Material Specification Sheet
High Speed Steel

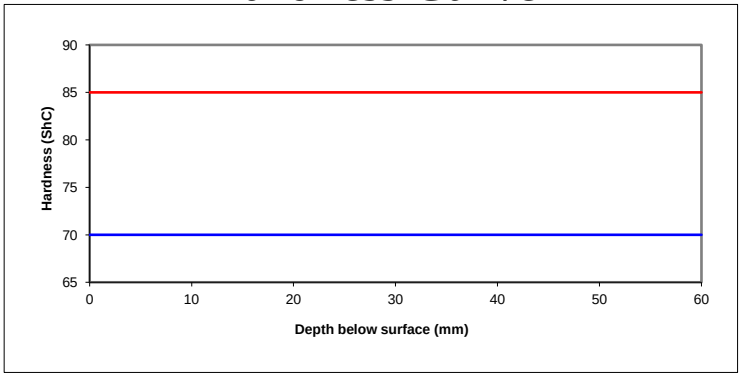
HSS 700

High Speed Steel mainly alloyed with Cr, Mo, W and V.
High mechanical properties with good wear properties making it fire crack and mechanical crack resistant.

Chemical Composition

	C	Mn	Si	P	S	Ni	Cr	Mo	W	V	
Min	1.60	0.75	0.40	0.025	0.010	1.00	4.00	3.00	1.00	4.00	
Max	2.40	1.50	1.20	0.050	0.040	2.50	6.50	5.00	3.00	6.50	

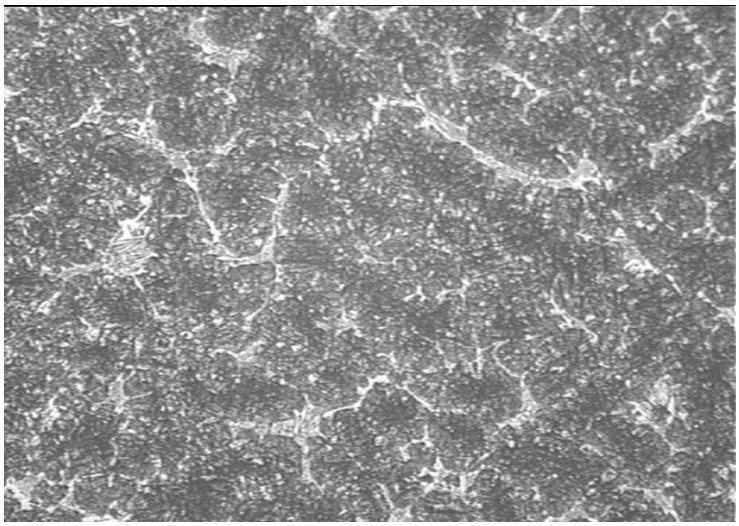
Hardness Curve



Physical Properties

Tensile Strength (tensile test rod B12x60 DIN 50125)	895 to 1035 MPa
Compressive Yield	2.0 to 2.2 GPa
Young's Modulus	215 to 225 GPa
Thermal Conductivity	29 to 50 W/mK
Coefficient of Thermal Expansion	12.6 to 13.5 µm/m°C
Bending Strength	1150 to 1235 MPa
Compressive Strength	~ 2100 MPa
Specific Heat	435 J/kgK
Density	7300 kg/m^3
Thermal Diffusivity	5.9 x 10^{-6} m^2/s
Poison's ratio	0.28

Microstructure



100 X - etched

Nov-11