

HIGH SPEED STEEL PRODUCT SHEET

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CHEMICAL COMPOSITION												
EST	DIII	ASTM	CHEMICAL COMPOSITION								PROPERTY	APPLICATION
			C	Si	Mn	Cr	Mo	V	W	Co		
DF6	1.3343	M2	0.86-0.94	0.20-0.45	0.20-0.40	3.75-4.50	4.50-5.50	1.70-2.10	5.50-6.70	-	Excellent combination of wear resistance, toughness and hot hardness. Superior compressive strength for deformation resistance, reducing susceptibility to , denting and edge rollover.	For all kind of wear resisting tools that bear vibration, Like Lathe tools, Planer tools, Drills, Taps, Reamers, Broaches, Milling cutters, Form cutters, Thread chasers, End mills, Gear cutters
DF35	1.3243	M35	0.87-0.95	0.20-0.45	0.20-0.45	3.75-4.50	4.50-5.50	1.70-2.10	5.50-6.70	4.50-5.00	Cobalt added M2 high speed steel in which the cobalt addition provides hot hardness, The improved hot hardness makes the steel suitable for machining high-strength and prehardened steels, high-hardness alloys	Twist drills, taps, milling cutters, reamers, broaches, saws, knives, and hobs.
DF42	1.3247	M42	1.05-1.15	0.15-0.65	0.15-0.40	3.50-4.25	9.0-10.0	0.95-1.35	1.15-1.85	7.75-8.75	A premium cobalt high speed steel with very high hardness and superior hot hardness, excellent wear resistance by virtue of high heat-treated hardness, stay sharp and hard in heavy-duty and high-production cutting applications	For complicated and accurate cutting tools for hard and high speed cutting, twist drills, taps, milling cutters, reamers, broaches, saws, knives, and thread rolling dies.
DF18	1.3355	T1	0.65-0.75	0.20-0.45	0.20-0.45	3.75-4.50	-	0.90-1.30	17.25-18.75	-	Tungsten based HSS, Good combination of toughness and red hardness. High resistance to wear and softening. Relatively easy to harden.	Twist drills, screw cutting tools, milling cutters, file cutter's chisels, lathe tools, planer tools, shaving tools.

HEAT TREATMENT																		
EST	DIII	ASTM	Density (g/cm3)	HEAT TREATMENT														
				Soft Annealing °C	Annealed Hardness HB	Warm up °C	Preheating Step 1 °C	Preheating Step 2 °C	Hardening From °C	Quenching In	Hardened Hardness HRC	Tempering °C						
												300 °C	400 °C	500 °C	550 °C	600 °C	650 °C	
DF6	1.3343	M2	8.1	790-840	Max. 255	450-600	850	1050	1210-1230	OIL / AIR Hot Bath 550 °C	63-66	61.5	62	65	65	63	57	540 – 560 x 1 h x 3 Times 63 - 66
DF35	1.3243	M35	8.1	790-840	Max. 265	450-600	850	1050	1200-1220	OIL / AIR Hot Bath 550 °C	64-66	62	62	64	65	63	56	540 – 560 x 1 h x 3 Times 64 - 66
DF42	1.3247	M42	8	790-840	Max. 265	450-600	850	1050	1170-1190	OIL / AIR Hot Bath 550 °C	66-68	60.5	61.5	66	68	64	50	540 – 560 x 1 h x 3 Times 63 - 65
DF18	1.3355	T1	8.7	810.860	Max. 269	450-600	850	1050	1270-1290	OIL / AIR Hot Bath 550 °C	63-65	63	62	65	65	63	58	540 – 560 x 1 h x 3 Times 63 - 65