



## SHEAR CLEAR - GENIUS

Diameters  
1.00" - 6.00"

Depth of Cut  
.31

Insert Style  
LSE324R045-S (neg/pos)

Insert Grades  
IN4030, IN4040

Materials  
Steel  
Iron



### Features & Benefits:

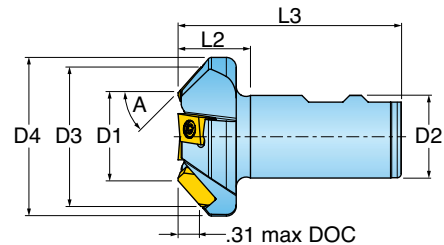
- Heavy Duty 45 degree lead Facemill series is ideally suited for massive chip-loads in forged steels, cast steels and irons
- Ingersoll's "Shear-Clear" combines an extremely strong insert with high axial shear, "a unique combination of insert strength and shear."
- High insert-to-pocket preload provides stable chip formation in the most demanding applications.
- Integral and ground wiping flats deliver exceptional surface finishes

**NEW  
PRODUCT  
ANNOUNCEMENT  
•2014•**

## BLACKOMAX™ SERIES 19N1A



### 45 DEGREE END MILL WITH 4 INDEXES

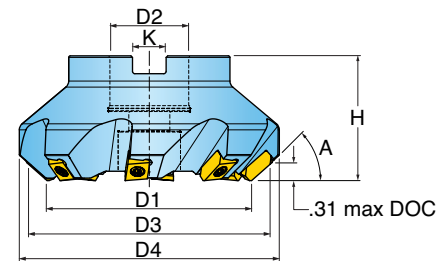


Cutter Number	D1 Effective Diameter	D3 Maximum Diameter	D4 Body O.D.	A Angle	L2 Extension Length	L3 Overall Length	D2 Shank Size/Style	Number of Inserts
19N1A-1001180R01	1.000	1.560	1.84	47.8	1.13	3.38	1.000" W	4
19N1A-1501181R01	1.500	2.120	2.40	45.1	1.13	3.38	1.250" W	4
19N1A-2001181R01	2.000	2.640	2.90	44.1	1.13	3.38	1.250" W	6

## BLACKOMAX™ SERIES 9N6A



### 45 DEGREE FACE MILL WITH 4 INDEXES

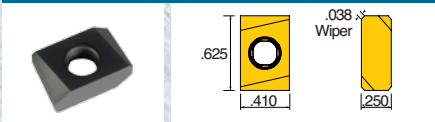


Cutter Number	D1 Effective Diameter	D3 Maximum Diameter	D4 Body O.D.	A Angle	H Height	D2 Bore Diameter	K Keyway	Retention Bolt	Number of Inserts
9N6A-02R01	2.000	2.64	2.90	44.1	1.750	0.750	0.312	SD06-46	4
9N6A-02R02	2.000	2.64	2.90	44.1	1.750	1.000	0.375	SD08-46	6
9N6A-03R01	3.000	3.66	3.95	43.3	1.750	1.000	0.375	SD08-46	6
9N6A-04R01	4.000	4.67	4.95	42.9	2.375	1.500	0.625	SD12-82	8
9N6A-06R01	6.000	6.68	7.00	42.5	2.375	1.500	0.625	SD12-01	8

# BLACKOMAX™

## BLACKOMAX™ INSERTS

LSE324R045-S



Insert Number	Wiper Flat	Application	Grade	IN4030	IN4040
LSE324R045-S	0.038	Heavy Duty		X	X

## BLACKOMAX™ HARDWARE

Screw	Driver Handle	Insert Driver Blade
SM40-100-R0	DS-A00T	DS-T156B

## BLACKOMAX™ OPERATING GUIDELINES

Material	Brinnell Hardness	SFM	Feed per Insert	IN4030	IN4040	Coolant
Cast Iron	Gray	150 - 250	600 - 1200	2	1	No
	Nodular		500 - 900			
Steel	Low Carbon 1018, 8620	150 - 250	600 - 900	2	1	No
	High Carbon F-6180, Nitalloy 52100	250 - 400	350 - 500			
	Alloyed Steel 4140, 4340, 6150	150 - 300	300 - 700			
	Tool Steel A-6, D-1, D-2, P-20	Up to 300				
	Hardened	500 & up	150 - 250			

# SHEAR CLEAR!