

Standard		Tool Materials		Thinning of drills		End Mills Flutes	
Mark	Descriptions	Mark	Descriptions	Mark	Descriptions	Mark	Descriptions
	ISO Standard Product		High Grade Powder HSS		X thinning		6 Flutes Square End Mill (with center hole)
	JIS Standard Product		Tungsten Carbide		XH thinning		2 Flutes Radius End Mill (center cut)
	G(TiN) Coat		Sintered CBN		XS thinning		4 Flutes Radius End Mill (center cut)
	UG(TiCN multi layer) Coat		Normal Helix Angle		Two Rake Relief & X thinning		2 Flutes Ball End Mill
	SG(TiCN multi layer) Coat		High Helix Angle		Two Rake Relief & XR thinning		4 Flutes Ball End Mill
	CrN Coat		Low Helix Angle		Sharp Corner Type End Mill		6 Flutes Ball End Mill
	AG(TiAlN multi layer) Coat		Point Angle of Drills		2 Flutes Square End Mill (center cut)		Cutting Taps
	AQ(TiAlN multi layer) Coat		Oil-hole Drills		3 Flutes Square End Mill (center cut)		Cutting Taps (oil-hole)
	XS(TiAlN multi layer) Coat		Three Flutes Drills		4 Flutes Square End Mill (center cut)		Roll Taps
	GS(TiAlN multi layer) Coat		Shape of lip relief is Conical		5 Flutes Square End Mill (center cut)		Variable teeth pitch
	DLC Coat		Shape of lip relief is Spiral Point		6 Flutes Square End Mill (center cut)		BI-Metal construction
	Diamond Coat		Shape of lip relief is Two Rake		8 Flutes Square End Mill (center cut)		Tolerance of drill dia. is js6
	Carbon Tool Steels		Shape of lip relief is Three Rake		4 Flutes Square End Mill (with center hole)		Tolerance of drill dia. is h7
	Alloy Tool Steels		Shape of lip relief is Fishtail		5 Flutes Square End Mill (with center hole)		Tolerance of drill dia. is h8
	High Speed Steels		S thinning				
	Cobalt HSS		Notch thinning				
	Powder-Metal Cobalt HSS		DELTA thinning				
	High Alloy HSS		X thinning				

  

Dia. (mm)	Over	3	6	10	18	30	50	80	
	Up to	3	6	10	18	30	50	120	
Tolerance	js6	±3	±4	±4.5	±5.5	±6.5	±8	±8.5	±11
	h7	0 -10	0 -12	0 -15	0 -18	0 -21	0 -25	0 -30	0 -35
	h8	0 -14	0 -18	0 -22	0 -27	0 -33	0 -39	0 -46	0 -54

Unit : μm

B