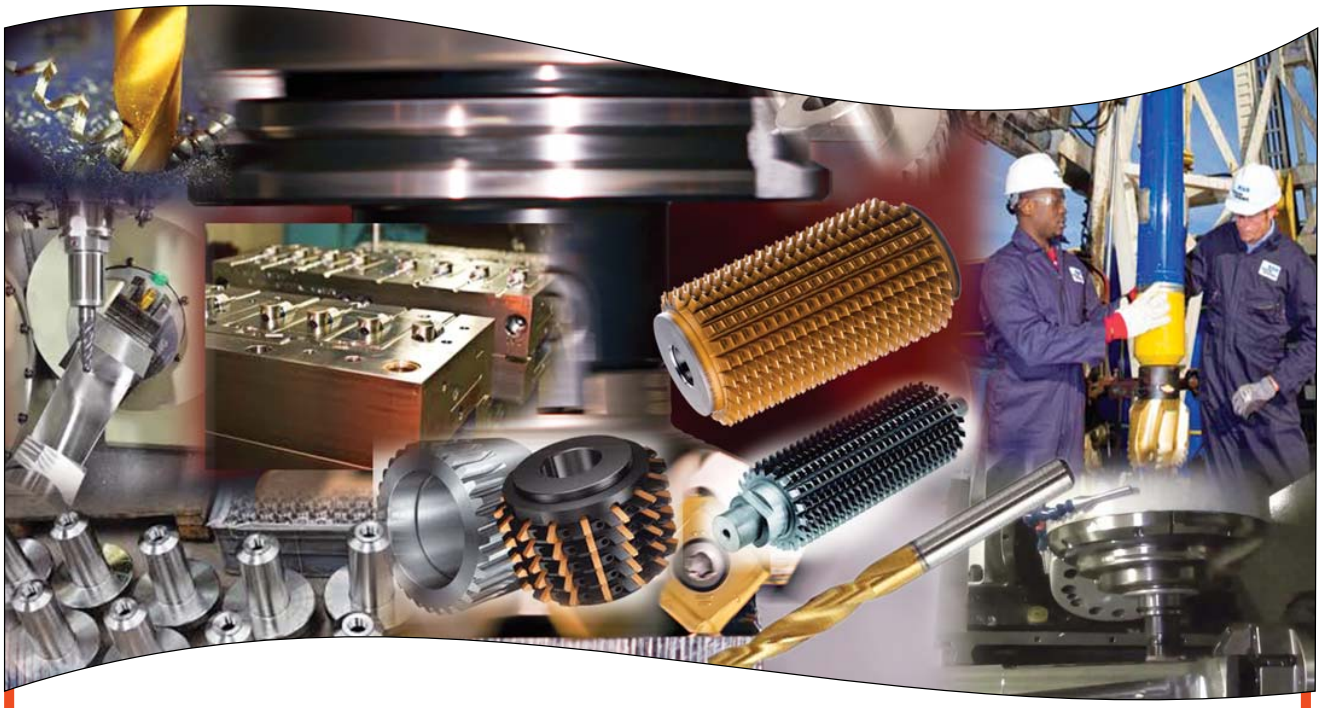
High Speed Steels

High Speed Steels produced through Electric Arc Furnace, followed by Secondary Refining at Ladle Refining Furnace and Vacuum Degassing Station ensures Clean Steel which has low Sulphur, Phosphorus and Gas levels in the primary Melt. This eventually helps in achieving better Quality of Forged and Rolled Products. Strict Control is exercised on Chemical Composition and other Critical parameters like temperature during forging, rolling and heat treatment, and the tight Quality Systems & Procedures help in meeting Customer's Quality Requirements in an absolute manner. Important equipment like Forging Press and Rolling Mills ensure proper hot working of High Speed Steels which helps in achieving the desired Carbide Distribution.



The characteristic properties of our

High Speed Steel

- High Working Hardness
- High Wear Resistance
- Excellent Toughness
- High retention of Hardness & Red Hardness

Product Range

Steel Type	Material Grades "ESR/Air Melted"				
	AISI	JIS	ISO	DIN W.Nr.	Typical Applications
High Speed Steels	M2	SKH 51	HS 6-5-2	1.3343	taps, broaches etc.
	M3 –2	SKH 53	HS 6-5-3	1.3344	Dies, punches, hacksaws, taps etc.
	M35	SKH 55	HS 6-5-2-5	1.3243	Hobs, milling cutters, hacksaws, broaches, reamers etc.
	M42	SKH 59	HS 2-9-1-8	1.3247	Bi-metallic bandsaw blades, milling cutters, drills etc.
	T1	SKH2	HS 18-0-1	1.3355	Knives, Taps, Drills, Cutters, Wood Cutting tools etc.

Hot Rolled, Peeled & CG Bars - Dia: 6mm to 90mm, L: 3 - 6 mtr.

Heat Treated Condition: Spherodize Annealed

Forged & Machined Bars - Dia: 100mm - 200mm, L: 1mtr. Min.

Chemical Composition

	C	Si	Mn	P	S	Cr	Mo	V	W	Co
M2	0.86 0.94	0.45 Max	0.40 Max	0.030 Max	0.030 Max	3.80 4.50	4.70 5.20	1.70 2.00	6.00 6.70	--
M3-2	1.17 1.27	0.45 Max	0.40 Max	0.030 Max	0.030 Max	3.80 4.50	4.70 5.20	2.70 3.20	6.00 6.70	--
M35	0.88 0.95	0.45 Max	0.40 Max	0.030 Max	0.030 Max	3.80 4.50	4.75 5.20	1.75 1.90	6.00 6.70	4.60 5.00
M42	1.05 1.12	0.45 Max	0.40 Max	0.030 Max	0.030 Max	3.60 4.40	9.00 10.00	1.00 1.30	1.20 1.80	7.50 8.50
T1	0.70 0.78	0.45 Max	0.40 Max	0.030 Max	0.030 Max	3.80 4.50	--	1.00 1.20	17.5 18.5	--

Typical Heat Treatment

Grade	Annealing	Hardening	Tempering
M2	Heating up to 860 –880 deg. C, soaking for 2 to 4 hours, furnace cooling to 680 deg. C, followed by air cooling	Preheating at 500 & 900 deg. C, Hardening 1180 to 1220 deg. C	Multiple tempering at 540–560 deg. C as per application, last tempering recommended at 180–200 deg. C.
M3–2		Preheating at 500 & 900 deg. C, Hardening 1180 to 1220 deg. C	
M35		Preheating at 500 & 900 deg. C, Hardening 1180 to 1220 deg. C	
M42		Preheating at 500 & 900 deg. C, Hardening 1150 to 1190 deg. C	
T1		Preheating at 500 & 900 deg. C, Hardening 1200 to 1280 deg. C	

Star Wire (India) Limited
21/4, Mathura Road, Ballabgarh-121004, Haryana, India
Tel: +91-129 - 4094200, Fax: +91-129-2241265
Email: pnsingh@starwire.in, Web: www.starwire.in

CIN: U27109DL1963PLC117600
GSTIN: 06AAECS1124Q1Z8