

## STEEL GRADE

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# 55Cr3

All

## General Information

55Cr3 according to Ovako standard is a chromium spring steel with a dash of niobium to be used in quenched and tempered condition; suitable application is for example stabilizer bars.

## Similar designations

SB 9257 - 54Cr3, 1.7176, 527A60, GOST 50ChGA, AISI/SAE/ASTM 5155, 5160

## Chemical composition

Variant	Cast	Weldability		C %	Si %	Mn %	P %	S %	Cr %	Ti %	Al %	Nb %
SB9257	CC	CEV 0.92 <sub>max</sub>	Min	0.53	0.15	0.75	-	-	0.70	0.010	0.015	0.025
		Pcm 0.67 <sub>max</sub>	Max	0.56	0.30	0.85	0.015	0.015	0.80	0.030	0.035	0.035
55Cr3 EN10089:2002	CC	CEV 0.88 <sub>max</sub>	Min	0.52	-	0.70	-	-	0.70	-	-	-
		Pcm 0.66 <sub>max</sub>	Max	0.59	0.40	1.00	0.025	0.025	1.00	-	-	-

## Mechanical Properties

Variant	Condition	Format	Dimension [mm]	Yield strength min [MPa]	Tensile strength [MPa]	Elongation A <sub>5</sub> [%]	Hardness
SB9257	+AR	Round bar	< 30	640*	985 typical	17	< 330 HB
	+QT	Round bar	< 30	1250**	1400-1700	8	-

*RP<sub>0.2</sub> \* R<sub>eh</sub> \*\* R<sub>el</sub>*

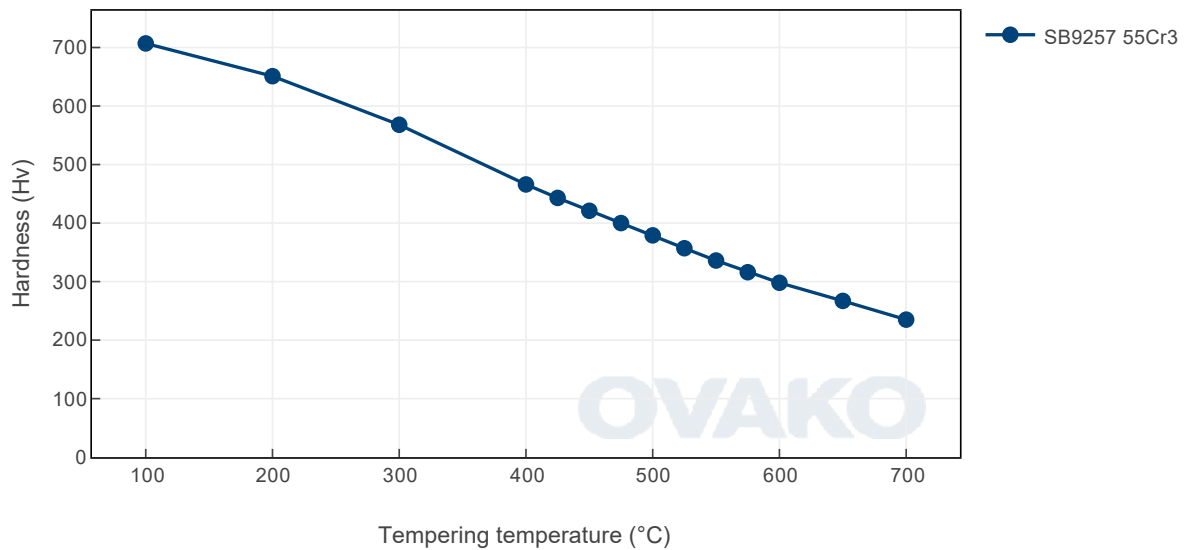
## Transformation temperatures

	Temperature °C
MS	263
AC1	734
AC3	763

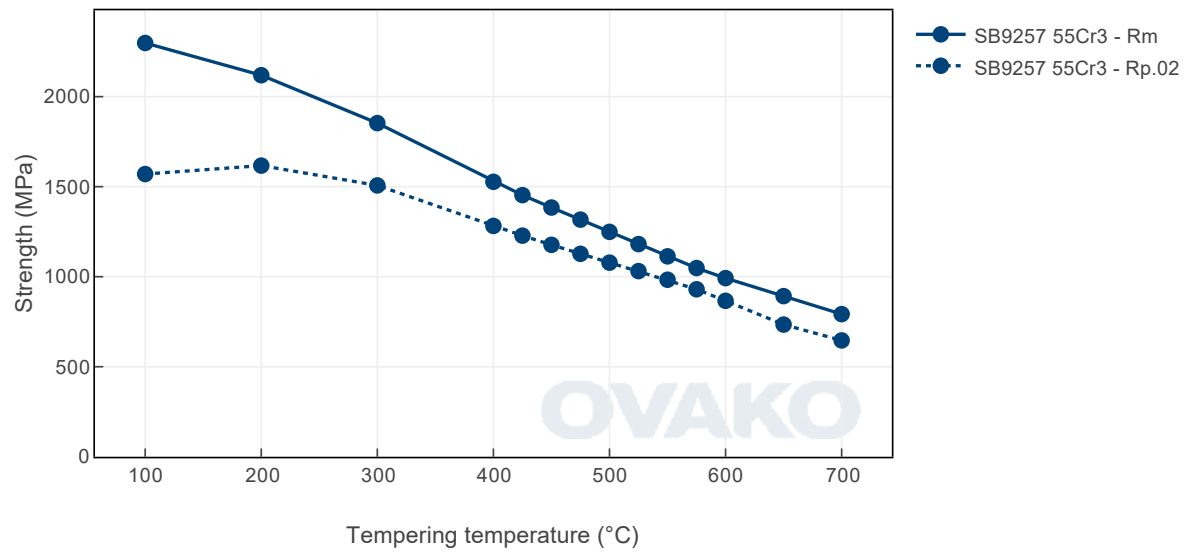
## Heat Treatment Guide generated Graphs

The following graphs are generated from a theoretical model. For further info see the Heat treatment guide module. Select a specific grade version for individual display.

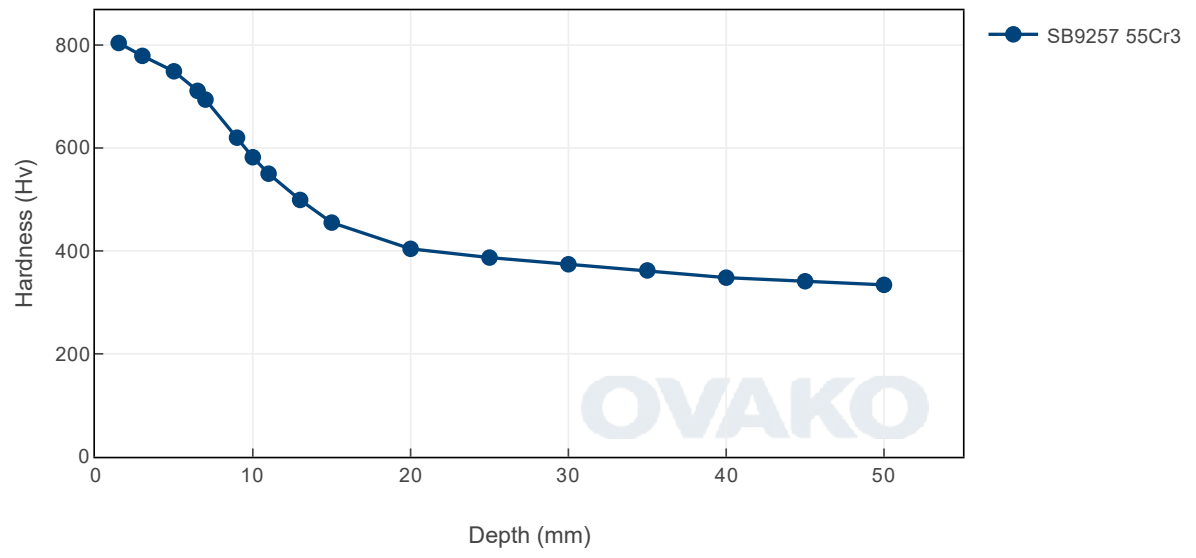
Tempering Diagram (hardness)



Tempering Diagram (strength)

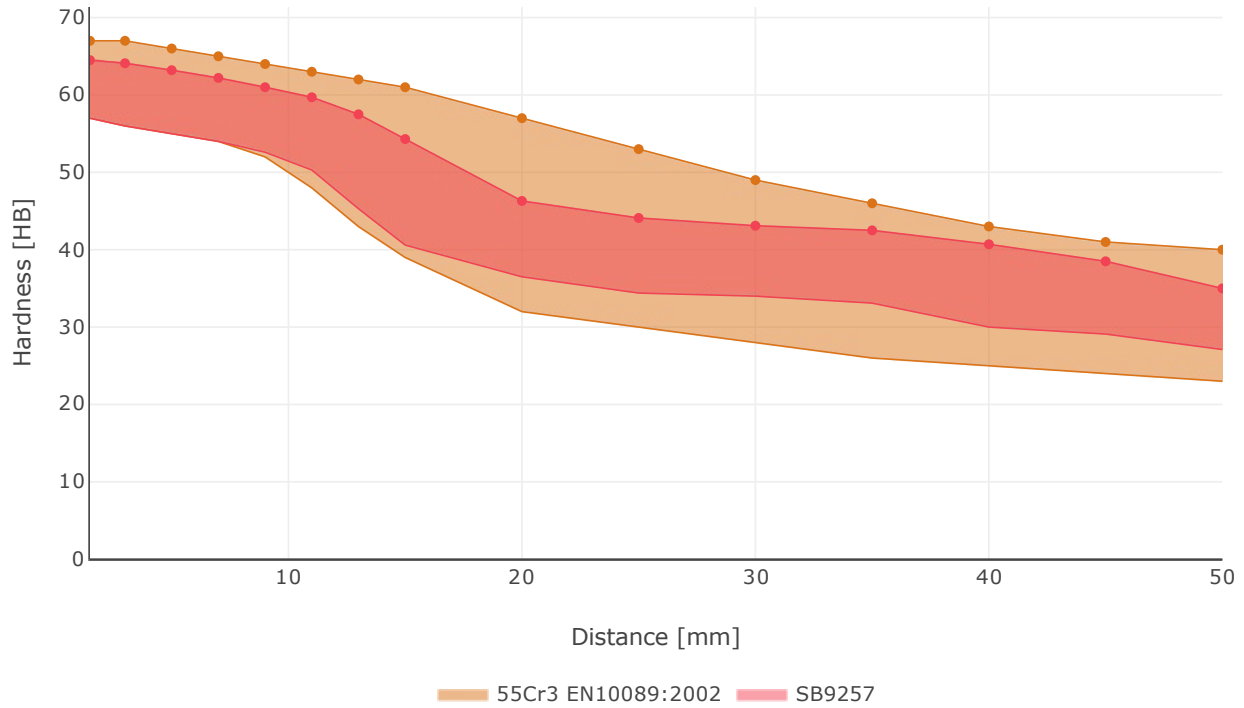


# Jominy





## Hardenability



## SUSTAINABILITY-ENVIRONMENTAL IMPACT DATA

At Ovako sustainability and reduction of our environmental impact is a major focus in everything we do.

Further information is found [here](#).

Steel works	Hofors	Smedjebacken	Imatra
CO2e/kg	120	62	76

To get the full picture of our products environmental impact we have to look at all of our CO<sub>2</sub> emission sources.

Not only the steel work Scope 1-2 itself, but all operations downstream in our production, heating and heat treatment furnaces etc (full scope 1-2) as well as all the emission from input material, eg. alloys, scope 3.

Steel Grade	Format	Condition	Scope 1-3 (CO2e kg /1000 kg steel)	Climate compensated Net emission = Scope 3 (CO2e kg /1000 kg steel) Scope 1 - 2 = 0 (compensated)
SB9257	Round bar	+AR	443	189

All above data are to be seen as typical values for the specified format and condition. Detailed information about your specific product please contact your sales contact.

## Other properties (typical values)

Youngs module (GPa)	Poisson's ratio (-)	Shear module (GPa)	Density (kg/m3)
210	0.3	80	7800
Average CTE 20-300°C (µm/m°K)	Specific heat capacity 50/100°C (J/kg °K)	Thermal conductivity Ambient temperature (W/m°K)	Electrical resistivity Ambient temperature (µΩm)
12	460 - 480	40 - 45	0.20 - 0.25

## Contact us

Would you like to know more about our offers? Don't hesitate to contact us:

Via e-mail: [info@ovako.com](mailto:info@ovako.com)

Via telephone: +46 8 622 1300

For more detailed information please visit <http://www.ovako.com/en/Contact-Ovako/>

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