

E335

DORMER

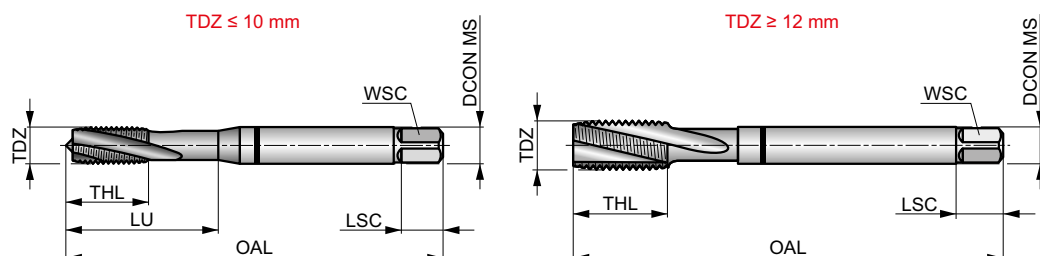


Black SHARK 15° Spiral Flute Metric Machine Tap, DIN Standard

High performance blind hole tap for efficient tapping in high strength steels and titanium alloys. A 15° slow spiral allows the chips to be pulled slightly upwards, yet without weakening the cutting edge, as higher spiral taps would. Unique HSS-E-PM substrate along with TiAlN-Top coating for superior performance.

SHARK

	DIN DORMER	6HX
	1.5×D	HSS-E-PM
C 2-3		λ 15°
	TiAlN Top	



Workpiece material group suitability and starting values for cutting speed (m/min).

	P3.3 ■ 16	P4.2 ■ 12	P4.3 ■ 9	S1.2 ■ 12	S1.3 ■ 7	S3.1 ■ 4	S3.2 ■ 2	H3.1 ▣ 6		
Product	TDZ	TP	OAL	THL	DCON MS	WSC	LSC	NOF	PHD	LU
		[mm]	[mm]	[mm]	[mm]	[mm]	[mm]		[mm]	[mm]
E335M3	3	0.50	63.0	12	4.50	3.40	6	3	2.50	12.00
E335M4	4	0.70	70.0	13	6.00	4.90	8	3	3.30	13.00
E335M5	5	0.80	80.0	15	6.00	4.90	8	3	4.20	15.00
E335M6	6	1.00	90.0	18	8.00	6.20	9	3	5.00	18.00
E335M8	8	1.25	100.0	20	10.00	8.00	11	3	6.80	20.00
E335M10	10	1.50	100.0	20	10.00	8.00	11	3	8.50	39.00
E335M12	12	1.75	110.0	23	9.00	7.00	10	4	10.30	—



WMG (WORK MATERIAL GROUP)

ISO group	WMG (Work Material Group)			Hardness (HB or HRC)	Ultimate Tensile Strength (MPa)
P	P1	P1.1	Sulfurized	< 240 HB	≤ 830
		P1.2	Sulfurized and phosphorized	< 180 HB	≤ 620
		P1.3	Sulfurized/phosphorized and leaded	< 180 HB	≤ 620
	P2	P2.1	Containing <0.25 % C	< 180 HB	≤ 620
		P2.2	Containing <0.55 % C	< 240 HB	≤ 830
		P2.3	Containing >0.55 % C	< 300 HB	≤ 1030
	P3	P3.1	Annealed	< 180 HB	≤ 620
		P3.2	Hardened and tempered	180 – 260 HB	> 620 ≤ 900
		P3.3		260 – 360 HB	> 900 ≤ 1240
M	M1	M1.1	Ferritic stainless steel	< 160 HB	≤ 520
		M1.2	(straight chromium non-hardenable alloys)	160 – 220 HB	> 520 ≤ 700
		M2.1	Annealed	< 200 HB	≤ 670
	M2	M2.2	Quenched and tempered	200 – 280 HB	> 670 ≤ 950
		M2.3	Precipitation-hardened	280 – 380 HB	> 950 ≤ 1300
	M3	M3.1	Austenitic stainless steel (chromium-nickel and chromium-nickel-manganese alloys)	< 200 HB	≤ 750
		M3.2		200 – 260 HB	> 750 ≤ 870
		M3.3		260 – 300 HB	> 870 ≤ 1040
	M4	M4.1	Austenitic-ferritic (DUPLEX) or super-austenitic stainless steel	< 300 HB	≤ 990
		M4.2	Precipitation hardening austenitic stainless steel	300 – 380 HB	≤ 1320
K	K1	K1.1	Ferritic or ferritic-pearlitic	< 180 HB	≤ 190
		K1.2	Ferritic-pearlitic or pearlitic	180 – 240 HB	> 190 ≤ 310
		K1.3	Pearlitic	240 – 280 HB	> 310 ≤ 390
	K2	K2.1	Ferritic	< 160 HB	≤ 400
		K2.2	Ferritic or pearlitic	160 – 200 HB	> 400 ≤ 550
		K2.3	Pearlitic	200 – 240 HB	> 550 ≤ 660
	K3	K3.1	Ferritic	< 180 HB	≤ 560
		K3.2	Ferritic or pearlitic	180 – 220 HB	> 560 ≤ 680
		K3.3	Pearlitic	220 – 260 HB	> 680 ≤ 800
	K4	K4.1	Austenitic gray iron (ASTM A436) (iron-carbon alloy castings with an austenitic lamellar graphite microstructure)	< 180 HB	≤ 190
		K4.2	Austenitic ductile iron (ASTM A439 or ASTM A571) (iron-carbon alloy castings with an austenitic nodular graphite microstructure)	< 240 HB	≤ 740
		K4.3	Austempered ductile iron (ASTM A897) (iron-carbon alloy castings with an ausferrite microstructure)	< 280 HB	> 840 ≤ 980
		K4.4		280 – 320 HB	> 980 ≤ 1130
		K4.5		320 – 360 HB	> 1130 ≤ 1280
	K5	K5.1	Ferritic	< 180 HB	≤ 400
		K5.2	Ferritic-pearlitic	180 – 220 HB	> 400 ≤ 450
		K5.3	Pearlitic	220 – 260 HB	> 450 ≤ 500
N	N1	N1.1	Commercially pure wrought aluminium	< 60 HB	≤ 240
		N1.2	Wrought aluminium alloys	60 – 100 HB	> 240 ≤ 400
		N1.3		100 – 150 HB	> 400 ≤ 590
	N2	N2.1	Cast aluminium alloys	< 75 HB	≤ 240
		N2.2		75 – 90 HB	> 240 ≤ 270
		N2.3		90 – 140 HB	> 270 ≤ 440
	N3	N3.1	Free-cutting copper-alloys materials with excellent machining properties	–	–
		N3.2	Short-chip copper-alloys with good to moderate machining properties	–	–
		N3.3	Electrolytic copper and long-chip copper-alloys with moderate to poor machining properties	–	–
	N4	N4.1	Thermoplastic polymers	–	–
		N4.2	Thermosetting polymers	–	–
		N4.3	Reinforced polymers or composites	–	–
S	S1	S1.1	Titanium or titanium alloys	< 200 HB	≤ 660
		S1.2		200 – 280 HB	> 660 ≤ 950
		S1.3		280 – 360 HB	> 950 ≤ 1200
	S2	S2.1	Fe-based high-temperature alloys	< 200 HB	≤ 690
		S2.2		200 – 280 HB	> 690 ≤ 970
		S2.3		< 280 HB	≤ 940
	S3	S3.1	Ni-based high-temperature alloys	280 – 360 HB	> 940 ≤ 1200
		S3.2		< 240 HB	≤ 800
		S3.3		240 – 320 HB	> 800 ≤ 1070
H	H1	H1.1	Chilled cast iron	< 440 HB	–
		H1.2	Hardened cast iron	< 55 HRC	–
	H2	H2.1		> 55 HRC	–
		H2.2	Hardened steel <55 HRC	< 51 HRC	–
	H3	H3.1		51 – 55 HRC	–
		H3.2	Hardened steel >55 HRC	55 – 59 HRC	–
	H4	H4.1		> 59 HRC	–
		H4.2			