



MG

DIA
Coating

30

SD
0-0.005

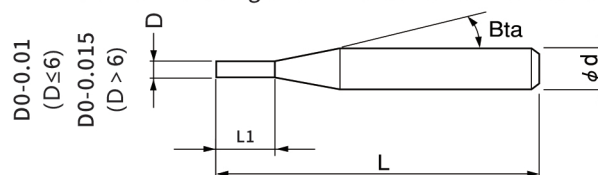
Highly recommend ★ ○ ○
/Recommend/Suggest

DIE STEEL	Grade
Carbon steels (S45C/S55C)	
Alloy steels (SK/SCM/SUS)	
Prehardened steels (NAK/HPM)	
Hardened steels (~55/~60/~70HRC)	
SPECIAL MATERIAL	
Aluminum alloys	
Graphite	★
Copper	
Plastics	
Carbon fiber	
Titanium alloys	
Heat resistant alloys	
Cemented carbide	
Hard brittle (non-metallic) material	

Specialty

*4 Flute square end mills for milling graphite;

*New diamond coating offers excellent wear resistance.



The shank taper angle shown is not an exact value and to avoid contact with the workpiece, we recommend the user controls the precise value of this angle. Shank taper angle should not make contact with the workpiece.

4 Flutes

Square

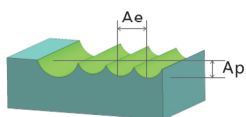
Total 20 models

Unit (mm)

Model Number	D Outside Diameter	L1 Length of Cut	L2 Effective Length	Bta Shank Taper Angle	L Overall Length	T Number of Flutes	d Shank Diameter	In Stock
GRAS4-0100300	1	3	-	15°	50	4	4	○
GRAS4-0150450	1.5	4.5	-	15°	50	4	4	○
GRAS4-0200600	2	6	-	15°	50	4	4	○
GRAS4-0300900-3	3	9	-	15°	60	4	3	○
GRAS4-0300900	3	9	-	15°	50	4	4	○
GRAS4-0301200	3	12	-	15°	75	4	4	○
GRAS4-0401200	4	12	-	15°	60	4	4	○
GRAS4-0401600	4	16	-	15°	75	4	4	○
GRAS4-0602000	6	20	-	-	60	4	6	○
GRAS4-0602500	6	25	-	-	75	4	6	○
GRAS4-0603000	6	30	-	-	100	4	6	○
GRAS4-0802500	8	25	-	-	75	4	8	○
GRAS4-0803000	8	30	-	-	100	4	8	○
GRAS4-0803500	8	35	-	-	150	4	8	○
GRAS4-1003000	10	30	-	-	75	4	10	○
GRAS4-1003000-100	10	30	-	-	100	4	10	○
GRAS4-1004000-150	10	40	-	-	150	4	10	○
GRAS4-1204000-100	12	40	-	-	100	4	12	○
GRAS4-1205000-150	12	50	-	-	150	4	12	○
GRAS4-1205000-180	12	50	-	-	180	4	12	○

*New size added from this series.

*Stocked items.



Work Material		Graphite					
(mm) Diameter	(mm) Overhang	(min-1) Speed	(mm/min) Feed	Side Milling		Slotting	
				Ap(mm)	Ae(mm)	Ap(mm)	Ae(mm)
D1	4D	24000	1200	1D	0.05D	0.3D	--
D1	15D	24000	1200	0.5D	0.05D	0.2D	--
D1	25D	20000	1200	0.5D	0.05D	0.2D	--
D1.5	4D	22000	1500	1D	0.05D	0.3D	--
D1.5	10D	22000	1500	0.5D	0.05D	0.2D	--
D1.5	15D	18000	1500	0.5D	0.05D	0.2D	--
D2	4D	20000	1800	1D	0.05D	0.3D	--
D2	10D	20000	1800	0.5D	0.05D	0.2D	--
D2	15D	16000	1200	0.3D	0.05D	0.2D	--
D3	4D	20000	3000	1D	0.05D	0.3D	--
D3	10D	20000	2400	0.5D	0.05D	0.2D	--
D3	15D	18000	2000	0.3D	0.05D	0.2D	--
D4	4D	18000	2200	1.5D	0.05D	0.3D	--
D4	8D	15000	2000	0.7D	0.05D	0.2D	--
D4	12D	12000	1600	0.4D	0.05D	0.2D	--
D6	4D	13000	3000	2D	0.05D	0.3D	--
D6	8D	13000	3000	1D	0.05D	0.2D	--
D6	12D	8000	2000	0.6D	0.03D	0.2D	--
D8	4D	10000	3000	2D	0.05D	0.5D	--
D8	8D	10000	3000	1D	0.05D	0.3D	--
D8	12D	6000	2000	0.6D	0.03D	0.2D	--
D10	4D	8500	1600	2D	0.05D	0.5D	--
D10	8D	8500	1600	1D	0.05D	0.3D	--
D10	12D	6000	1200	0.6D	0.03D	0.2D	--
D12	4D	7500	1600	2D	0.05D	0.5D	--
D12	8D	7000	1600	1D	0.05D	0.3D	--
D12	12D	6000	1200	0.6D	0.03D	0.2D	--

Notes:

*Use a milling machine dedicated for graphite;

*Recommend air blow for graphite.