

Material Data Sheet

WixSteel Industrial - 55Cr3

Material No.:	Former Standard Name:	International	steel grades:
DIN 1.7176	GBT 55CrMnA	BS:	525A58, 525H60
		AFNOR:	55C3
		SAE:	5155, 5160

Material group: Hot rolled steel for springs suitable for quenching and tempering according to DIN 1.7221

Chemical Composition:
(Typical analysis in %)

C	Si	Mn	S	P	Cr	Ni	Cu	V
0.52~ 0.60	0.17~ 0.37	0.65~ 0.95	≤0.03 0	≤0.03 0	0.65~ 0.95	≤0.35	≤0.25	0.10~ 0.20

Application: Hot rolled steel for springs suitable for quenching and tempering, as leaf springs, helical springs, stabiliser at road vehicles.

Hot forming and heat treatment:	Hot forming:	1050 - 850°C
	Hot deformation:	920 - 830°C
	Normalising:	850 - 880°C/air
	Soft annealing:	640 - 680°C/furnace
	Hardening:	830 - 860°C/oil
	Tempering:	430 - 500°C/air

Mechanical Properties:	Treated for cold shearability +S:	max. 280 HB
	Soft annealed +A:	max. 248 HB
	Spheroidized annealed - GKZ (+AC)	max. 200 HB
	Core hardness after quenching:	min. 54 HRC

Hardened and tempered, H+A, 16 mm flat steel bars, 25 mm bars

0,2% proof stress R_{p0,2} [N/mm²]	min. 1200
Tensile strength R_m [N/mm²]	1400 - 1650
Fracture elongation A_s [%]	min. 6
Reduction of area Z [%]	min. 35
Notch impact energy ISO-V [J]	min. 9