

## 56Si7 All

### General Information

Grade 56Si7 is a silicon spring steel suitable for quenched and hardened springs and different type of knives.

### Similar designations

1.5026, 55S7, 251A58, 55Si2Mn, AISI9255, 55Si8

### Chemical composition

Variant	Cast	Weldability		C %	Si %	Mn %	P %	S %	Cr %
SB 9084	CC	CEV 0.73 <sub>max</sub>	Min	0.53	1.60	0.70	-	-	-
		Pcm 0.66 <sub>max</sub>	Max	0.55	1.80	0.80	0.025	0.015	0.30
56Si7 EN10089:2002	Std	CEV 0.7 <sub>max</sub>	Min	0.52	1.60	0.60	-	-	-
		Pcm 0.67 <sub>max</sub>	Max	0.60	2.00	0.90	0.025	0.025	-

## Mechanical Properties

Variant	Condition	Dimension [mm]	Yield strength min [MPa]	Tensile strength [MPa]	Elongation A <sub>5</sub> [%]	Hardness
SB 9084	+AR	< 45	-	-	-	280-340 HB
		> 45	-	-	-	260-300 HB
	+SH	-	480*	710-925	15	215-280 HB
	+SA	-	-	-	-	< 248 HB

*R<sub>p0.2</sub> \* R<sub>eh</sub> \*\* R<sub>el</sub>*

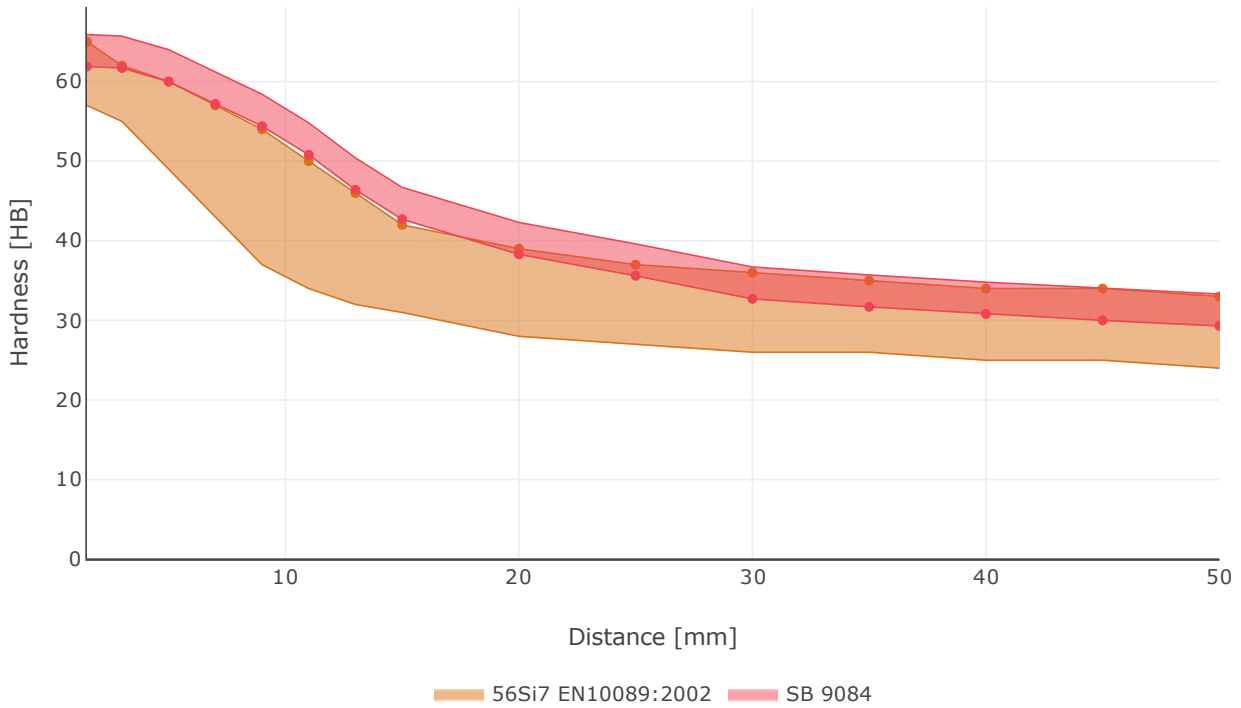
## Transformation temperatures

	Temperature °C
MS	266
AC1	767
AC3	820

## Heat treatment recommendations

Treatment	Condition	Temperature cycle	Cooling/quenching
Hot forging	+AR	Soaking between 850- 1050°C	In air slow
Normalizing	+AR	Soaking between 850 - 880°C	In air
Soft annealing	+AR	Annealing at 650 - 690°C	Coolin in air
Hardening	+AR	Soaking at 840 - 870°C	Quenching in oil

## 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](#).

In many international comparisons the crude steel Scope 1-2 emission is a key parameter, i.e. the CO<sub>2</sub> emission from the steel works itself.

As of 1 January 2022 we carbon offset all our scope 1 and 2 volume shown below.

Steel works	Hofors	Smedjebacken	Imatra
CO <sub>2</sub> e/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 (CO <sub>2</sub> e kg /1000 kg steel)	Climate compensated Net emission = Scope 3 (CO <sub>2</sub> e kg /1000 kg steel) Scope 1 - 2 = 0 (compensated)
56Si7	Flat bar	+AR	425	188

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/m <sup>3</sup> )
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:

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Via telephone: +46 8 622 1300

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

## Disclaimer

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