

38Si7

All

General Information

SB40Si7 is a spring steel used in quenched and tempered condition.

Similar designations

1.5023

Chemical composition

Variant	Cast	Weldability		C %	Si %	Mn %	P %	S %	Cu %
SB40Si7	CC	CEV 0.52 _{max}	Min	0.38	1.50	0.50	-	-	-
		Pcm 0.5 _{max}	Max	0.42	1.80	0.80	0.025	0.025	0.35
38Si7 EN10089	Std	CEV 0.51 _{max}	Min	0.35	1.50	0.50	-	-	-
		Pcm 0.48 _{max}	Max	0.42	1.80	0.80	0.025	0.025	-

Mechanical Properties

Variant	Condition	Format	Dimension [mm]	Hardness
SB40Si7	+AR	Flat bar	6 < 20	240 HB typical

$Rp_{0.2}$ * R_{eh} , ** R_{el}

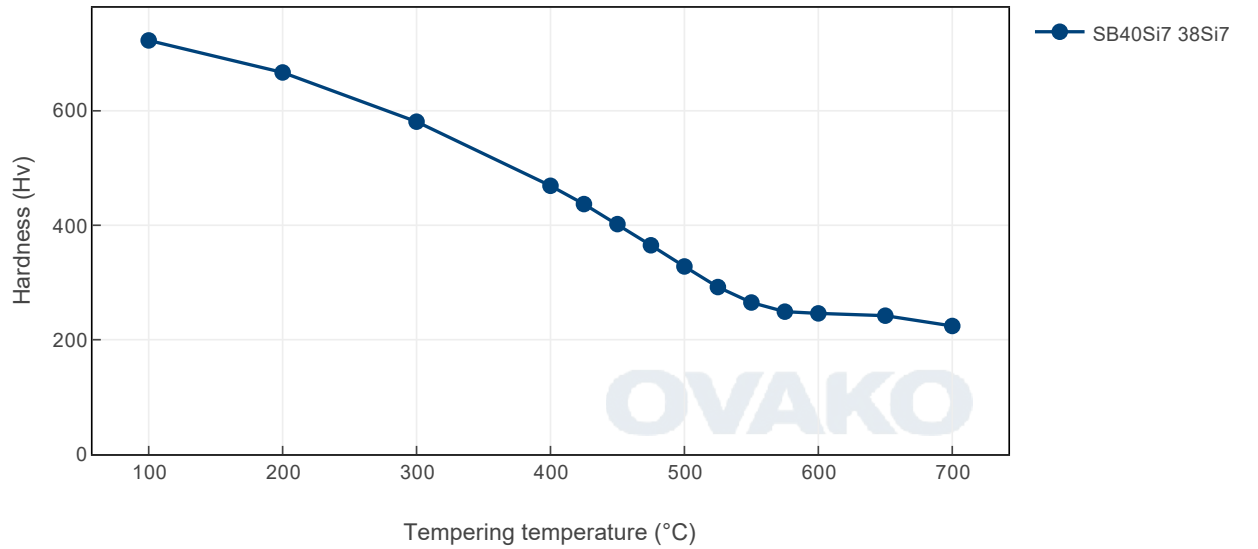
Transformation
temperatures

	Temperature °C
MS	341
AC1	764
AC3	841

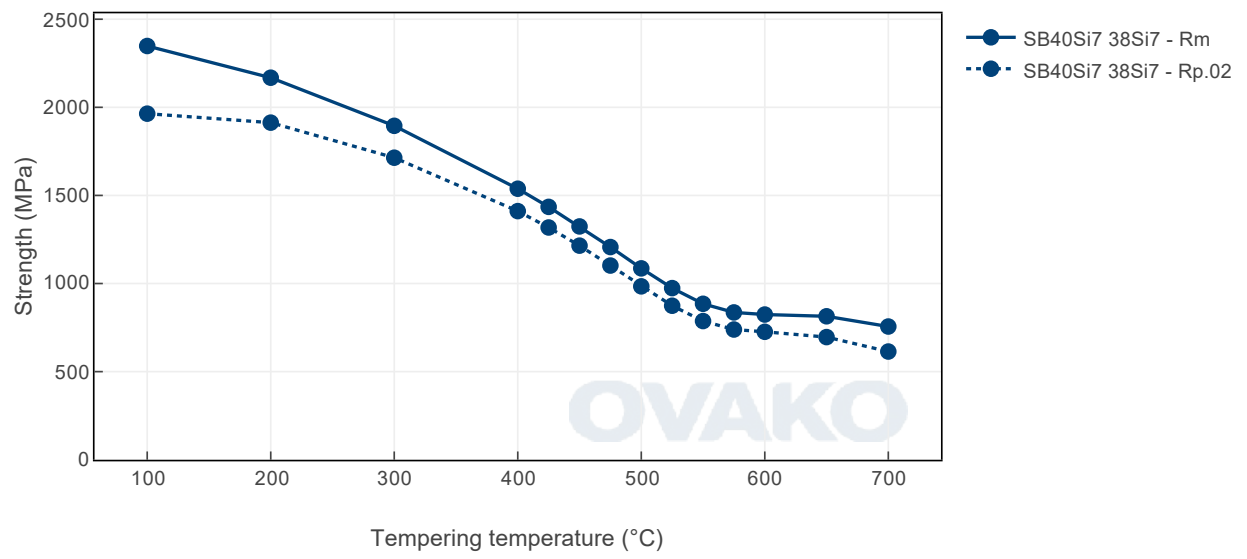
Heat Treatment Guide generated Graphs

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.

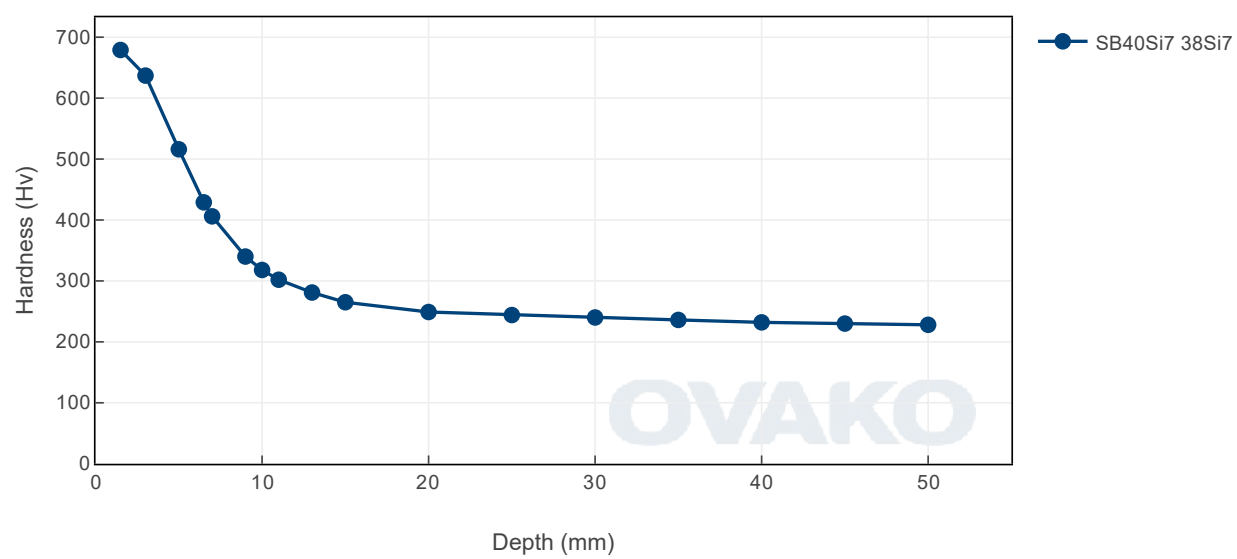
Tempering Diagram (hardness)



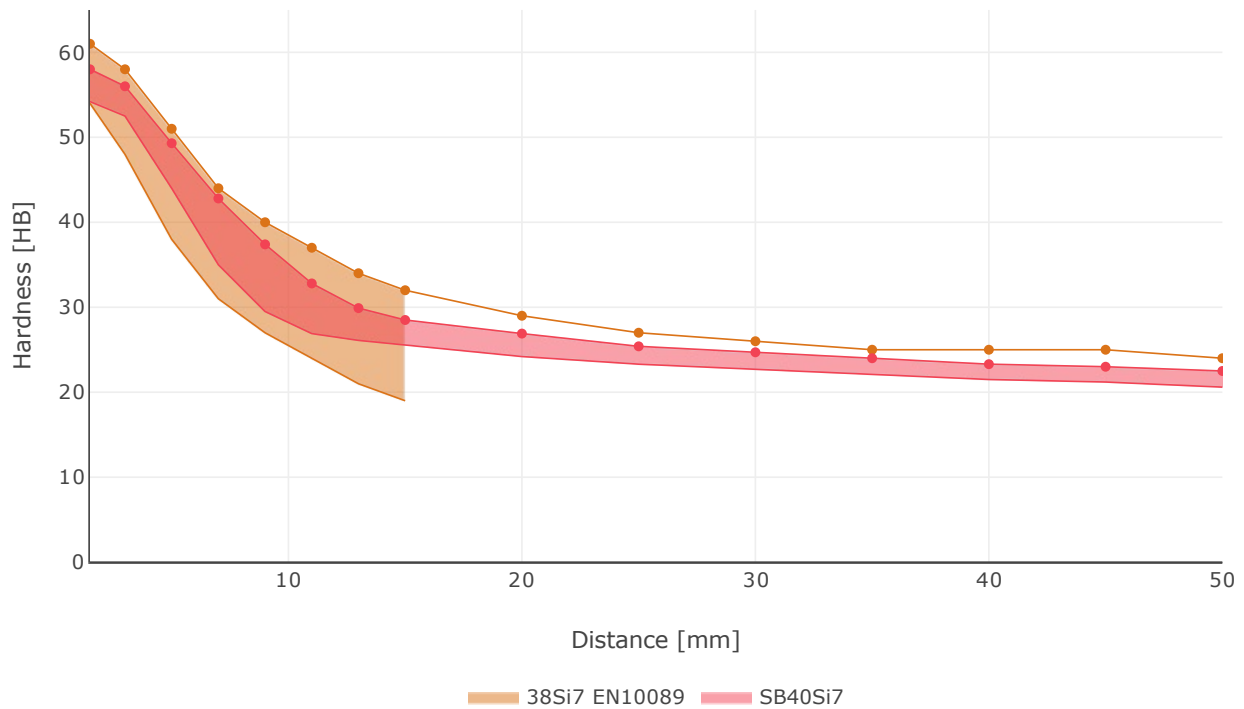
Tempering Diagram (strength)



Jominy



Hardenability



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

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