XCUT TECHNOLOGIES

Innovative Solutions
Indian Values

Delta Hard-Premium (DH-P)

Exclusive launch to machine material in range 55-68 HRC

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Cutting Parameter - Ballnose Standard

PROFILE MILLING	α ≤ 15°								
MATERIAL	MATERIAL GROUPS	D1 (MM)	Z	VC (M/MIN)	FZ (MM)	AP (MM)	AE (MM)	N (MIN-1)	VF (MM/MIN)
"HARDENED STEEL (55~62 HRC) AISI H13,AISI H13, AISI D2 SKH, SKS ETC"	M28	0.3	2	38.00	0.000 ~ 0.002	≤0.05D(MAX0.5)	≤0.1D	40000	20 ~ 160
		0.4	2	50.00	0.000 ~ 0.002	≤0.05D(MAX0.5)	≤0.1D	40000	21 ~ 160
		0.8	2	101.00	0.002 ~ 0.004	≤0.05D(MAX0.5)	≤0.1D	40000	160 ~ 320
		0.8	2	101.00	0.002 ~ 0.004	≤0.05D(MAX0.5)	≤0.1D	40000	161 ~ 320
		1.0	2	126.00	0.003 ~ 0.005	≤0.05D(MAX0.5)	≤0.1D	40000	240 ~ 400
		1.5	2	187 ~ 188	0.005 ~ 0.007	≤0.05D(MAX0.5)	≤0.1D	39790 ~ 40000	400 ~ 560
		2.0	2	187 ~ 251	0.008 ~ 0.010	≤0.05D(MAX0.5)	≤0.2D	29790 ~ 40000	480 ~ 800
		2.5	2	187 ~ 281	0.010 ~ 0.012	≤0.05D(MAX0.5)	≤0.2D	23840 ~35750	480 ~ 860
		3	2	187 ~ 281	0.012 ~ 0.015	≤0.05D(MAX0.5)	≤0.2D	19860 ~ 29790	480 ~ 890
		4	2	187 ~ 281	0.017 ~ 0.019	≤0.05D(MAX0.5)	≤0.2D	14900 ~ 22350	510 ~ 850
		5	2	187 ~ 281	0.021 ~ 0.024	≤0.05D(MAX0.5)	≤0.2D	11920 ~ 17880	500 ~ 860
		6	2	187 ~ 281	0.026 ~ 0.029	≤0.05D(MAX0.5)	≤0.2D	9930 ~ 14900	520 ~ 860
		8	2	187 ~ 281	0.033 ~ 0.036	≤0.05D(MAX0.5)	≤0.2D	7450 ~ 11170	490 ~ 800
		10	2	187 ~ 281	0.039 ~ 0.043	≤0.05D(MAX0.5)	≤0.2D	5960 ~ 8940	460 ~ 770
		12	2	187 ~ 281	0.045 ~ 0.050	≤0.05D(MAX0.5)	≤0.2D	4970 ~ 7450	450 ~ 750
		14	2	187 ~ 281	0.052 ~ 0.057	≤0.05D(MAX0.5)	≤0.2D	4260 ~ 6380	440 ~ 730
		16	2	187 ~ 281	0.058 ~ 0.064	≤0.05D(MAX0.5)	≤0.2D	3720 ~ 5590	430 ~ 720
		18	2	187 ~ 281	0.065 ~ 0.071	≤0.05D(MAX0.5)	≤0.2D	3310 ~ 4970	430 ~ 710
		20	2	187 ~ 281	0.071 ~ 0.078	≤0.05D(MAX0.5)	≤0.2D	2980 ~ 4470	420 ~ 700

Cutting Parameter - Square Endmill Standard

SIDE MILLING		SQUARE ENDMILL							
MATERIAL	MATERIAL GROUPS	D1 (MM)	Z	VC (M/MIN)	FZ (MM)	AP (MM)	AE (MM)	N (MIN-1)	VF (MM/MIN)
HARDEDNED STEEL (52~63H RC) AISI D2	M27,28	1	4	40 ~ 60	0.004 ~ 0.006	≤1.0 D	≤ 0.3 D	12730 ~ 19100	200 ~ 460
		1.5	4	40 ~ 60	0.006 ~ 0.009	≤1.0 D	≤ 0.3 D	8490 ~ 12730	200 ~ 460
		2	4	40 ~ 60	0.009 ~ 0.012	≤1.0 D	≤ 0.3 D	6370 ~ 9550	230 ~ 460
		2.5	4	40 ~ 60	0.012 ~ 0.015	≤1.0 D	≤ 0.3 D	5090 ~ 7640	240 ~ 460
		3	4	40 ~ 60	0.015 ~ 0.018	≤1.0 D	≤ 0.5 D (MAX0.5)	4240 ~ 6370	250 ~ 460
		4	4	40 ~ 60	0.021 ~ 0.024	≤1.0 D	≤ 0.5 D (MAX0.5)	3180 ~ 4770	270 ~ 460
		5	4	40 ~ 60	0.027 ~ 0.030	≤1.0 D	≤ 0.5 D (MAX0.5)	2550 ~ 3820	280 ~ 460
		6	4	40 ~ 60	0.032 ~ 0.036	≤1.0 D	≤ 0.5 D (MAX0.5)	2120 ~ 3180	270 ~ 460
		8	4	40 ~ 60	0.040 ~ 0.044	≤1.0 D	≤ 0.5 D (MAX0.5)	1590 ~ 2390	250 ~ 420
		10	4	40 ~ 60	0.048 ~ 0.053	≤1.0 D	≤ 0.5 D (MAX0.5)	1270 ~ 1910	240 ~ 400
		12	4	40 ~ 60	0.056 ~ 0.062	≤1.0 D	≤ 0.5 D (MAX0.5)	1060 ~ 1590	240 ~ 390
		14	4	40 ~ 60	0.064 ~ 0.071	≤1.0 D	≤ 0.5 D (MAX0.5)	910 ~ 1360	230 ~ 390
		16	4	40 ~ 60	0.072 ~ 0.079	≤1.0 D	≤ 0.5 D (MAX0.5)	800 ~ 1190	230 ~ 380
		18	4	40 ~ 60	0.080 ~ 0.088	≤1.0 D	≤ 0.5 D (MAX0.5)	710 ~ 1060	230 ~ 370
		20	4	40 ~ 60	0.088 ~ 0.097	≤1.0 D	≤ 0.5 D (MAX0.5)	640 ~ 950	230~ 370
		22	4	40 ~ 60	0.096 ~ 0.106	≤1.0 D	≤ 0.5 D (MAX0.5)	580 ~ 870	220 ~ 370
		25	4	40 ~ 60	0.108 ~ 0.119	≤1.0 D	≤ 0.5 D (MAX0.5)	510 ~ 760	220 ~ 360

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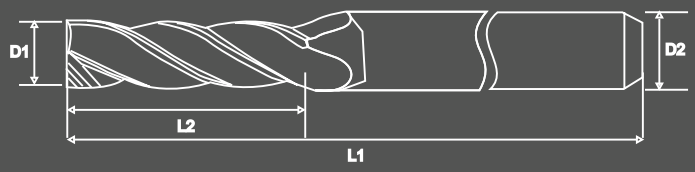
4 Flute Standard Endmils



ITEM DESCRIPTION	D1(DIA)	D2 (SHANK)	L2 (WL)	L1 (OAL)	AVAILABLITY
EM1N4D4DH-P	1	4	3	50	○
EM1N4F6DH-P	1	4	6	50	○
EM1.5N4D4DH-P	1.5	4	4	50	○
EM2.5N4D4DH-P	2.5	4	8	50	○
EM3N4DH-P	3	3	9	50	●
EM3N4D4DH-P	3	4	8	50	●
EM4N4DH-P	4	4	10	50	●
EM5N4DH-P	5	3	13	50	○
EM5N4D6DH-P	5	6	13	50	○
EM6N4DH-P	6	6	15	30	●
EM8N4DH-P	8	8	20	60	●
EM10N4DH-P	10	10	24	75	●
EM12N4DH-P	12	12	24	75	●
EM16N4DH-P	16	16	40	100	○

TIA/CRN
MG
0.2 µm
Co 12%
HRC ▸68
4 flute

● STOCKABLE ○ NON STOCKABLE

4 Flute Square Long & Extra Long Endmills

ITEM DESCRIPTION	D1(DIA)	D2 (SHANK)	L2 (WL)	L1 (OAL)	AVAILABLITY
EM3L4D4DH-P	3	4	16	75	○
EM4L4DH-P	4	4	16	75	●
EM5L4D6DH-P	5	6	25	75	○
EM6L4DH-P	6	6	24	75	○
EM6LR4DH-P	6	6	24	100	●
EM6XL4DH-P	6	6	50	150	●
EM8L4DH-P	8	8	25	75	○
EM8LR4DH-P	8	8	32	100	●
EM8XL4DH-P	8	8	60	150	●
EM10LR4DH-P	10	10	40	100	●
EM10XL4DH-P	10	10	60	150	●
EM12LR4DH-P	12	12	40	100	○
EM12XL4DH-P	12	12	60	100	●
EM16XL4DH-P	16	16	60	150	○

TIA/CRN
MG
0.2 µm
Co 12%
HRC ▸68
4 flute

● STOCKABLE ○ NON STOCKABLE

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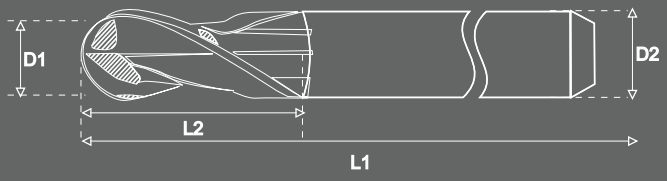
2 Flute Standard Ballnose



ITEM DESCRIPTION	D1(DIA)	D2 (SHANK)	L2 (WL)	L1 (OAL)	AVAILABLITY
BN0.8N2F6DH-P	R0.4	4	6	50	○
BN1N2D4DH-P	R0.5	4	2	50	○
BN1N2F6DH-P	R0.5	4	6	50	○
BN1N2F10DH-P	R0.5	4	10	50	○
BN1.5N2D4DH-P	R0.75	4	4	50	●
BN1.5N2F10DH-P	R0.75	4	10	50	○
BN1.5N2F12DH-P	R0.75	4	12	50	○
BN2N2D4DH-P	R1	4	4	50	●
BN2N2F10DH-P	R1	4	10	50	○
BN2N2F12DH-P	R1	4	12	50	●
BN2.5N2D4DH-P	R1.25	4	6	50	○
BN3N2D4DH-P	12	4	6	50	○
BN3N2F12DH-P	R1.5	4	12	50	○
BN3N2F20DH-P	R1.5	4	20	50	●
BN4N2DH-P	R2	4	8	50	●
BN4N2F20DH-P	R2	4	20	60	○
BN5N2D6DH-P	R2.5	6	10	50	○
BN6N2DH-P	R3	6	12	50	●
BN8N2DH-P	R4	8	16	60	●
BN10N2DH-P	R5	10	20	75	●
BN12N2DH-P	R6	12	25	75	●

● STOCKABLE ○ NON STOCKABLE

TIA/CRN
MG
0.2 µm
Co 12%
HRC ▸68
4 flute

2 Flute Long & Extra Long Ballnose

ITEM DESCRIPTION	D1(DIA)	D2 (SHANK)	L2 (WL)	L1 (OAL)	AVAILABLITY
BN3XL20D4DH-P	R1.5	4	8	100	○
BN4L2DH-P	R2	4	10	75	●
BN4XL2DH-P	R2	4	10	100	○
BN6L2DH-P	R3	6	12	75	●
BN6LR2DH-P	R3	6	12	100	○
BN8L2DH-P	R4	8	16	75	●
BN8LR2DH-P	R4	8	16	100	○
BN10LR2DH-P	R5	10	20	100	●
BN12LR2DH-P	R6	12	24	100	●

● STOCKABLE ○ NON STOCKABLE

TIA/CRN
MG
0.2 µm
Co 12%
HRC ▸68
4 flute

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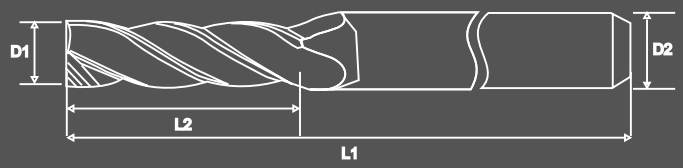
4 Flute Corner Radius Standard Endmills



ITEM DESCRIPTION	D1(DIA)	D2 (SHANK)	L2 (WL)	L1 (OAL)	AVAILABLITY
EM3N4CR0.5D4DH-P	3R0.5	4	6	50	○
EM3N4CR1D4DH-P	381	4	6	50	○
EM4N4CR0.5DH-P	481.	4	8	50	○
EM4N4CR1DH-P	4R1	4	8	50	○
EM5N4CR0.5D6DH-P	5R0.5	6	10	50	○
EM5N4CR1D6DH-P	5R1	6	10	50	○
EM6N4CR0.5DH-P	6R0.5	6	12	50	○
EM6N4CR1DH-P	6R1	6	12	50	○
EM8N4CR0.5DH-P	SR0.5	8	16	60	○
EM8N4CR1DH-P	8R1	8	16	60	○
EM10N4CR0.5DH-P	10R0.5	10	20	75	○
EM10N4CR1DH-P	10R1	10	20	75	○
EM12N4CR0.5DH-P	12R0.5	12	24	75	○
EM12N4CR1DH-P	12R1	12	24	75	○

TIA/CRN
MG
0.2 µm
Co 12%
HRC ▸68
4 flute

● STOCKABLE ○ NON STOCKABLE

4 Flute Corner Radius Long & Extra Long Endmills

ITEM DESCRIPTION	D1(DIA)	D2 (SHANK)	L2 (WL)	L1 (OAL)	AVAILABLITY
EM6L4CR0.5DH-P	6R0.5	6	20	75	○
EM6L4CR1DH-P	6R1	6	20	75	○
EM6LR4CR0.5DH-P	6R0.5	6	20	100	○
EM6LR4CR1DH-P	6R1	6	20	100	○
EM8L4CR0.5DH-P	8R0.5	8	20	75	○
EM8L4CR1DH-P	8R1	8	20	75	○
EM8LR4CR0.5DH-P	8R0.5	8	20	100	○
EM8LR4CR1DH-P	8R1	8	20	100	○
EM10L4CR0.5DH-P	10R0.5	10	20	100	○
EM10L4CR1DH-P	10R1	10	20	100	○
EM10XL4CR0.5DH-P	10R0.5	10	30	150	○
EM10XL4CR1DH-P	10R1	10	30	150	○
EM12L4CR0.5DH-P	12R0.5	12	24	100	○
EM12L4CR1DH-P	12R1	12	24	100	○
EM12XL4CR0.5DH-P	12R0.5	12	30	150	○
EM12XL4CR1DH-P	12R1	12	30	150	○

TIA/CRN
MG
0.2 µm
Co 12%
HRC ▸68
4 flute

● STOCKABLE ○ NON STOCKABLE

Features & Benifits of DH-P

- Used Ultra fine Substrate with grain size 0.2 micron.
- It has Superior Hardness and Toughness, reducing risk of chipping.
- Special Super Hard composite coating with High Temperature and Resistance.
- Best Suited with DRY CUTTING.
- Suitable for Semi finishing and finishing of Materials M, H & S Range
- End Mills has helix of 45 Degree. Ball nose has Helix of 30 Degree.
- TOOLS ARE WITH SHANK TOLERANCE OF h5
- Diametrical Accuracy of 0.01mm up to 4mm up to 12mm and 0.02 beyond 12mm

BY XCEED Toolings Pvt. Ltd.

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