

18CrNiMnMo7-5-5* All

General Information

Ovako 250R is a quench and tempering steel that is used for large chains.

- Weldable using normal chain welding methods
- Available as bar in as rolled condition

** Designation followed by "*" is not an official EN standard grade but named according to the rules in EN 10027.*

Chemical composition

Variant	Cast	Weldability		C%	Si%	Mn%	P%	S%	Cr%	Ni%	Mo%	DI%
250R	IC	CEV 1.01 _{max}	Min	0.17	0.20	1.15	-	-	1.70	1.15	0.42	0.00
		Pcm 0.44 _{max}	Max	0.19	0.30	1.30	0.015	0.010	1.90	1.30	0.48	10.50

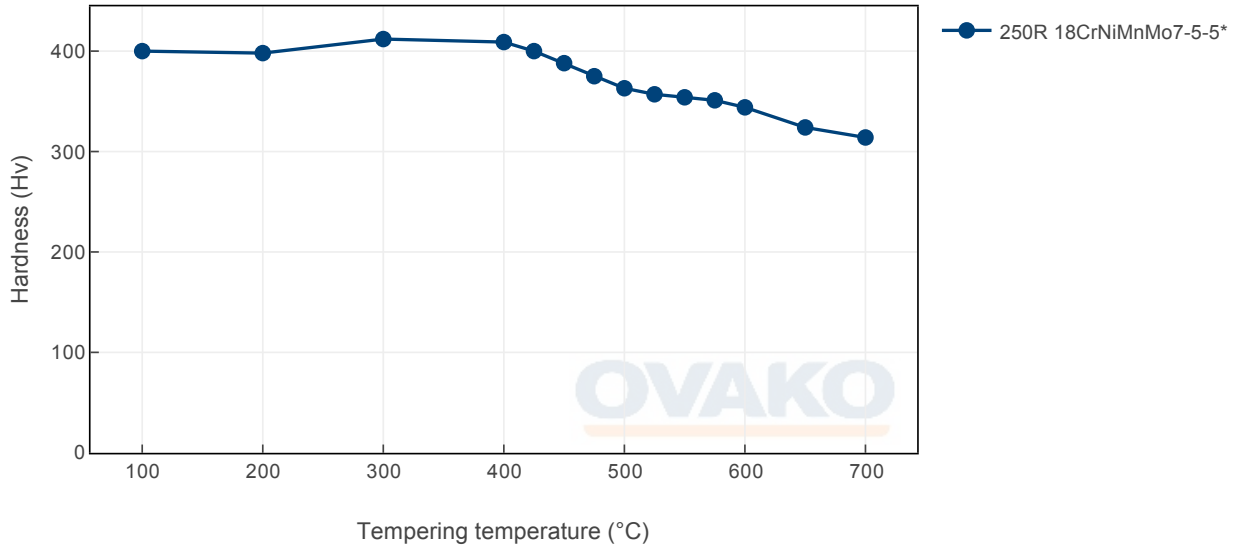
Transformation temperatures

	Temperature °C
AC1	726
AC3	817

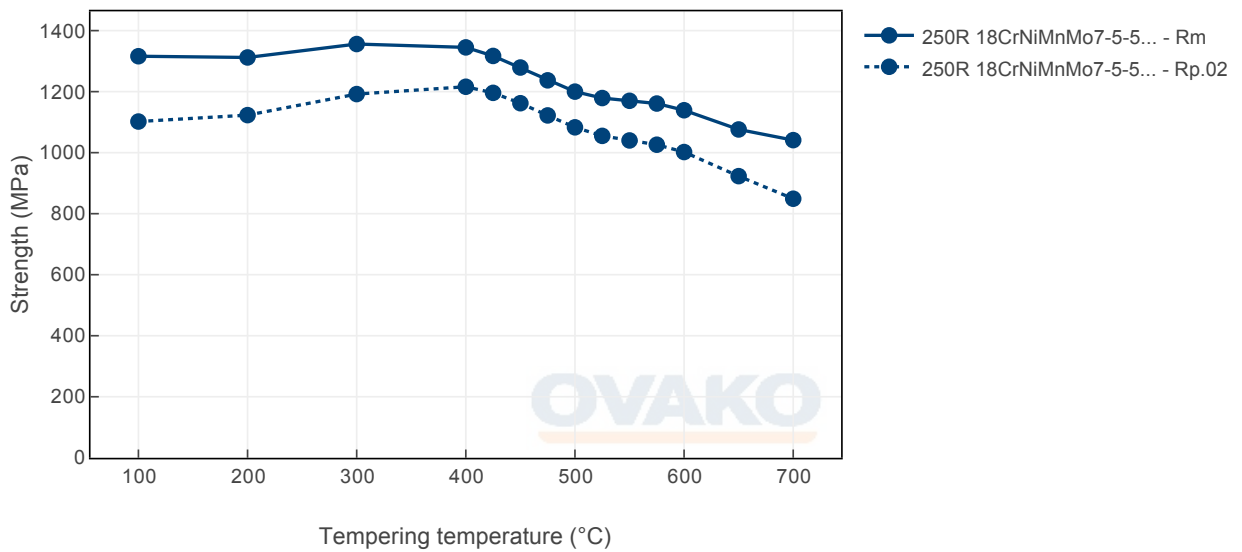
Heat Treatment Guide generated Graphs

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.

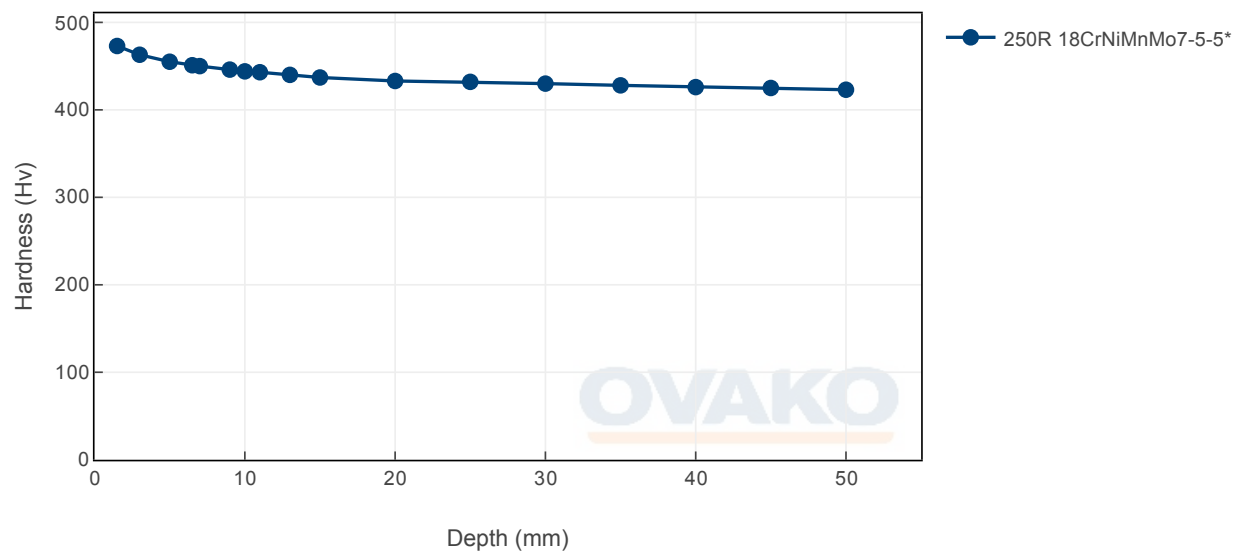
Tempering Diagram (hardness)



Tempering Diagram (strength)

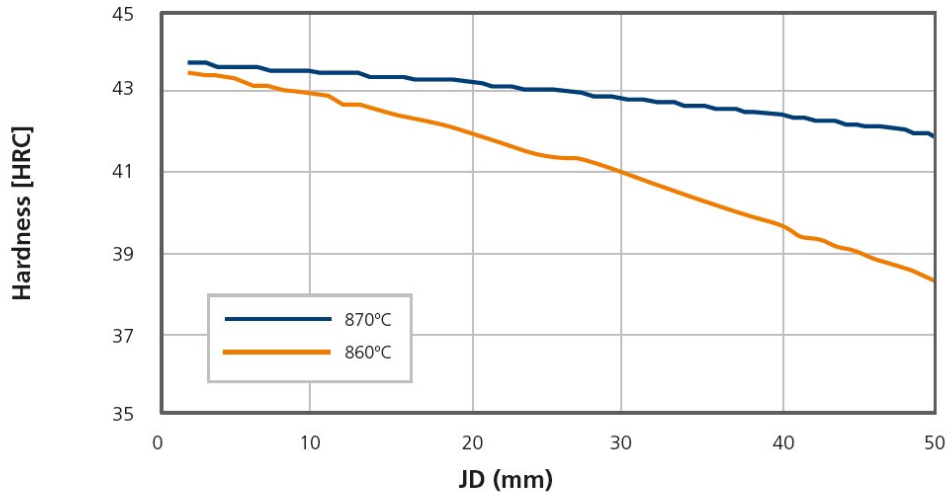


Jominy



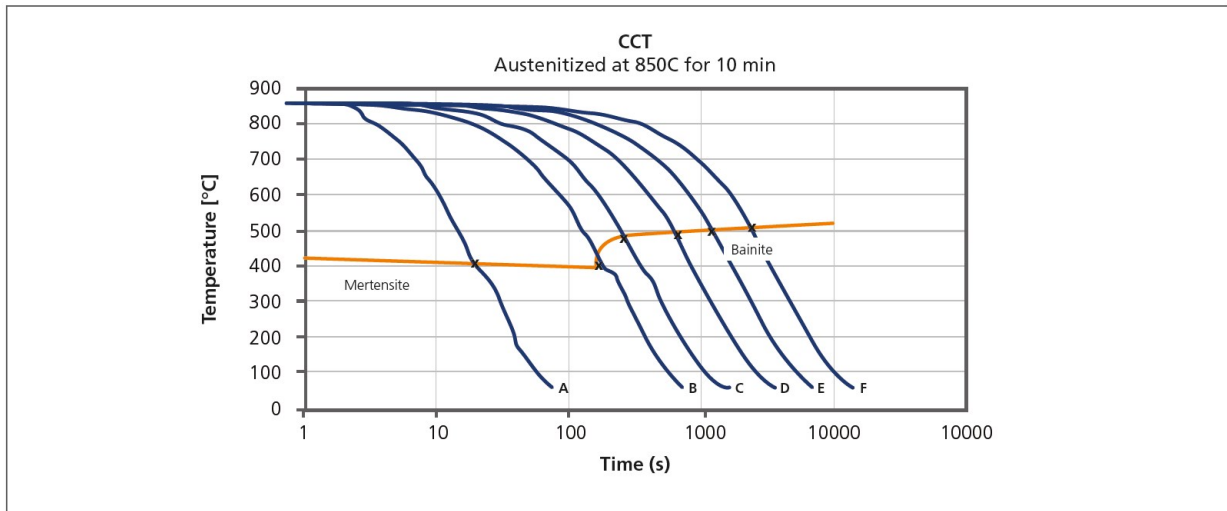
Ovako 250R

Hardenability 250R (according to Jominy)



Hardenability of Ovako 250R calculated from CCT measurements and two-dimensional quenching of a bar.

CCT - Ovako 250R



	A	B	C	D	E	F&
t_{8-5} [s]	10	100	200	500	1000	2000
HV ₃₀	450	424	422	393	377	345

Steel cleanliness

Micro inclusions - steel grade 250R								Macro inclusions - 250R		
Applied standard	ASTM E45							Applied standard	ISO 3763 (Blue fracture)	
Sampling	ASTM A295							Sampling	Statistical testing on billets	
Maximum average limits	A		B		C		D		Limits	< 5 mm/dm ²
	Th	He	Th	He	Th	He	Th	He		
	2.5	1.5	1.0	0.5	0	0	0.5	0.5		

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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