



Technical Data Sheet	Grade	Code (SEL)	High speed steel
	1.3390	S6-3-5	

Standards	Steel properties
EN ISO 4957 -	
AFNOR -	
BS -	
UNE -	
UNI -	
AISI -	
GOST -	
	Suitable for:

C	Si	Mn	Cr	Mo	Ni	V	W	Co	Sonst.
0,88	-	-	4,00	3,00	-	2,00	6,30	-	-

Melting	EAF + VOD	Remarks Hardness in the annealed plus cold drawn condition (+A+C) may be 50 HB higher than in the annealed condition (+A).
Density (g/cm³)	8,00	
Supply condition	soft annealed	
Hardness (HB)	240 - 300	
Tensile strength (N/mm²)	-	
Work hardness (HRC)	-	
Structure	-	
Cleanness (DIN 50602)	-	

Physical properties		20 °C	100 °C	200 °C	300 °C	350 °C	400 °C	500 °C	600 °C	700 °C
Thermal expansion coefficient	10 ⁻⁶ * K (20 °C bis ...)	-								
Thermal conductivity (W / m * K)	annealed									
	quenched + tempered									

Thermal Cycle Diagram (Heat treatment)

Hinweis: Die in diesem Datenblatt enthaltenen Angaben dienen der Beschreibung, eine Haftung ist ausgeschlossen.



Heat treatment	Temperature (°C)	Cooling	Remarks heat treatment
Soft annealing	770 - 840	Furnace	Controlled slow cooling in furnace
Stress-relief annealing	ca. 650	Furnace	Slow cooling in furnace. After extensive machining process or complex shapes
Hardening	1170 - 1210		
Pre – heating Step 1	appr. 400		
Pre – heating Step 2	appr. 850		
Pre – heating Step 3	appr. 1050		
Quenching	500 - 550	hot bath	In case of oil hardening interrupt at appr. 400 °C.
	appr. 80	Oil	
	-	-	
	-	-	

Tempering Chart	Tempering – Hardness after tempering									
	Temperature °C	100	200	300	400	500	550	600	650	700
	HRC									
	Remarks for tempering									

Time Temperature Transformation Chart	Heat resistance chart



Potential Hardness Increase	
Several diameter	Several hardness figures