

High Speed Steel

Product Specifications

MATERIAL					CHEMISTRY								HEAT TREATMENT DETAILS					
AISI / ASTM	DIN	EN	AFNOR	JIS	C	Si	Mn	Cr	W	Mo	V	Co	Annealing temperature	Quenchant (Hot bath)	Hardening temperature	Tempering (Air Cooling)	Annealed (HB-max)	Obtainable Hardness (HRC)
M2	1.3343	HS6-5-2-C	~E-Z85WCDV6 (Air) ~Z80WDCV6 ~Z90WDCV06-05-04-02	~SKH51	0.90	0.30	0.30	4.10	6.20	5.00	1.80	-	770-840 • c	Oil / Air / Salt bath	1190-1230 • c	540-570 • c	260	63 - 65
M35	1.3243	HS6-5-2-5	Z90WDKCV 06-05-05-04-02	SKH55	0.92	0.35	0.30	4.10	6.20	5.00	1.90	4.80	770-840 • c	Oil / Air / Salt bath	1190-1230 • c	550-580 • c	275	64 - 66
M42	1.3247	HS2-10-1-8	Z110DKCWV 09-08-04-02-01	~SKH59	1.10	0.25	0.25	3.90	1.40	9.20	1.00	7.80	770-840 • c	Oil / Air / Salt bath	1170-1210 • c	530-560 • c	270	66 - 68
T1	1.3355	HS18-0-1	~Z80WCV18-04-01	SKH2	0.75	0.20	0.20	4.10	18.00	-	1.10	-	770-840 • c	Oil / Air / Salt bath	1240-1280 • c	550-580 • c	270	64 - 66

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Application

AISI / ASTM	DIN	Supply condition	APPLICATION
M2	1.3343	Annealed	Standard high-speed steel grade. High toughness and good cutting power owing to its well-balanced alloy composition, making it suitable for a wide variety of applications. For all metal-cutting tools for roughing or finishing, such as twist drills, all kinds of milling cutters, screw taps, screw dies, broaches, reamers, countersinks, chasers, segments for circular saws, shaping tools and woodworking tools. Also highly suitable for cold-forming tools, such as cold extrusion rams and dies, as well as for cutting and precision cutting tools, plastics moulds with elevated wear resistance and screws.
M35	1.3243	Annealed	Heavy-duty milling cutters of all kinds, highly stressed twist drills and taps, profiled cutting blades, machining of high-strength materials, broaches. The Co content of this tough, high-performance, high-speed steel grade, which offers good cutting-edge endurance, results in high red hardness and resistance to tempering. Consequently, this steel grade is particularly suitable when thermal stresses and discontinuous cutting are involved.
M42	1.3247	Annealed	High-carbon, high-speed steel grade based on Mo, with high resistance to wear, red hardness and toughness. This steel grade displays good grindability as a result of its low V content. Tools severe mechanical wear, e.g. in cases of small cross-section cuts and high cutting speeds. Particularly suitable for die-sinking cutters and one-lip cutters, and for tool bits in automatic lathes. Also suitable for non-cutting applications, e.g. cold extrusion rams, and for tools for machining aircraft materials, such as titanium alloys, etc.
T1	1.3355	Annealed	Planing and slotting tools, twist drills, Turning, threading dies, profile cutting tools, broaching tools, reamers.