

Material specification sheet

Saarstahl - 65SiCrV7

Material No.: German standard: International steel grades:

1.8155

SAE:

JIS:

Material group: Hot rolled steel for quenched and tempered springs

Chemical composition: (typical analysis at Saarstahl in %)	C	Si	Mn	P	S	Cr	V
	0,65	1,50	0,46	< 0,015	< 0,015	0,55	0,13

Deviation in chemical composition on request

Application: Si-Cr-V alloyed quenched and tempered steel for production of springs with extraordinary small sag tendency, especially of high-stressed automotive suspension springs, produced by cold and hot forming

Hot forming and heat treatment:	Hot rolling:	1050 - 850°C
	Hot forming to springs:	940 - 840°C
	Normalising:	850 - 880°C/air
	Soft annealing:	640 - 680°C/furnace
	Hardening:	min. 840°C/oil
	Tempering:	375 - 500°C/air

Mechanical properties:	Treated for cold shearability (+S):	max. 280 HB
	Soft annealed (+A):	max. 248 HB
	Spheroidized annealed (+AC):	max. 230 HB

Quenched and tempered (+QT), tempering temperature 375 - 500°C

0,2% proof stress $R_{p0,2}$ [N/mm²]	min. 1400
Tensile strength R_m [N/mm²]	1500 - 2200
Fracture elongation A_5 [%]	min. 5
Reduction of area Z [%]	min. 30
Notch impact energy ISO-V [J]	min. 5