0.25
	350 - 400	PC	15	21	20	0.08	0.15	0.20	0.23
Structural Steel A36, A285, A516, etc.	100 - 150	HSS	43	61	55	0.15	0.25	0.30	0.36
	150 - 250	HSS	37	52	47	0.13	0.23	0.25	0.30
	250 - 350	SC, PC	30	43	40	0.10	0.20	0.23	0.25
High Temp Alloy Hastelloy B, Inconel 600, etc.	140 - 220	SC, PC	9	12	11	0.08	0.18	0.20	0.25
	220 - 310	PC	8	11	9	0.08	0.15	0.18	0.20
Stainless Steel 303, 416, 420, 17-4 PH, etc.	135 - 185	HSS	23	32	29	0.15	0.20	0.23	0.28
	185 - 275	HSS	18	28	24	0.13	0.18	0.20	0.25
Tool Steel H-13, H-21, A-4, 0-2, S-3, etc.	150 - 200	SC	24	34	32	0.10	0.15	0.20	0.25
	200 - 250	SC, PC	18	28	26	0.10	0.15	0.20	0.25
Aluminum	30	HSS	183	260	229	0.20	0.33	0.41	0.50
	180	HSS	91	138	122	0.20	0.33	0.41	0.46
Cast Iron Grey, Ductile, Nodular	120 - 150	HSS	52	76	67	0.18	0.30	0.41	0.51
	150 - 200	HSS	46	69	60	0.15	0.28	0.36	0.46
	200 - 220	HSS	40	60	52	0.15	0.23	0.30	0.41
	220 - 260	SC, PC	34	50	44	0.13	0.18	0.23	0.30
	260 - 320	SC, PC	27	41	37	0.10	0.15	0.18	0.23

Formulas: mm/min = RPM ● mm/rev M/min = RPM ● 0.003 ● DIA RPM = M/min ● 318.47/DIA

SPEED AND FEED MULTIPLIER

For various tool lengths

	Holder Length							
	Stub	Short	Intermediate	Standard	Extended	Long	XL	3XL
SPEED	See above chart				0.09	0.85	0.80	0.75
FEED	See above chart					0.95	0.90	0.90

SPEED AND FEED RECOMMENDATION EXAMPLE: If recommended speed and feed is 200 SFR and 0.008 IPR for a Standard length holder, then the speed and feed using a 3XL holder in the same application would be 150 SFM and 0.007 IPR.

61 M/min ● 0.75 = 45.7 M/min 0.20 mm/rev ● 0.90 = 0.18 mm/rev

* HSS=High Speed Steel, SC=Super Cobalt, PC=Premium Cobalt. Super and Premium Cobalt tools should be used primarily when drilling exotic and high alloy material. They may also be used in normal applications to increase SFM and as a buffer against rapid tool wear once the coating is worn away! Super Cobalt has high abrasion resistance, and Premium Cobalt has high abrasion resistance along with very high red hardness.

** The speeds recommended for TiAlN coated tools are based on empirical data obtained under “Optimum Conditions.” Many applications do not exhibit “Optimum Conditions.” Reductions in speed parameters may be required due to excessive tool wear generated in the application.

The speeds and feeds listed above are considered a general starting point for all applications. Factory technical assistance is also available for your specific applications through our Application Engineering Team. Please have item number, hole diameter, depth, material grade, BHN hardness and coolant pressure information available when you call. Additional information such as part and machine rigidity, horsepower and thrust limits, vertical or horizontal spindle, revolving or stationary tool, flood or through holder coolant are also very helpful to our Application Engineers.

Recommended Speeds and Feeds

T-A® Carbide Drill Inserts

Metric

Material	Material Hardness (BHN)	Grade	T-A® CARBIDE DRILL INSERTS TiN M/min	** TiAlN M/min	TiCN M/min	FEED (mm/rev) 9,5 to 12,5	13 to 17,5	18 to 24	25 to 35	36 to 47
Free Machining Steel 1118, 1215,12L14, etc.	100 - 150 150 - 200 200 - 250	P40 P40 P40	96 85 79	128 110 104	115 100 90	0.20 0.18 0.15	0.30 0.28 0.25	0.38 0.35 0.33	0.45 0.40 0.38	0.53 0.48 0.43
Low Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85 - 125 125 - 175 175 - 225 225 - 275	P40 P40 P40 P40	91 79 73 64	119 104 95 83	110 90 82 75	0.20 0.18 0.15 0.13	0.25 0.25 0.23 0.23	0.33 0.33 0.30 0.30	0.43 0.40 0.38 0.38	0.48 0.45 0.43 0.43
Medium Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	125 - 175 175 - 225 225 - 275 275 - 325	P40 P40 P40 P40	79 73 67 55	104 95 83 70	90 84 72 62	0.18 0.15 0.15 0.13	0.25 0.23 0.23 0.20	0.33 0.30 0.30 0.28	0.40 0.38 0.38 0.35	0.45 0.43 0.43 0.40
Alloy Steel 4140, 5140, 8640, etc.	125 - 175 175 - 225 225 - 275 275 - 325 325 - 375	P40 P40 P40 P40 P40	76 70 64 61 52	99 92 83 76 67	87 80 72 68 60	0.18 0.15 0.15 0.13 0.10	0.25 0.23 0.23 0.20 0.18	0.33 0.30 0.30 0.28 0.25	0.40 0.38 0.38 0.35 0.33	0.45 0.43 0.43 0.40 0.38
High Strength Alloy 4340, 4330V, 300M, etc.	225 - 300 300 - 350 350 - 400	P40 P40 P40	49 43 37	61 55 49	55 49 43	0.15 0.13 0.10	0.23 0.20 0.18	0.25 0.23 0.20	0.30 0.28 0.25	0.38 0.35 0.30
Structural Steel A36, A285, A516, etc.	100 - 150 150 - 250 250 - 350	P40 P40 P40	73 61 55	95 76 70	84 68 62	0.20 0.15 0.13	0.28 0.25 0.23	0.35 0.30 0.28	0.40 0.35 0.30	0.45 0.40 0.35
High Temp Alloy Hastelloy B, Inconel 600, etc.	140 - 220 220 - 310	K20 K20	24 18	32 26	28 22	0.10 0.10	0.18 0.15	0.23 0.20	0.28 0.25	0.33 0.30
Stainless Steel 303, 416, 420, 17-4 PH, etc.	135 - 185 185 - 275	K20 K20	49 37	64 49	57 43	0.18 0.15	0.23 0.20	0.30 0.28	0.35 0.30	0.40 0.35
Tool Steel H-13, H-21, A-4, 0-2, S-3, etc.	150 - 200 200 - 250	P40 P40	49 37	67 52	58 45	0.10 0.10	0.18 0.18	0.23 0.23	0.28 0.28	0.33 0.33
Aluminum	30 180	K20 K20	366 244	460 306	410 275	0.25 0.23	0.38 0.33	0.45 0.40	0.50 0.45	0.55 0.50
Cast Iron Grey, Ductile, Nodular	120 - 150 150 - 200 200 - 220 220 - 260 260 - 320	K20, K10* K20, K10* K20, K10* K20, K10* K20, K10*	98 82 73 64 55	141 122 110 95 83	127 102 93 79 69	0.20 0.18 0.15 0.13 0.13	0.30 0.28 0.23 0.20 0.18	0.38 0.33 0.30 0.28 0.28	0.48 0.43 0.38 0.33 0.28	0.58 0.53 0.45 0.38 0.33

Formulas: mm/min = RPM ● mm/rev M/min = RPM ● 0.003 ● DIA RPM = M/min ● 318.47/DIA

SPEED AND FEED MULTIPLIER

For various tool lengths

	Holder Length							
	Stub	Short	Intermediate	Standard	Extended	Long	XL	3XL
SPEED	See above chart				0.09	0.85	0.80	0.75
FEED	See above chart					0.95	0.90	0.90

SPEED AND FEED RECOMMENDATION EXAMPLE: If recommended speed and feed is 200 SFR and 0.008 IPR for a Standard length holder, then the speed and feed using a 3XL holder in the same application would be 150 SFM and 0.007 IPR.

61 M/min ● 0.75 = 45.7 M/min 0.20 mm/rev ● 0.90 = 0.18 mm/rev

* Designed for Grey Cast Iron only.

** The speeds recommended for TiAlN coated tools are based on empirical data obtained under “Optimum Conditions.” Many applications do not exhibit “Optimum Conditions.” Reductions in speed parameters may be required due to excessive tool wear generated in the application.

The speeds and feeds listed above are considered a general starting point for all applications. Factory technical assistance is also available for your specific applications through our Application Engineering Team. Please have item number, hole diameter, depth, material grade, BHN hardness and coolant pressure information available when you call. Additional information such as part and machine rigidity, horsepower and thrust limits, vertical or horizontal spindle, revolving or stationary tool, flood or through holder coolant are also very helpful to our Application Engineers.

Recommended Speeds and Feeds

GEN2 T-A®

HSS - Metric

Material	Material Hardness (BHN)	GEN2 T-A® T-A® CARBIDE DRILL INSERTS									
		* Tool Steel Grade	TiN M/min	** AM200® M/min	FEED (mm/rev) 9,5 to 12,5	13 to 17,5	18 to 24	25 to 35	36 to 47	48 to 65	66 to 114
Free Machining Steel 1118, 1215,12L14, etc.	100 - 150 150 - 200 200 - 250	HSS HSS HSS	61 55 49	100 92 86	0.20 0.18 0.15	0.30 0.28 0.25	0.40 0.38 0.36	0.48 0.43 0.40	0.51 0.51 0.51	0.58 0.58 0.58	0.71 0.71 0.71
Low Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85 - 125 125 - 175 175 - 225 225 - 275	HSS HSS HSS HSS	52 49 46 43	89 84 80 74	0.20 0.18 0.15 0.13	0.25 0.25 0.23 0.23	0.36 0.36 0.33 0.33	0.46 0.43 0.40 0.40	0.48 0.48 0.46 0.46	0.58 0.53 0.53 0.48	0.69 0.61 0.61 0.56
Medium Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	125 - 175 175 - 225 225 - 275 275 - 325	HSS HSS HSS SC	49 46 43 40	84 80 74 69	0.18 0.15 0.15 0.13	0.25 0.23 0.23 0.20	0.36 0.33 0.33 0.20	0.43 0.40 0.40 0.38	0.48 0.46 0.46 0.40	0.56 0.53 0.53 0.48	0.69 0.74 0.74 0.56
Alloy Steel 4140, 5140, 8640, etc.	125 - 175 175 - 225 225 - 275 275 - 325 325 - 375	HSS HSS HSS SC SC	46 43 40 37 34	74 69 64 60 55	0.18 0.15 0.15 0.13 0.10	0.25 0.23 0.23 0.20 0.18	0.36 0.33 0.33 0.30 0.28	0.43 0.40 0.40 0.38 0.36	0.43 0.43 0.43 0.38 0.38	0.48 0.48 0.48 0.43 0.43	0.56 0.56 0.56 0.51 0.51
High Strength Alloy 4340, 4330V, 300M, etc.	225 - 300 300 - 350 350 - 400	SC SC SC	24 18 15	38 31 25	0.15 0.13 0.10	0.23 0.20 0.18	0.28 0.25 0.23	0.33 0.30 0.28	0.36 0.36 0.30	0.43 0.43 0.38	0.51 0.51 0.46
Structural Steel A36, A285, A516, etc.	100 - 150 150 - 250 250 - 350	HSS HSS SC	43 37 31	72 58 49	0.20 0.15 0.13	0.28 0.25 0.23	0.38 0.33 0.30	0.43 0.38 0.33	0.46 0.40 0.36	0.53 0.48 0.43	0.66 0.61 0.51
High Temp Alloy Hastelloy B, Inconel 600, etc.	140 - 220 220 - 310	SC SC	9 7	14 12	0.10 0.10	0.18 0.15	0.23 0.20	0.28 0.25	0.30 0.25	0.38 0.30	0.43 0.36
Stainless Steel 303, 416, 420, 17-4 PH, etc.	135 - 185 185 - 275	HSS HSS	23 18	37 32	0.18 0.15	0.23 0.20	0.30 0.28	0.36 0.30	0.36 0.30	0.40 0.36	0.51 0.46
Tool Steel H-13, H-21, A-4, 0-2, S-3, etc.	150 - 200 200 - 250	SC SC	24 18	39 32	0.10 0.10	0.18 0.18	0.25 0.25	0.30 0.30	0.30 0.30	0.38 0.38	0.43 0.43
Aluminum	30 180	HSS HSS	183 92	- -	- -	- -	- -	- -	0.56 0.56	0.64 0.64	0.64 0.64
Cast Iron Grey, Ductile, Nodular	120 - 150 150 - 200 200 - 220 220 - 260 260 - 320	HSS HSS HSS SC SC	52 46 40 34 28	89 80 69 58 48	0.20 0.18 0.15 0.13 0.13	0.30 0.28 0.23 0.20 0.18	0.40 0.38 0.33 0.28 0.25	0.51 0.48 0.43 0.36 0.28	0.61 0.56 0.46 0.36 0.30	0.69 0.64 0.53 0.43 0.36	0.76 0.71 0.61 0.51 0.40

Formulas: mm/min = RPM ● mm/rev M/min = RPM ● 0.003 ● DIA RPM = M/min ● 318.47/DIA

SPEED AND FEED MULTIPLIER

For various tool lengths

	Holder Length							
	Stub	Short	Intermediate	Standard	Extended	Long	XL	3XL
SPEED	See above chart				0.09	0.85	0.80	0.75
FEED	See above chart					0.95	0.90	0.90

SPEED AND FEED RECOMMENDATION EXAMPLE: If recommended speed and feed is 200 SFR and 0.008 IPR for a Standard length holder, then the speed and feed using a 3XL holder in the same application would be 150 SFM and 0.007 IPR.

61 M/min ● 0.75 = 45.7 M/min 0.20 mm/rev ● 0.90 = 0.18 mm/rev

* HSS= High Speed Steel, SC = Super Cobalt, PC = Premium Cobalt. Super and Premium Cobalt tools should be used primarily when drilling exotic and high alloy material. They may also be used in normal applications to increase SFM and as a buffer against rapid tool wear once the coating is worn away! Super Cobalt has high abrasion resistance, and Premium Cobalt has high abrasion resistance along with very high red hardness.

** The speeds recommended for TiAlN coated tools are based on empirical data obtained under "Optimum Conditions." Many applications do not exhibit "Optimum Conditions." Reductions in speed parameters may be required due to excessive tool wear generated in the application.

The speeds and feeds listed above are considered a general starting point for all applications. Factory technical assistance is also available for your specific applications through our Application Engineering Team. Please have item number, hole diameter, depth, material grade, BHN hardness and coolant pressure information available when you call. Additional information such as part and machine rigidity, horsepower and thrust limits, vertical or horizontal spindle, revolving or stationary tool, flood or through holder coolant are also very helpful to our Application Engineers.

Recommended Speeds and Feeds

GEN2 T-A®

Carbide - Metric

Material	Material Hardness (BHN)	GEN2 T-A® CARBIDE DRILL INSERTS Grade	AM200® M/min	FEED (mm/rev) 9,5 to 12,5	13 to 17,5	18 to 24	25 to 35
Free Machining Steel 1118, 1215,12L14, etc.	100 - 150 150 - 200 200 - 250	K35 K35 K35	146 129 119	0.20 0.18 0.15	0.30 0.28 0.25	0.40 0.38 0.36	0.48 0.43 0.40
Low Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85 - 125 125 - 175 175 - 225 225 - 275	K35 K35 K35 K35	137 119 108 94	0.20 0.18 0.15 0.13	0.25 0.25 0.23 0.23	0.36 0.36 0.33 0.33	0.46 0.43 0.40 0.40
Medium Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	125 - 175 175 - 225 225 - 275 275 - 325	K35 K35 K35 K35	119 108 94 81	0.18 0.15 0.15 0.13	0.25 0.23 0.23 0.20	0.36 0.33 0.33 0.30	0.43 0.40 0.40 0.38
Alloy Steel 4140, 5140, 8640, etc.	125 - 175 175 - 225 225 - 275 275 - 325 325 - 375	K35 K35 K35 K35 K35	114 105 94 87 78	0.18 0.15 0.15 0.13 0.10	0.25 0.23 0.23 0.20 0.18	0.36 0.33 0.33 0.30 0.28	0.43 0.40 0.40 0.38 0.36
High Strength Alloy 4340, 4330V, 300M, etc.	225 - 300 300 - 350 350 - 400	K35 K35 K35	73 62 56	0.15 0.13 0.10	0.23 0.20 0.18	0.28 0.25 0.23	0.33 0.30 0.28
Structural Steel A36, A285, A516, etc.	100 - 150 150 - 250 250 - 350	K35 K35 K35	108 87 81	0.20 0.15 0.13	0.28 0.25 0.23	0.38 0.33 0.30	0.43 0.38 0.33
High Temp Alloy Hastelloy B, Inconel 600, etc.	140 - 220 220 - 310	K20 K20	36 29	0.10 0.10	0.18 0.15	0.23 0.20	0.28 0.25
Stainless Steel 303, 416, 420, 17-4 PH, etc.	135 - 185 185 - 275	K20 K20	73 56	0.18 0.15	0.23 0.20	0.30 0.28	0.36 0.30
Tool Steel H-13, H-21, A-4, 0-2, S-3, etc.	150 - 200 200 - 250	K35 K35	78 59	0.18 0.18	0.18 0.18	0.25 0.25	0.30 0.30
Cast Iron Grey, Ductile, Nodular	120 - 150 150 - 200 200 - 220 220 - 260 260 - 320	K20 K20 K20 K20 K20	152 146 131 113 102	0.20 0.18 0.15 0.13 0.13	0.30 0.25 0.23 0.20 0.18	0.38 0.36 0.30 0.28 0.25	0.48 0.43 0.38 0.33 0.28

Formulas: mm/min = RPM ● mm/rev M/min = RPM ● 0.003 ● DIA RPM = M/min ● 318.47/DIA

SPEED AND FEED MULTIPLIER

For various tool lengths

	Holder Length							
	Stub	Short	Intermediate	Standard	Extended	Long	XL	3XL
SPEED	See above chart				0.09	0.85	0.80	0.75
FEED	See above chart					0.95	0.90	0.90

SPEED AND FEED RECOMMENDATION EXAMPLE: If recommended speed and feed is 200 SFR and 0.008 IPR for a Standard length holder, then the speed and feed using a 3XL holder in the same application would be 150 SFM and 0.007 IPR.

61 M/min ● 0.75 = 45.7 M/min 0.20 mm/rev ● 0.90 = 0.18 mm/rev

** The speeds recommended for AM200® coated tools are based on empirical data obtained under “optimum Conditions.” many applications do not exhibit “optimum Conditions.” Reductions in speed parameters may be required due to excessive tool wear generated in the application.

The speeds and feeds listed above are considered a general starting point for all applications. Factory technical assistance is also available for your specific applications through our Application Engineering Team. Please have item number, hole diameter, depth, material grade, BHN hardness and coolant pressure information available when you call. Additional information such as part and machine rigidity, horsepower and thrust limits, vertical or horizontal spindle, revolving or stationary tool, flood or through holder coolant are also very helpful to our Application Engineers.

Recommended Speeds and Feeds
HSS and Carbide Flat Botton T-A® Drill Inserts

Metric

Material	Material Hardness (BHN)	HSS T-A® FLAT BOTTOM DRILL INSERTS									T-A® CARBIDE DRILL INSERTS								
					FEED (mm/rev)											FEED (mm/rev)			
		TiN M/min	** TiAlN M/min	TiCN M/min	9,5 to 12,5	13 to 17,5	18 to 24	25 to 35	36 to 47	48 to 65	GRADE	TiN M/min	** TiAlN M/min	TiCN M/min	AM200® M/min	9,5 to 12,5	13 to 17,5	18 to 24	25 to 35
Free Machining Steel 1118, 1215,12L14, etc.	100 - 150	52	76	70	0.15	0.23	0.28	0.36	0.41	0.46	K20	82	116	99	130	0.18	0.25	0.33	0.38
	150 - 200	47	70	62	0.13	0.23	0.28	0.36	0.41	0.46	K20	73	98	85	114	0.15	0.23	0.30	0.36
	200 - 250	43	64	56	0.13	0.23	0.28	0.36	0.38	0.43	K20	67	91	79	107	0.13	0.23	0.28	0.33
Low Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85 - 125	46	67	59	0.13	0.20	0.25	0.33	0.38	0.43	K20	79	105	96	125	0.18	0.23	0.28	0.36
	125 - 175	43	64	56	0.13	0.20	0.25	0.33	0.38	0.41	K20	67	91	79	107	0.15	0.23	0.28	0.36
	175 - 225	40	59	53	0.10	0.18	0.23	0.30	0.36	0.41	K20	61	85	72	98	0.13	0.20	0.25	0.33
	225 - 275	37	56	47	0.10	0.18	0.23	0.30	0.36	0.38	K20	55	73	66	87	0.10	0.20	0.25	0.33
Medium Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	125 - 175	43	64	56	0.13	0.20	0.25	0.33	0.38	0.46	K20	67	91	79	107	0.15	0.23	0.28	0.36
	175 - 225	40	59	53	0.10	0.18	0.23	0.30	0.36	0.43	K20	61	85	73	98	0.13	0.20	0.25	0.33
	225 - 275	37	56	47	0.10	0.18	0.23	0.30	0.36	0.43	K20	55	73	64	87	0.13	0.20	0.25	0.33
	275 - 325	34	53	46	0.10	0.15	0.20	0.25	0.33	0.38	K20	46	64	55	73	0.10	0.18	0.23	0.30
Alloy Steel 4140, 5140, 8640, etc.	125 - 175	40	56	53	0.13	0.18	0.23	0.30	0.33	0.41	K20	66	88	76	104	0.15	0.23	0.28	0.36
	175 - 225	37	53	47	0.10	0.18	0.23	0.30	0.33	0.41	K20	61	82	73	98	0.13	0.20	0.25	0.33
	225 - 275	34	47	44	0.10	0.15	0.23	0.30	0.33	0.41	K20	55	70	62	88	0.13	0.20	0.25	0.33
	275 - 325	32	44	41	0.10	0.13	0.20	0.25	0.30	0.38	K20	53	66	58	85	0.10	0.18	0.23	0.30
	325 - 375	29	41	38	0.08	0.13	0.20	0.25	0.30	0.36	K20	44	58	52	70	0.08	0.15	0.23	0.28
High Strength Alloy 4340, 4330V, 300M, etc.	225 - 300	21	29	26	0.10	0.15	0.20	0.23	0.25	0.30	K20	43	52	49	67	0.13	0.20	0.23	0.25
	300 - 350	15	23	21	0.08	0.15	0.20	0.23	0.25	0.30	K20	37	49	43	58	0.10	0.18	0.20	0.23
	350 - 400	14	20	18	0.08	0.13	0.18	0.20	0.23	0.28	K20	30	43	37	49	0.08	0.15	0.18	0.23
Structural Steel A36, A285, A516, etc.	100 - 150	37	52	47	0.13	0.23	0.25	0.30	0.38	0.43	K20	62	81	73	99	0.18	0.23	0.30	0.36
	150 - 250	32	44	41	0.10	0.20	0.23	0.25	0.33	0.41	K20	52	66	61	82	0.13	0.23	0.25	0.30
	250 - 350	26	37	34	0.10	0.18	0.20	0.23	0.30	0.38	K20	47	61	55	73	0.10	0.20	0.23	0.25
High Temp Alloy Hastelloy B, Inconel 600, etc.	140 - 220	8	11	9	0.08	0.15	0.18	0.23	0.25	0.30	K20	21	27	24	34	0.08	0.15	0.20	0.23
	220 - 310	6	9	8	0.08	0.13	0.15	0.18	0.20	0.25	K20	15	21	18	24	0.08	0.13	0.18	0.23
Stainless Steel 303, 416, 420, 17-4 PH, etc.	135 - 185	20	27	26	0.13	0.18	0.20	0.25	0.30	0.36	K20	43	55	49	67	0.15	0.20	0.25	0.30
	185 - 275	15	24	21	0.10	0.15	0.18	0.23	0.25	0.28	K20	30	43	37	49	0.13	0.18	0.23	0.25
Tool Steel H-13, H-21, A-4, 0-2, S-3, etc.	150 - 200	21	29	27	0.10	0.13	0.18	0.23	0.25	0.30	K20	43	58	49	67	0.08	0.15	0.20	0.23
	200 - 250	15	24	23	0.10	0.13	0.18	0.23	0.23	0.28	K20	30	46	37	49	0.08	0.15	0.20	0.23
Aluminum	30	160	229	198	0.18	0.28	0.36	0.43	0.46	0.48	K20	320	404	351	-	0.23	0.33	0.38	0.43
	180	79	122	107	0.18	0.28	0.36	0.41	0.43	0.48	K20	210	274	236	-	0.20	0.28	0.36	0.38
Cast Iron Grey, Ductile, Nodular	120 - 150	46	67	59	0.15	0.25	0.36	0.43	0.48	0.51	K20	82	123	110	130	0.18	0.25	0.33	0.41
	150 - 200	40	59	53	0.13	0.23	0.30	0.41	0.46	0.48	K20	70	107	88	110	0.15	0.23	0.28	0.36
	200 - 220	34	53	46	0.13	0.20	0.25	0.36	0.41	0.43	K20	61	98	79	95	0.13	0.20	0.25	0.33
	220 - 260	29	46	38	0.10	0.15	0.20	0.25	0.33	0.33	K20	55	82	67	85	0.10	0.18	0.23	0.28
	260 - 320	24	37	32	0.10	0.13	0.15	0.20	0.25	0.25	K20	49	73	61	78	0.10	0.15	0.23	0.23

Flat Bottom Drill Inserts Made Under U.S. Patent No.: 6,135,681

Formulas: mm/min = RPM ● mm/rev M/min = RPM ● 0.003 ● DIA RPM = M/min ● 318.47/DIA

SPEED AND FEED MULTIPLIER

For various tool lengths

	Holder Length							
	Stub	Short	Intermediate	Standard	Extended	Long	XL	3XL
SPEED	See above chart				0.09	0.85	0.80	0.75
FEED	See above chart					0.95	0.90	0.90

SPEED AND FEED RECOMMENDATION EXAMPLE: If recommended speed and feed is 200 SFR and 0.008 IPR for a Standard length holder, then the speed and feed using a 3XL holder in the same application would be 150 SFM and 0.007 IPR.

61 M/min ● 0.75 = 45.7 M/min 0.20 mm/rev ● 0.90 = 0.18 mm/rev

** The speeds recommended for TiAlN coated tools are based on empirical data obtained under “Optimum Conditions.” Many applications do not exhibit “Optimum Conditions.” Reductions in speed parameters may be required due to excessive tool wear generated in the application.

The speeds and feeds listed above are considered a general starting point for all applications. Factory technical assistance is also available for your specific applications through our Application Engineering Team. Please have item number, hole diameter, depth, material grade, BHN hardness and coolant pressure information available when you call. Additional information such as part and machine rigidity, horsepower and thrust limits, vertical or horizontal spindle, revolving or stationary tool, flood or through holder coolant are also very helpful to our Application Engineers.

Recommended Speeds and Feeds
Diamond Coated T-A® Carbide Drill Inserts

Metric

MATERIAL		GRADE	CVD Diamond M/min	T-A® CARBIDE DRILL INSERTS FEED (mm/rev) 9,5 to 12,5	13 to 17,5	18 to 24	25 to 35
Polymer Matrix Composites	Carbon (Hard)	N2	305 - 610	0.10 - 0.15	0.20 - 0.25	0.25 - 0.30	0.30 - 0.36
	Carbon Fiber						
	Carbon/Glass Fiber						
	Fiberglass						
	Graphite						
	Plastics	N2	76 - 305	0.10 - 0.15	0.20 - 0.25	0.25 - 0.30	0.30 - 0.36
	Epoxy Resin						
	Bismaleimide Resin						
	Polyester Resin						
	Phenolic Resin						
	Rubber						
Metal Matrix Composites	Aluminum Si<10%	N2	305	0.20	0.33	0.41	0.51
	10%<Si<15%	N2	259 - 305	0.20	0.33	0.41	0.51
	15%<Si<20%	N2	198 - 259	0.20	0.33	0.41	0.51
	20%<Si<25%	N2	152 - 198	0.20	0.33	0.41	0.51
	25%<Si	N2	61 - 152	0.20	0.33	0.41	0.51
	Brass	N2	76 - 152	0.20	0.33	0.41	0.51
	Bronze						
	Copper	N2	30 - 76	0.10 - 0.15	0.20 - 0.25	0.25 - 0.30	0.30 - 0.36
	Copper Alloys						
	Lead Alloys						
	Magnesium Alloys						
	Precious Metals						
Ceramic Matrix Composites	Carbide (Green)	N2	15 - 76	0.10 - 0.15	0.20 - 0.25	0.25 - 0.30	0.30 - 0.36
	Ceramic (Green)						
	Ceramic (Pre-Sintered)						

Formulas: mm/min = RPM ● mm/rev M/min = RPM ● 0.003 ● DIA RPM = M/min ● 318.47/DIA

SPEED AND FEED MULTIPLIER

For various tool lengths

	Holder Length							
	Stub	Short	Intermediate	Standard	Extended	Long	XL	3XL
SPEED	See above chart				0.09	0.85	0.80	0.75
FEED	See above chart					0.95	0.90	0.90

SPEED AND FEED RECOMMENDATION EXAMPLE: If recommended speed and feed is 200 SFR and 0.008 IPR for a Standard length holder, then the speed and feed using a 3XL holder in the same application would be 150 SFM and 0.007 IPR.

61 M/min ● 0.75 = 45.7 M/min 0.20 mm/rev ● 0.90 = 0.18 mm/rev

** The speeds recommended for Diamond Film coated tools are based on empirical data obtained under “Optimum Conditions.” Many applications do not exhibit “Optimum Conditions.” Reductions in speed parameters may be required due to excessive tool wear generated in the application.

The speeds and feeds listed above are considered a general starting point for all applications. Factory technical assistance is also available for your specific applications through our Application Engineering Team. Please have item number, hole diameter, depth, material grade, BHN hardness and coolant pressure information available when you call. Additional information such as part and machine rigidity, horsepower and thrust limits, vertical or horizontal spindle, revolving or stationary tool, flood or through holder coolant are also very helpful to our Application Engineers.

Coolant Recommendations
T-A® Drill Inserts
Inch

MATERIAL	Material Hardness (BHN)	Coolant Pressure (PSI) / Coolant Volumetric Flow Rate (GPM) — HSS, Super Cobalt and Premium Cobalt Drill Diameters												
		3/8" to 1/2"	33/64" to 11/16"	23/32" to 1"	1" to 1-1/4"	1-1/4" to 2"	2" to 3"	3" to 4"	3/8" to 1/2"	33/64" to 11/16"	23/32" to 1"	1" to 1-3/8"	1-13/32" to 1-7/8"
Free Machining Steel 1118, 1215,12L14, etc.	100-250	175-185	100-120	105-140	80-115	75-100	40-50	65-90	195	140	160	140	155
		2.5-2.6	2.8-3.0	4.4-5.2	7-8	12-14	30-33	38-44	2.6	3.3	5.5	9	18
Low Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85-275	165-170	75-90	75-95	60-80	55-75	30-40	50-65	180	105	105	110	115
		2.4-2.5	2.4-2.6	3.7-4.2	6-7	11-12	26-30	33-38	2.5	2.9	4.4	8	15
Medium Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	125-325	160-165	70-85	70-90	55-75	50-70	30-40	50-65	175	100	90	700	75
		2.3-2.4	2.3-2.6	3.6-4.1	5-6	10-12	26-30	33-38	2.5	2.8	4.1	7	13
Alloy Steel 4140, 5140, 8640, etc.	125-375	160-165	65-75	65-80	50-70	45-60	30-35	40-50	165	85	100	75	70
		2.3-2.4	2.2-2.4	3.5-3.9	5-6	10-11	26-28	30-33	2.4	2.6	4.3	6	12
High Strength Alloy 4340, 4330V, 300M, etc.	225-400	150-155	55-60	45-50	25-30	25-30	20-25	25-30	160	65	55	40	35
		2.3-2.4	2.1-2.2	2.9-3.1	4-5	7-8	21-23	23-26	2.4	2.3	3.2	5	8
Structural Steel A36, A285, A516, etc.	100-350	160-165	75-85	65-80	40-55	40-50	25-30	40-50	175	115	105	75	70
		2.3-2.4	2.4-2.6	3.5-3.9	5-6	9-10	23-26	30-33	2.5	3.0	4.4	6	12
High Temp Alloy Hastelloy B, Inconel 600, etc.	140-310	150-155	60-65	50-55	30-35	25-30	25-30	-	170	105	100	95	75
		2.3-2.4	2.2-2.3	3.1-3.2	4-5	7-8	23-26	-	2.5	2.9	4.3	7	13
Stainless Steel 303, 416, 420, 17-4 PH, etc.	135-275	165-170	70-85	65-75	40-55	40-50	25-30	35-45	215	150	145	135	90
		2.4-2.5	2.3-2.6	3.5-3.7	5-6	9-10	23-26	28-31	2.8	3.4	5.7	9	14
Tool Steel H-13, H-21, A-4, 0-2, S-3, etc.	150-250	150-155	55-60	45-50	25-30	25-30	20-25	25-30	155	60	55	40	35
		2.3-2.4	2.1-2.2	2.9-3.1	4-5	7-8	21-23	23-26	2.4	2.2	3.2	5	8
Aluminum	30-180	190-210	140-180	150-200	115-160	90-125	90-125	40-50	320	275	300	250	330
		2.6-2.7	3.3-3.7	5.3-6.1	8-9	14-16	30-33	36-42	3.4	4.6	7.5	12	26
Cast Iron	120-320	155-160	60-65	50-60	30-40	30-35	35-30	30-35	160	70	65	50	45
		2.3-2.4	2.2-2.3	3.1-3.3	4-5	8-9	23-26	26-28	2.4	2.3	3.5	5	10

COOLANT MULTIPLIER

For various tool lengths

	Holder Length							
	Stub	Short	Intermediate	Standard	Extended	Long	XL	3XL
Flow and Pressure	See above chart				1.3	1.5	2	3

COOLANT RECCOMENDATION EXAMPLE: 150 PSI AND 2.4 GPM for a standard length holder, the recommended flow and pressure would be 450 PSI and 7.2 GPM respectively for the 3XL holder, see below:

150 PSI • 3 = 450 PSI 2.4 GPM • 3 = 7.2 GPM

The coolant pressure and flow rate recommendation above represents a good approximation to obtain optimum tool life and chip evacuation at AMEC recommended speeds and feeds. For a more specific approximation of coolant requirements, consult the AMEC Application Engineering Department.

Although the above pressure and flow recommendations produce attractive tool life and chip evacuation, the T-A® Drilling System will still function quite adequately if lower coolant capabilities exist. Call our Application Engineering Department for specific recommendations.

Coolant Recommendations
T-A® Drill Inserts

Metric

MATERIAL	Material Hardness (BHN)	Coolant Pressure (kPa) / Coolant Volumetric Flow Rate (LPM) — HSS, Super Cobalt and premium Cobalt Drill Diameters											
		9,5- 12,5	13 - 17	18 - 24	25 - 35	36 - 50	51 - 76	76 - 102	9,5- 12,5	13 - 17	18 - 24	25 - 35	36 - 47
Free Machining Steel 1118, 1215,12L14, etc.	100-250	1200-1275 9,5-9,8	690-830 10,6-11,4	725-965 16,7-19,7	550-795 26,5-30,3	520-690 45,4-53,0	275-345 114-125	450-620 144-167	2000-1650 12,2	1650 16,3	1520 25,2	1520 41,5	2000 71,9
Low Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85-275	1140-1175 9,1-9,5	520-620 9,1-9,8	520-655 14,0-1,59	415-550 22,7-26,5	380-520 41,6-4,54	205-275 98-114	345-450 125-144	1750 11,4	1100 13,3	1100 20,6	1180 36,5	900 62,0
Medium Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	125-325	1100-1140 8,7-9,1	450-585 8,7-9,8	480-620 13,6-15,5	380-520 18,9-22,7	345-480 37,9-45,4	205-275 98,114	345-450 125,144	1720 11,3	965 12,5	1040 20,0	1040 33,8	750 57,0
Alloy Steel 4140, 5140, 8640, etc.	125-375	1100-1140 8,7-9,1	450-520 8,3-9,1	450-550 13,2-14,8	345-480 18,9-22,7	310-415 31,9-41,6	205-240 98-106	275-345 114-125	1650 11,1	930 12,3	965 19,3	790 30,0	725 55,8
High Strength Alloy 4340, 4330V, 300M, etc.	225-400	1035-1070 8,7-9,1	380-415 7,9-8,3	310-345 11,0-11,7	170-205 15,1-18,9	170-205 26,5-30,3	140-170 79-87	170-205 87-98	1450 10,4	520 9,1	410 12,6	310 18,8	275 33,6
Structural Steel A36, A285, A516, etc.	100-350	1100-1140 8,7-9,1	520-585 9,1-9,8	450-550 13,2-14,8	275-380 18,9-22,7	275-345 34,1-37,9	170-205 87-98	275-345 114-125	1585 10,8	900 12,0	790 17,5	690 27,8	520 47,1
High Temp Alloy Hastelloy B, Inconel 600, etc.	140-310	1035-1070 8,7-9,1	415-450 8,3-8,7	345-380 11,7-12,1	205-240 15,1-18,9	170-205 26,5-30,3	170-205 87-98	- -	1650 11,1	1140 13,5	1240 21,9	1100 35,4	900 62,0
Stainless Steel 303, 416, 420, 17-4 PH, etc.	135-275	1140-1175 9,1-9,5	480-585 8,7-9,8	450-520 13,2-14,0	275-380 18,9-22,7	275-345 34,1-37,9	170-205 87-98	240-310 106-117	2275 13,0	1650 16,3	1790 26,3	1720 44,2	1310 75,0
Tool Steel H-13, H-21, A-4, 0-2, S-3, etc.	150-250	1035-1070 8,7-9,1	380-415 7,9-8,3	310-345 11,0-11,7	170-205 15,1-18,9	170-205 26,5-30,3	140-170 79-87	170-205 87-98	1450 10,4	520 9,1	480 13,6	345 19,7	310 36,5
Aluminum	30-180	1310-1450 9,8-10,2	965-1240 12,5-14,0	1035-1580 20,1-23,1	795-1100 30,3-34,1	620-860 53,0-60,6	275-345 114-125	415-550 136-159	2410 13,4	2200 18,8	2170 29,0	1965 47,2	1380 77,0
Cast Iron	120-320	1070-1100 8,7-9,1	415-450 8,3-8,7	345-415 11,7-12,5	205-275 15,1-18,9	205-240 30,3-34,1	170-205 87,98	205-240 98,100	1550 10,7	725 10,8	620 15,4	620 26,5	550 48,7

COOLANT MULTIPLIER

For various tool lengths

	Holder Length							
	Stub	Short	Intermediate	Standard	Extended	Long	XL	3XL
Flow and Pressure	See above chart				1.3	1.5	2	3

COOLANT RECOMENDATION EXAMPLE: 150 PSI AND 2.4 GPM for a standard length holder, the recommended flow and pressure would be 1,035 kPa and 9,1 LPM respectively for the 3XL holder, see below:

1,035 kPa l 3 = 3,105 kPa **9.1 LPM l 3 = 27.3 LPM**

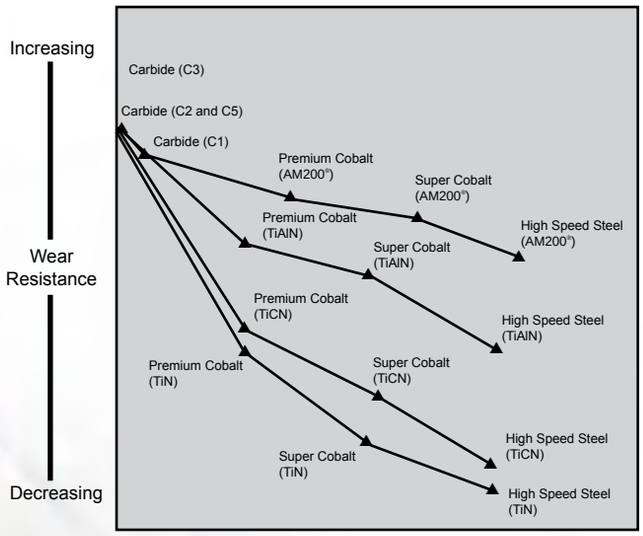
The coolant pressure and flow rate recommendation above represents a good approximation to obtain optimum tool life and chip evacuation at AMEC recommended speeds and feeds. For a more specific approximation of coolant requirements, consult the AMEC Application Engineering Department.

Although the above pressure and flow recommendations produce attractive tool life and chip evacuation, the T-A® Drilling System will still function quite adequately if lower coolant capabilities exist. Call our Application Engineering Department for specific recommendations.

Technical Information
T-A® Drill Inserts
Inch

WEAR versus TOUGHNESS

When selecting a grade of cutting tool material for your application, both wear resistance and grade toughness should be considered. The higher the wear resistance a cutting tool material exhibits, the more likely chipping or fracture is to occur, thus require more RIGID machining conditions. On the other hand, to effectively machine some materials, cobalt or carbide grades of cutting tool material may be required. The graph below will aid you in the selection of a cutting tool material with the right combination of wear resistance and toughness to make your application both efficient and cost effective.



TAP DRILL INFORMATION

AMERICAN - Unified Inch Screw Thread

Tap Size	Tap Drill Size	Decimal Equivolent	*Theo% Thread	Prob Mean Oversize	Prob Hole Size	**Prob% Thread
7/16 - 20	W 25/64	.3860" .3906"	79% 72%	.003" .003"	.3890" .3936"	75% 68%
1/2 - 13	10.5mm 27/64 7/16	.4134" .4219" .4375"	87% 78% 63%	.003" .003" .003"	.4164" .4249" .4405"	84% 75% 60%
1/2 - 20	29/64	.4531"	72%	.003"	.4561"	68%
9/16 - 12	15/32 12.0mm 31/64	.4688" .4724" .4844"	87% 72% 83%	.003" .003" .003"	.4718" .4874" .4754"	84% 69% 80%
9/16 - 18	1/2 13.0mm 31/64	.5000" .5118" .5156"	87% 70% 65%	.003" .003" .003"	.5030" .5148" .5186"	82% 66% 61%
2/8 - 11	17/32	.5313"	79%	.003"	.5343"	77%
5/8 - 12	35/64	.5469"	72%	.003"	.5499"	69%
5/8 - 18	9/16 14.5mm 37/64	.5625" .5709" .5781"	87% 75% 65%	.003" .003" .003"	.5655" .5739" .5811"	82% 71% 61%
11/16 - 12	39/64	.6094"	72%	.003"	.6124"	69%
3/4 - 10	41/64 16.5mm 21/32	.6406" .6496" .6563"	84% 77% 72%	.003" .003" .003"	.6436" .6526" .6593"	82% 75% 70%
3/4 - 12	43/64	.6719"	72%	.003"	.6749"	69%
3/4 - 16	11/16 17.5mm	.6875" .6890"	77% 75%	.003" .003"	.6905" .6920"	73% 71%
7/8 - 9	49/64 25/32	.7656" .7813"	76% 65%	.003" .003"	.7686" .7843"	74% 63%
7/8 - 14	51/64 13/16	.7969" .8125"	84% 67%	.003" .003"	.7999" .8155"	81% 64%
15/16 - 12	55/64	.8594"	72%	.003"	.8624"	69%
15/16 - 20	57/64	.8906"	72%	.003"	.8936"	68%
1 - 8	22.0mm 7/8 57/64	.8661" .8750" .8906"	82% 77% 67%	.003" .003" .003"	.8691" .8780" .8936"	81% 75% 65%
1 - 12	29/32 59/64	.9063" .9219"	87% 72%	.003" .003"	.9093" .9249"	84% 69%
1 - 14	15/16	.9375"	67%	.003"	.9405"	64%
1-1/8 - 12	1-1/32 1-3/64	1.0313" 1.0469"	87% 72%	.003" .003"	1.0343" 1.0499"	84% 69%
1-1/4 - 7	1-7/64	1.1094"	76%	.003"	1.1124"	74%

*Based on nominal tap drill diameter. **Based on .003" probable mean oversize.

To calculate percentage of full thread for a given hole diameter:

$$\% \text{ Thread} = \#\text{ of Threads per Inch} * \left(\frac{\text{Basic Major Diameter of thread (inch)} - \text{Drill Hole Size (inch)}}{.0130} \right)$$

Taper Pipe Thread (NPT)

Tap Size	Tap Drill Size	Decimal Equivolent	*Theo% Thread	Prob Mean Oversize	Prob Hole Size	**Prob% Thread
1/4 - 18	7/16	.4375"	N/A	.003"	.4405"	N/A
3/8 - 18	9/16	.5625"	N/A	.003"	.5655"	N/A
1/2 - 14	45/64	.7031"	N/A	.003"	.7061"	N/A
3/4 - 14	29/32	.9063"	N/A	.003"	.9093"	N/A

The above tap drill information represents probable thread percentages for the standard tap drills stocked at AMEC. Special blade diameters may be required in order to meet a user specific percentage of thread requirements.

The .003" probable mean oversize hole condition is based on optimum cutting conditions. Probable % of full thread may vary based on less ideal cutting conditions.

THRUST & HORSEPOWER

FORMULAS

1. RPM= $\frac{(3.82) \bullet (SFM)}{(DIA)}$

where:

RPM	=revolutions per minute (rev/min)
SFM	=surface feet per minute (ft/min)
DIA	=diameter of drill (in)

2. Thrust = $(133{,}650) \bullet (IPR) \bullet (DIA) \bullet Km$

where:

Thrust	=Axial thrust (lbs)
IPR	=feed rate (in/rev)
DIA	=diameter of drill (in)
Km	=specific cutting energy (lbs/in^2)

3. Tool Power = $(.6283) \bullet (IPR) \bullet (RPM) \bullet (Km) \bullet (DIA^2)$

where:

Tool Power	=tool power (HP)
IPR	=feedrate (in/rev)
RPM	=revolutions per minute (rev/min)
Km	=specific cutting energy (lbs/in^2)
DIA	=diameter of drill (in)

MATERIAL CONSTANTS

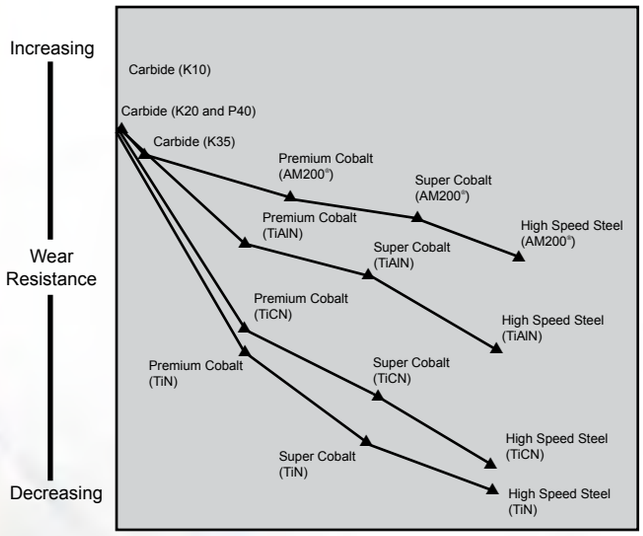
Type of Material	Km (lbs/in^2)
Plain Carbon and Alloy Steel	
85-200 BHN	0.79
200-275 BHN	0.94
275-375 BHN	1.00
375-425 BHN	1.15
High Temperature Alloys	1.44
Stainless Steel	
135-275 BHN	0.94
30-45 RC	1.08
Copper Alloy	
20-80 RB	0.94
80-100 RB	1.08
Titanium Alloy	0.72
Aluminum Alloy	0.16
Magnesium Alloy	0.16
Cast Irion	
100-200 BHN	0.50
200-300 BHN	1.08

Note: The above table and equations are found in the Machinery's Handbook. Permission to simplify and print the equationsis granted by the Editor of the Machinery's Hand-

Technical Information
T-A® Drill Inserts
Metric

WEAR versus TOUGHNESS

When selecting a grade of cutting tool material for your application, both wear resistance and grade toughness should be considered. The higher the wear resistance a cutting tool material exhibits, the more likely chipping or fracture is to occur, thus require more RIGID machining conditions. On the other hand, to effectively machine some materials, cobalt or carbide grades of cutting tool material may be required. The graph below will aid you in the selection of a cutting tool material with the right combination of wear resistance and toughness to make your application both efficient and cost effective.



TAP DRILL INFORMATION

METRIC Profile Screw Thread

Tap Size	Tap Drill Size	Decimal Equivalent	*Theo% Thread	Prob Mean Oversize	Prob Hole Size	**Prob% Thread
12 X 1,75	10,2mm 13/32	.4016" .4063"	79% 74%	0,075mm 0,075mm	10,28mm 10,40mm	76% 71%
12 X 1,25	27/64 10,8mm	.4219" .4252"	79% 74%	0,075mm 0,075mm	10,79mm 10,88mm	74% 69%
14 X 2,0	15/32 12,0mm	.4688" .4724"	81% 77%	0,075mm 0,075mm	11,98mm 12,08mm	78% 74%
14 X 1,5	12,5mm	.4921"	77%	0,075mm	12,58mm	73%
16 X 2,0	14,0mm	.5512"	77%	0,075mm	14,08mm	74%
16 X 1,5	14,5mm 37/64	.5709" .5781"	77% 68%	0,075mm 0,075mm	14,58mm 14,76mm	73% 64%
18 X 2,5	15,5mm	.6102"	77%	0,075mm	15,58mm	75%
18 X 1,5	16,5mm 21/32	.6496" .6563"	77% 68%	0,075mm 0,075mm	16,58mm 16,75mm	73% 64%
20 X 2,5	11/16 17,5mm	.6875" .6890"	78% 77%	0,075mm 0,075mm	17,54mm 17,58mm	76% 74%
20 X 1,5	18,5mm 47/64	.7283" .7344"	77% 69%	0,075mm 0,075mm	18,58mm 18,66mm	73% 65%
22 X 2,5	49/64 19,5mm	.7656" .7677"	79% 77%	0,075mm 0,075mm	19,52mm 19,58mm	76% 75%
22 X 1,5	20,5mm 13/16	.8071" .8125"	77% 70%	0,075mm 0,075mm	20,58mm 20,71mm	73% 66%
24 X 3	13/16 21,0mm	.8125" .8268"	86% 76%	0,075mm 0,075mm	20,71mm 21,08mm	84% 75%
24 X 2	22,0mm 7/8	.8661" .8750"	77% 68%	0,075mm 0,075mm	22,08mm 22,30mm	74% 65%
27 X 3	24,0mm	.9449"	77%	0,075mm	24,08mm	75%

*Based on nominal tap drill diameter.
**Based on 0.075 mm probable mean oversize.

To calculate percentage of full thread for a given hole diameter:

$$\% \text{ Thread} = \frac{76.93}{\text{Pitch (mm)}} * \left(\begin{matrix}\text{Basic Major Diameter} \\ \text{of thread (mm)}\end{matrix} - \begin{matrix}\text{Drill Hole} \\ \text{Size (mm)}\end{matrix} \right)$$

Taper Pipe Thread (BSP & ISO 7-1)

Tap Size	Tap Drill Size	Decimal Equivolent	*Theo% Thread	Prob Mean Oversize	Prob Hole Size	**Prob% Thread
1/4-19	7/16	.4325"	N/A	0,075mm	11,19mm	N/A
3/8-19	37/64	.5781"	N/A	0,075mm	14,76mm	N/A
1/2-14	23/32	.7188"	N/A	0,075mm	18,33mm	N/A
3/4-14	15/16	.9375"	N/A	0,075mm	23,89mm	N/A

The above tap drill information represents probable thread percentages for the standard tap drills stocked at AMEC. Special blade diameters may be required in order to meet a user specific percentage of thread requirements.

The 0,075mm probable mean oversize hole condition is based on optimum cutting conditions. Probable % of full thread may vary based on less ideal cutting conditions.

THRUST & HORSEPOWER

FORMULAS

1. RPM= $\frac{(318.47) \bullet (M/min)}{(DIA)}$

where:
RPM =revolutions per minute (rev/min)
M/min =surface meter per minute (M/min)
DIA =diameter of drill (mm)

2. Thrust (133,9) • (mm/rev) • (DIA) • Km

where:
Thrust =Axial thrust in newtons (N)
mm/rev =feed rate (mm/rev)
DIA =diameter of drill (mm)
Km =specific cutting energy (kPa)

3. Tool Power $= \frac{(mm/rev) \bullet (RPM) \bullet (Km) \bullet (DIA^2)}{240442,4}$

where:
Tool Power =tool power (KW)
mm/rev =feedrate (mm/rev)
RPM =revolutions per minute (rev/min)
Km =specific cutting energy (kPa)
DIA =diameter of drill (mm)

MATERIAL CONSTANTS

Type of Material	Km (KPa)
Plain Carbon and Alloy Steel 85-200 BHN 200-275 BHN 275-375 BHN 375-425 BHN	 5,45 6,48 6,89 7,93
High Temperature Alloys	9,93
Stainless Steel 135-275 BHN 30-45 RC	 6,48 7,45
Copper Alloy 20-80 RB 80-100 RB	 2,96 4,96
Titanium Alloy	4,96
Aluminum Alloy	1,52
Magnesium Alloy	1,10
Cast Irion 100-200 BHN 200-300 BHN	 3,45 7,45

Note: The above table and equations are found in the Machinery's Handbook. Permission to simplify and print the equationsis granted by the Editor of the Machinery's Handbook.