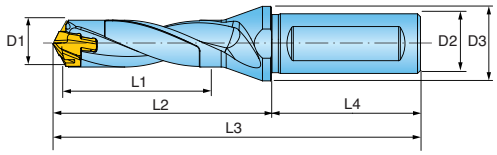
1.5XD WELDON SHANKS

Drilling

Coolant

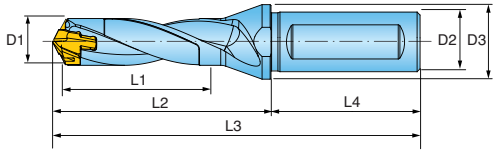


1.5xD	D1 Tip Diameter Range		L1 DOC	D2 Shank Dia.	D3 Fig Dia.	L2 Ext.	L4 Shank Length	L3 OAL	Pocket Size	Key
TD0600009B9R01	0.2362	0.2520	0.35	0.500	0.63	0.91	1.77	2.68	6	KTD6.0-D9.9
TD0650010B9R01	0.2560	0.2716	0.39	0.500	0.63	0.95	1.77	2.72	6.5	KTD6.0-D9.9
TD0700010B9R01	0.2756	0.2913	0.43	0.500	0.63	0.99	1.77	2.760	7	KTD6.0-D9.9
TD0750011B9R01	0.2953	0.3110	0.44	0.500	0.63	1.02	1.77	2.790	7.5	KTD6.0-D9.9
TD0800012B9R01	0.3150	0.3504	0.47	0.500	0.63	1.10	1.77	2.870	8	KTD6.0-D9.9
TD0900013B9R01	0.3543	0.3898	0.55	0.500	0.63	1.15	1.77	2.920	9	KTD6.0-D9.9
TD1000015C0R01	0.3937	0.4291	0.59	0.625	0.79	1.23	1.89	3.120	10	KTD10.0-19.9
TD1100016C0R01	0.4331	0.4685	0.67	0.625	0.79	1.30	1.89	3.190	11	KTD10.0-19.9
TD1200018C0R01	0.4724	0.5079	0.71	0.625	0.79	1.38	1.89	3.270	12	KTD10.0-19.9
TD1300019C0R01	0.5118	0.5472	0.79	0.625	0.79	1.46	1.89	3.350	13	KTD10.0-19.9
TD1400021C0R01	0.5512	0.5866	0.83	0.625	0.79	1.62	1.89	3.510	14	KTD10.0-19.9
TD150002218R01	0.5906	0.6260	0.91	0.750	0.98	1.82	1.97	3.790	15	KTD10.0-19.9
TD160002418R01	0.6299	0.6654	0.94	0.750	0.98	1.94	1.97	3.910	16	KTD10.0-19.9
TD170002518R01	0.6693	0.7047	1.02	0.750	0.98	2.06	1.97	4.030	17	KTD10.0-19.9
TD1800027C8R01	0.7087	0.7441	1.06	1.000	1.26	2.19	2.20	4.390	18	KTD10.0-19.9
TD1900028C8R01	0.7480	0.7835	1.14	1.000	1.26	2.30	2.20	4.500	19	KTD10.0-19.9
TD2000030C8R01	0.7874	0.8228	1.18	1.000	1.26	2.43	2.20	4.630	20	KTD20.0-D26.9
TD2100031C8R01	0.8268	0.8622	1.26	1.000	1.26	2.55	2.20	4.750	21	KTD20.0-D26.9
TD2200033C8R01	0.8661	0.9016	1.30	1.000	1.26	2.67	2.20	4.870	22	KTD20.0-D26.9
TD2300034B7R01	0.9055	0.9409	1.38	1.250	1.65	2.79	2.36	5.150	23	KTD20.0-D26.9
TD2400036B7R01	0.9449	0.9803	1.42	1.250	1.65	2.91	2.36	5.270	24	KTD20.0-D26.9
TD2500037B7R01	0.9843	1.0197	1.50	1.250	1.65	3.03	2.36	5.390	25	KTD20.0-D26.9

3XD WELDON SHANKS

Drilling

Coolant



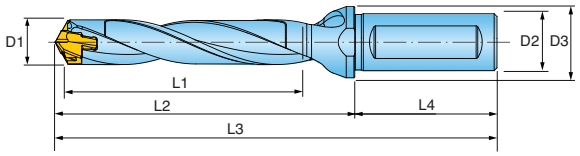
3xD	D1 Tip Diameter Range		L1 DOC	D2 Shank Dia.	D3 Fig Dia.	L2 Ext.	L4 Shank Length	L3 OAL	Pocket Size	Key
TD0600018B9R01	0.2362	0.2520	0.71	0.500	0.63	1.26	1.77	3.03	6	KTD6.0-D9.9
TD0650020B9R01	0.2560	0.2716	0.79	0.500	0.63	1.33	1.77	3.10	6.5	KTD6.0-D9.9
TD0700021B9R01	0.2756	0.2913	0.83	0.500	0.63	1.40	1.77	3.170	7	KTD6.0-D9.9
TD0750022B9R01	0.2953	0.3110	0.89	0.500	0.63	1.46	1.77	3.230	7.5	KTD6.0-D9.9
TD0800024B9R01	0.3150	0.3307	0.94	0.500	0.63	1.55	1.77	3.320	8	KTD6.0-D9.9
TD0850025B9R01	0.3346	0.3504	1.00	0.500	0.63	1.61	1.77	3.380	8.5	KTD6.0-D9.9
TD0900027B9R01	0.3543	0.3701	1.06	0.500	0.63	1.69	1.77	3.460	9	KTD6.0-D9.9
TD0950028B9R01	0.3740	0.3898	1.12	0.500	0.63	1.74	1.77	3.510	9.5	KTD6.0-D9.9
TD1000030C0R01	0.3937	0.4094	1.18	0.625	0.79	1.82	1.89	3.710	10	KTD10.0-19.9
TD1050031C0R01	0.4134	0.4291	1.26	0.625	0.79	1.88	1.89	3.770	10.5	KTD10.0-19.9
TD1100033C0R01	0.4331	0.4488	1.30	0.625	0.79	1.95	1.89	3.840	11	KTD10.0-19.9
TD1150034C0R01	0.4528	0.4685	1.38	0.625	0.79	2.01	1.89	3.900	11.5	KTD10.0-19.9
TD1200036C0R01	0.4724	0.4882	1.42	0.625	0.79	2.09	1.89	3.980	12	KTD10.0-19.9
TD1250037C0R01	0.4921	0.5079	1.46	0.625	0.79	2.15	1.89	4.040	12.5	KTD10.0-19.9
TD1300039C0R01	0.5118	0.5276	1.54	0.625	0.79	2.23	1.89	4.120	13	KTD10.0-19.9
TD1350040C0R01	0.5315	0.5472	1.61	0.625	0.79	2.29	1.89	4.180	13.5	KTD10.0-19.9
TD1400042C0R01	0.5512	0.5669	1.65	0.625	0.79	2.44	1.89	4.330	14	KTD10.0-19.9
TD1450043C0R01	0.5709	0.5866	1.73	0.625	0.79	2.50	1.89	4.390	14.5	KTD10.0-19.9
TD150004518R01	0.5906	0.6260	1.77	0.750	0.98	2.70	1.97	4.670	15	KTD10.0-19.9
TD160004818R01	0.6299	0.6654	1.89	0.750	0.98	2.89	1.97	4.860	16	KTD10.0-19.9
TD170005118R01	0.6693	0.7047	2.01	0.750	0.98	3.07	1.97	5.040	17	KTD10.0-19.9
TD1800054C8R01	0.7087	0.7441	2.13	1.000	1.26	3.25	2.20	5.450	18	KTD10.0-19.9
TD1900057C8R01	0.7480	0.7835	2.24	1.000	1.26	3.43	2.20	5.630	19	KTD10.0-19.9
TD2000060C8R01	0.7874	0.8228	2.36	1.000	1.26	3.61	2.20	5.810	20	KTD20.0-D26.9
TD2100063C8R01	0.8268	0.8622	2.48	1.000	1.26	3.79	2.20	5.990	21	KTD20.0-D26.9
TD2200066C8R01	0.8661	0.9016	2.60	1.000	1.26	3.97	2.20	6.170	22	KTD20.0-D26.9
TD2300069B7R01	0.9055	0.9409	2.72	1.250	1.65	4.15	2.36	6.510	23	KTD20.0-D26.9
TD2400072B7R01	0.9449	0.9803	2.83	1.250	1.65	4.33	2.36	6.690	24	KTD20.0-D26.9
TD2500075B7R01	0.9843	1.0197	2.95	1.250	1.65	4.51	2.36	6.870	25	KTD20.0-D26.9

GOLD TWIST WELDON & ISO9766 SHANKS

5XD WELDON SHANKS

Drilling

Coolant



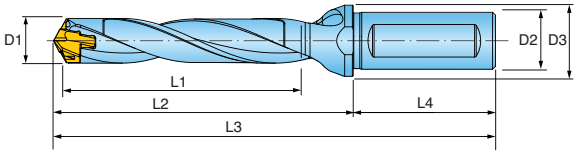
5xD	D1 Tip Diameter Range		L1 DOC	D2 Shank Dia.	D3 Fig Dia.	L2 Ext.	L4 Shank Length	L3 OAL	Pocket Size	Key
TD0600030B9R01	0.2362	0.2520	1.18	0.500	0.63	1.73	1.77	3.50	6	KTD6.0-D9.9
TD0650033B9R01	0.2560	0.2716	1.30	0.500	0.63	1.84	1.77	3.61	6.5	KTD6.0-D9.9
TD0700035B9R01	0.2756	0.2913	1.38	0.500	0.63	1.95	1.77	3.720	7	KTD6.0-D9.9
TD0750037B9R01	0.2953	0.3110	1.48	0.500	0.63	2.05	1.77	3.820	7.5	KTD6.0-D9.9
TD0800040B9R01	0.3150	0.3307	1.57	0.500	0.63	2.18	1.77	3.950	8	KTD6.0-D9.9
TD0850042B9R01	0.3346	0.3504	1.67	0.500	0.63	2.28	1.77	4.050	8.5	KTD6.0-D9.9
TD0900045B9R01	0.3543	0.3701	1.77	0.500	0.63	2.39	1.77	4.160	9	KTD6.0-D9.9
TD0950047B9R01	0.3740	0.3898	1.87	0.500	0.63	2.49	1.77	4.260	9.5	KTD6.0-D9.9
TD1000050C0R01	0.3937	0.4094	1.97	0.625	0.79	2.61	1.89	4.500	10	KTD10.0-19.9
TD1050052C0R01	0.4134	0.4291	2.09	0.625	0.79	2.70	1.89	4.590	10.5	KTD10.0-19.9
TD1100055C0R01	0.4331	0.4488	2.17	0.625	0.79	2.82	1.89	4.710	11	KTD10.0-19.9
TD1150057C0R01	0.4528	0.4685	2.28	0.625	0.79	2.92	1.89	4.810	11.5	KTD10.0-19.9
TD1200060C0R01	0.4724	0.4882	2.36	0.625	0.79	3.03	1.89	4.920	12	KTD10.0-19.9
TD1250062C0R01	0.4921	0.5079	2.44	0.625	0.79	3.13	1.89	5.020	12.5	KTD10.0-19.9
TD1300065C0R01	0.5118	0.5276	2.56	0.625	0.79	3.25	1.89	5.140	13	KTD10.0-19.9
TD1350067C0R01	0.5315	0.5472	2.68	0.625	0.79	3.35	1.89	5.240	13.5	KTD10.0-19.9
TD1400070C0R01	0.5512	0.5669	2.76	0.625	0.79	3.55	1.89	5.440	14	KTD10.0-19.9
TD1450072C0R01	0.5709	0.5866	2.87	0.625	0.79	3.65	1.89	5.540	14.5	KTD10.0-19.9
TD150007518R01	0.5906	0.6260	2.95	0.750	0.98	3.89	1.97	5.860	15	KTD10.0-19.9
TD160008018R01	0.6299	0.6654	3.15	0.750	0.98	4.15	1.97	6.120	16	KTD10.0-19.9
TD170008518R01	0.6693	0.7047	3.35	0.750	0.98	4.41	1.97	6.380	17	KTD10.0-19.9
TD1800090C8R01	0.7087	0.7441	3.54	1.000	1.26	4.67	2.20	6.870	18	KTD10.0-19.9
TD1900095C8R01	0.7480	0.7835	3.74	1.000	1.26	4.92	2.20	7.120	19	KTD10.0-19.9
TD2000100C8R01	0.7874	0.8228	3.94	1.000	1.26	5.18	2.20	7.380	20	KTD20.0-D26.9
TD2100105C8R01	0.8268	0.8622	4.13	1.000	1.26	5.44	2.20	7.640	21	KTD20.0-D26.9
TD2200110C8R01	0.8661	0.9016	4.33	1.000	1.26	5.70	2.20	7.900	22	KTD20.0-D26.9
TD2300115B7R01	0.9055	0.9409	4.53	1.250	1.65	5.96	2.36	8.320	23	KTD20.0-D26.9
TD2400120B7R01	0.9449	0.9803	4.72	1.250	1.65	6.22	2.36	8.580	24	KTD20.0-D26.9
TD2500125B7R01	0.9843	1.0197	4.92	1.250	1.65	6.48	2.36	8.840	25	KTD20.0-D26.9

8XD WELDON SHANKS

Drilling

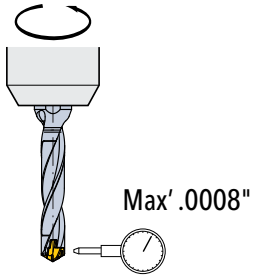
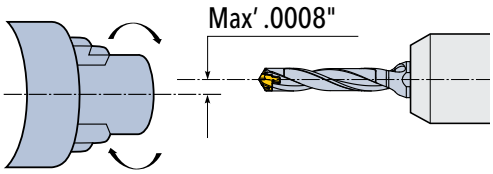
Coolant

NOTE: We strongly recommend the use of a 1.5:1 or 3:1 Gold•Twist drill of the same diameter to drill a centering starter hole. The use of a centering starter hole improves hole location, accuracy, roundness, straightness and surface finish.

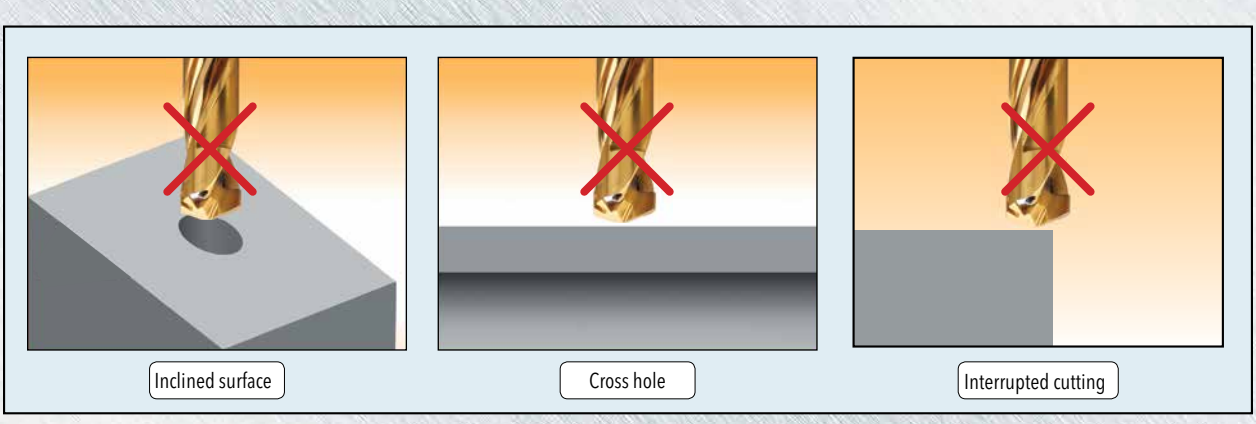


8xD	D1 Tip Diameter Range		L1 DOC	D2 Shank Dia.	D3 Fig Dia.	L2 Ext.	L4 Shank Length	L3 OAL	Pocket Size	Key
TD0700056B9R01	0.2756	0.2913	0.43	0.500	0.63	0.99	1.77	2.760	7	KTD6.0-D9.9
TD0750060B9R01	0.2953	0.3110	2.28	0.500	0.63	2.94	1.77	4.710	7.5	KTD6.0-D9.9
TD0800064B9R01	0.3150	0.3307	2.52	0.500	0.63	3.13	1.77	4.900	8	KTD6.0-D9.9
TD0850068B9R01	0.3346	0.3504	2.68	0.500	0.63	3.32	1.77	5.090	8.5	KTD6.0-D9.9
TD0900072B9R01	0.3543	0.3701	2.83	0.500	0.63	3.46	1.77	5.230	9	KTD6.0-D9.9
TD0950076B9R01	0.3740	0.3898	2.99	0.500	0.63	3.65	1.77	5.420	9.5	KTD6.0-D9.9
TD1000080C0R01	0.3937	0.4094	3.15	0.625	0.79	3.79	1.89	5.680	10	KTD10.0-19.9
TD1050084C0R01	0.4134	0.4291	3.31	0.625	0.79	3.94	1.89	5.830	10.5	KTD10.0-19.9
TD1100088C0R01	0.4331	0.4488	3.46	0.625	0.79	4.12	1.89	6.010	11	KTD10.0-19.9
TD1150092C0R01	0.4528	0.4685	3.62	0.625	0.79	4.28	1.89	6.170	11.5	KTD10.0-19.9
TD1200096C0R01	0.4724	0.4882	3.78	0.625	0.79	4.45	1.89	6.340	12	KTD10.0-19.9
TD1250100C0R01	0.4921	0.5079	3.94	0.625	0.79	4.61	1.89	6.500	12.5	KTD10.0-19.9
TD1300104C0R01	0.5118	0.5276	4.09	0.625	0.79	4.79	1.89	6.680	13	KTD10.0-19.9
TD1350108C0R01	0.5315	0.5472	4.25	0.625	0.79	4.94	1.89	6.830	13.5	KTD10.0-19.9
TD1400112C0R01	0.5512	0.5669	4.41	0.625	0.79	5.20	1.89	7.090	14	KTD10.0-19.9
TD1450116C0R01	0.5709	0.5866	4.57	0.625	0.79	5.36	1.89	7.250	14.5	KTD10.0-19.9
TD150012018R01	0.5906	0.6260	4.72	0.750	0.98	5.66	1.97	7.630	15	KTD10.0-19.9
TD160012818R01	0.6299	0.6654	5.04	0.750	0.98	6.04	1.97	8.010	16	KTD10.0-19.9
TD170013618R01	0.6693	0.7047	5.35	0.750	0.98	6.41	1.97	8.380	17	KTD10.0-19.9
TD1800144C8R01	0.7087	0.7441	5.67	1.000	1.26	6.79	2.20	8.990	18	KTD10.0-19.9
TD1900152C8R01	0.7480	0.7835	5.98	1.000	1.26	7.17	2.20	9.370	19	KTD10.0-19.9
TD2000160C8R01	0.7874	0.8228	6.30	1.000	1.26	7.54	2.20	9.740	20	KTD20.0-D26.9
TD2100168C8R01	0.8268	0.8622	6.61	1.000	1.26	7.92	2.20	10.120	21	KTD20.0-D26.9
TD2200176C8R01	0.8661	0.9016	6.93	1.000	1.26	8.30	2.20	10.500	22	KTD20.0-D26.9
TD2300184B7R01	0.9055	0.9409	7.24	1.250	1.65	8.68	2.36	11.040	23	KTD20.0-D26.9
TD2400192B7R01	0.9449	0.9803	7.56	1.250	1.65	9.06	2.36	11.420	24	KTD20.0-D26.9
TD2500200B7R01	0.9843	1.0197	7.87	1.250	1.65	9.43	2.36	11.790	25	KTD20.0-D26.9

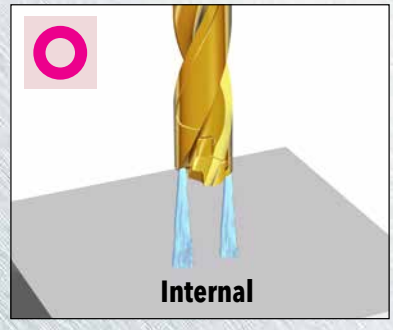
GOLD TWIST MAXIMUM RUNOUT

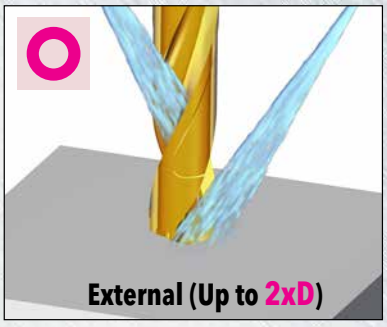
Rotational runout	Stationary runout
	

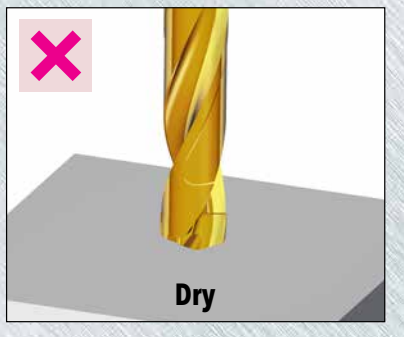
GOLD TWIST DRILLING LIMITATION



GOLD TWIST COOLANT RECOMMENDATIONS

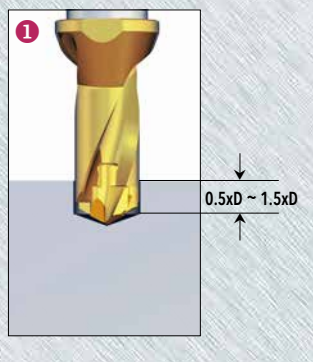




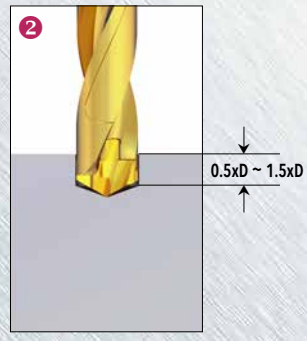


GOLD TWIST RECOMMENDED PILOTING PROCEDURE FOR 8XD OR 12XD

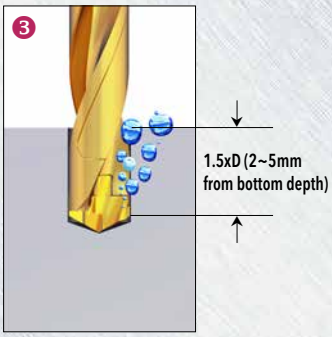
1. Pre-hole 0.5xD~1.5xD deep for centering



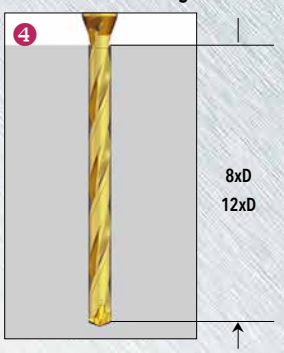
2. Slow rotation and feed during entrance to the pre-hole



3. Maintain for 2-3 seconds and activate the cooling system



4. Continue drilling at recommended cutting conditions



1. Prior to using 8xD or 12xD drills, it is recommended to drill pilot holes from 0.5xD~1.5xD using a short drill (GOLD TWIST 1.5xD holder is recommended).
2. Approach the pre-hole at reduced speed and feed until 2~5mm from it's bottom depth.
3. Increase up to recommended speed and maintain feed rate for 2~3 seconds applying coolant.
4. Start drilling at the recommended feed rate.

GOLD TWIST COOLANT PLUG FOR STATIONARY MACHINES

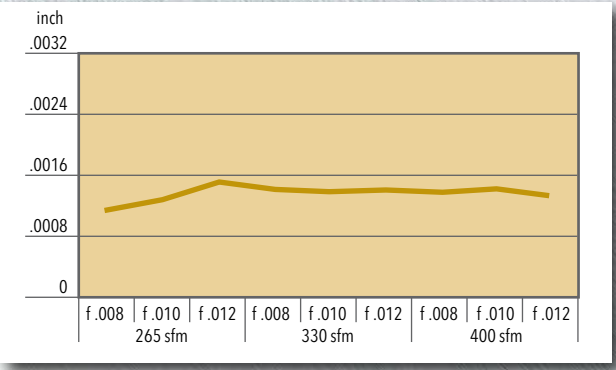
Ingersoll supplies special plugs with an internal thread for coolant connections used on lathes that can be pressed into the cavity on the back end of the shank. Order separately. For use in 1.5xD, 3xD, 5xD, 8xD & 12xD GoldTwist bodies.

Item no.	Description	Shank diameter	Internal thread
7005198	DL-12	.500"	1/16-27
7005199	DL-16	.625"	1/16-27
7005200	DL-20	.750"	1/8-27
7005201	DL-25	1.000"	1/8-27
7005607	DL-32	1.250"	1/8-27

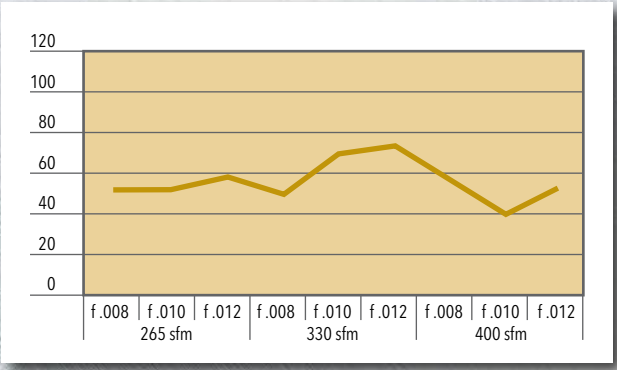
TEST RESULT 1

- Machine: Machining Center (Vertical/BT50)
- Material: Alloy Steel (AISI 4140)
- Drill head: TPA 1300R01 IN2505 (Diameter 13mm)
- Holder: TD 1300065C0R01 (5xD)
- Condition: Internal coolant (145 PSI), Through hole

Drilled Hole Size

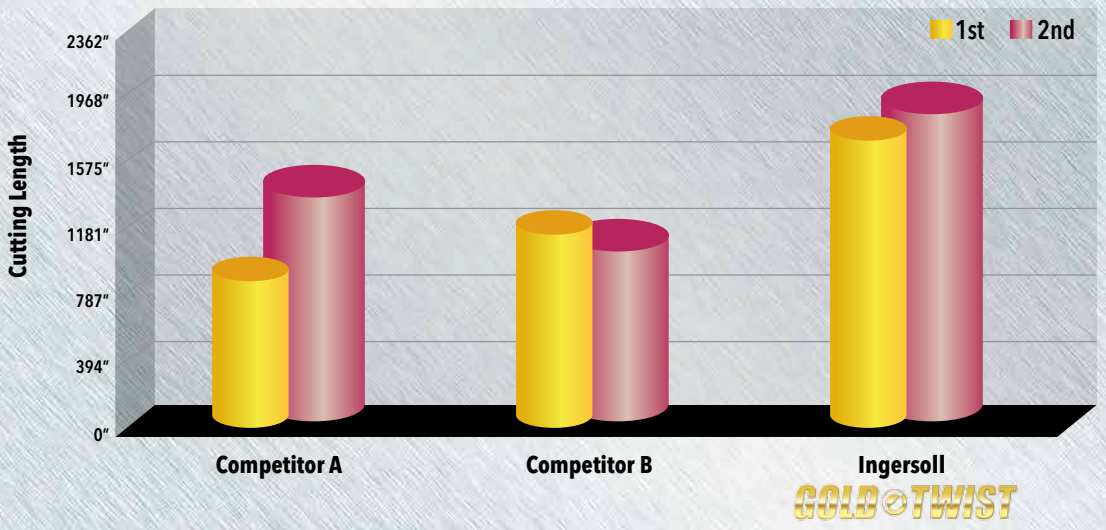


Surface finish (Ra)



TEST RESULT 2

- Machine: Machining Center (Vertical/BT50)
- Material: Alloy Steel (AISI 4140)
- Drill head: TPA 1300R01 IN2505 (Diameter 13mm)
- Holder: TD 1300065C0R01 (5xD)
- Condition: Internal coolant (145 PSI), Through hole
  - Speed(Vc) 330 SFM, Feed(f) .010 in/rev, Depth(Ap) 2.37"



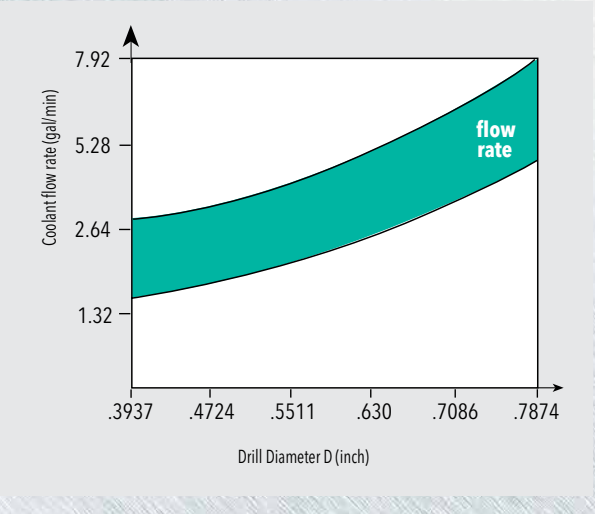
GOLD TWIST OPERATING GUIDELINES

ISO	Material	Condition	Tensile Strength Rm (N/mm²)	Hardness (HB)	Matl No.	Cutting Speed Vc (SFM)	Feed vs Drill Diameter					
							D= 6-9.9mm (.275-.390")	D= 10-11.9mm (.394-.469")	D= 12-13.9mm (.472-.547")	D= 14-15.9mm (.551-.626")	D= 16-19.9mm (.630-.783")	D= 20-25.9mm (.787-1.019")
							IPR (inches/rev)					
P	Non-alloy steel <0.25% C & cast steel, > = 0.25% C free cutting steel <0.55% C > = 0.55% C	Annealed	420	125	1	260-360-460	.004 .007 .009	.006 .008 .011	.007 .009 .012	.008 .011 .014	.010 .014 .018	.010 .014 .018
		Annealed	650	190	2	260-345-430						
		Quenched & Tempered	850	250	3	260-330-400						
		Annealed	750	220	4	230-295-360						
		Quenched & Tempered	1000	300	5	165-230-300						
	Low alloy steel & cast steek (less than 5% alloying elements)	Annealed	600	200	6	230-315-400	.004 .007 .010	.006 .008 .011	.006 .009 .013	.007 .010 .014	.009 .012 .016	.010 .014 .018
		Quenched & Tempered	930	275	7	230-295-360						
			1000	300	8	165-230-300						
			1200	350	9	135-180-230						
	High alloy steel, cast steel, & tool steel	Annealed	680	200	10	165-230-300	.004 .006 .008	.005 .006 .007	.006 .008 .010	.007 .009 .011	.008 .010 .012	.009 .011 .013
		Quenched & Tempered	1100	325	11	130-200-265						
M	Stainless steel & cast stainless steel	Ferritic/martensitic	680	200	12	130-180-230	.003 .005 .006	.005 .006 .007	.006 .007 .008	.006 .008 .009	.006 .008 .010	.007 .009 .012
		Martensitic	820	240	13	130-180-230						
		Austenitic	600	180	14	100-165-230						
K	GreyCast Iron (GG)	Ferritic		160	15	300-410-525	.005 .009 .012	.008 .011 .014	.010 .013 .016	.012 .015 .018	.014 .018 .022	.014 .018 .024
		Pearlitic		250	16	265-360-460						
	Cast Iron Nodular (GGG)	Ferritic		180	17	300-450-600						
		Pearlitic		260	18	265-360-460						
	Malleable Cast Iron	Ferritic		130	19	300-410-525						
		Pearlitic		230	20	265-360-460						
N	Aluminum - wrought alloy	Not cureable		60	21	300-510-725	.007 .011 .014	.010 .013 .016	.012 .015 .018	.014 .017 .020	.016 .020 .024	.018 .022 .028
		Cured		100	22	300-510-725						
	Aluminum - cast, alloyed <=12% Si / >12% Si	Not cureable		75	23	300-510-725						
		Cured		90	24	300-510-725						
		High temperature		130	25	265-400-525						
	Copper alloys > 1% Pb	Free cutting		110	26	300-510-725						
		Brass		90	27	300-510-725						
		Electrolitic copper		100	28	300-510-725						
	Non-metallic	Duro & fiber plastics			29	-	- -	- -	- -	- -	- -	
		Hard rubber			30	-						
S	High temp alloys Fe based / Ni or Co based	Annealed		200	31	100-150-200	.001 .003 .004	.003 .004 .005	.004 .005 .006	.005 .006 .007	.005 .006 .008	.006 .007 .009
		Cured		280	32	70-115-165						
		Annealed		250	33	70-115-165						
		Cured		350	34	70-115-165						
		Cast		320	35	70-115-165						
	Titanium, Ti alloys		Rm 400		36	70-115-165	.001 .004 .005	.003 .004 .006	.004 .006 .007	.005 .007 .008	.006 .007 .009	.006 .008 .010
		Alpha+beta alloys cured	Rm 1050		37	70-115-165						
H	Hardened steel	Hardened		55 HRC	38	70-115-165	.001 .004 .005	.003 .004 .006	.004 .006 .007	.005 .007 .008	.006 .007 .009	.006 .008 .010
		Hardened		60 HRC	39	70-115-165						
	Chilled cast iron	Cast		400	40	-	-	-	-	-	-	
	Cast iron nodular	Hardened		55 HRC	41	-	-	-	-	-	-	

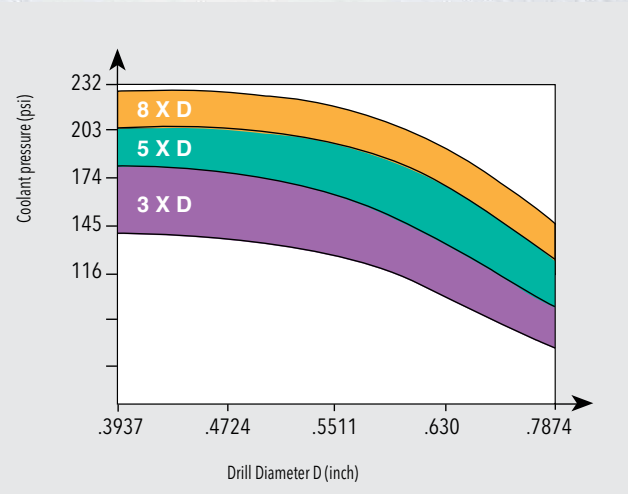
* Feed Rates are based on Two Effective - DO NOT DOUBLE.

GOLD TWIST RECOMMENDATIONS

RECOMMENDED COOLANT FLOW RATE (GALLON/MIN)



RECOMMENDED COOLANT PRESSURE (PSI)



GOLD TWIST PACKING

Clamping key for GOLD TWIST Tip is enclosed in each holder.

Body

Drill Tip

Availability
In stock

Price
Available in the GAL system