

## Material specification sheet

### Saarstahl - C67S

Material No.:	German standard:	International steel grades:
<b>1.1231</b>	<b>DIN EN 10132</b>	<b>SAE: 1070</b> <b>JIS: S70CM</b>

**Material group:** Hot rolled spring steel

Chemical composition: (typical analysis at Saarstahl in %)	C	Si	Mn	P	S	Cr	Al
		0,67	0,22	0,75	<0,01	<0,01	0,23

Deviation in chemical composition on request

**Application:** Unalloyed steel for springs as belleville washers, spring plates and stabilizer bars for motor vehicles

<b>Hot forming and heat treatment:</b>	Forging or hot rolling:	1100 - 800°C
	Normalising:	810 - 840°C/air
	Soft annealing:	680 - 710°C/furnace
	Hardening:	815 - 845°C/oil min. 59 HRC or 670 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 <sup>2</sup> ]	max. 510	1200 - 1900
Tensile strength $R_m$ [N/mm <sup>2</sup> ]	max. 640	-
Fracture elongation $A_{80}$ [%]	min. 16	-
Hardness [HV]	max. 200	370 - 580
Hardness [HRB]	max. 92	-
Hardness [HRC]	-	38,5 - 54

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