

Material specification sheet

Saarstahl - 56Si7 (55Si7)

Material No.:	Former brand name:	International steel grades:
1.5026	-	BS: 251A58 AFNOR: 55S7RR, 56SC7 SAE: 9255

Material group: Spring steel according to DIN EN 10132

Chemical composition: (Typical analysis in %)	C	Si	Mn	P	S	Cr	Mo	Ni
	0,52 0,60	1,60 2,00	0,60 0,90	<0,025	<0,025	<0,40	<0,10	<0,40

Application: Steel for different types of springs as leaf springs, helical springs, Belleville washers.

Hot forming and heat treatment:	Hot forming:	1050 - 850°C
	Hot deformation:	900 - 830°C
	Normalising:	850 - 880°C
	Soft annealing:	650 - 690°C
	Hardening:	840 - 870°C/oil min. 55 HRC or 600 HV as quenched

Mechanical Properties:

Condition of delivery	Soft annealed (+A) or soft annealed and slightly rerolled (+LC)	Quenched and tempered (+QT)
0,2% proof stress R _{p0,2} [N/mm ²]	max. 600	1200 - 1700
Tensile strength R_m [N/mm ²]	max. 740	-
Fracture elongation A₈₀ [%]	min. 12	-
Hardness [HV]	max. 230	370 - 520
Hardness [HRB]	max. 96	-
Hardness [HRC]	-	38,5 - 50,5

Typical hardness values (HV) for quenched and tempered materials at different thickness ranges

Effective thickness [mm]	0,30<=0,50	0,50<=0,75	0,75<=1,00	1,00<=1,50	1,50<=2,00	2,00<=3,00
Hardness [HV]	485 - 535	465 - 515	455 - 505	445 - 495	425 - 475	415 - 465