

18CrNiMo8-8* All

General Information

18CrNiMo8-8* is a case hardening steel suitable for demanding powertrain applications and used in eg. diesel injection nozzles.

Chemical composition

Variant	Cast		C%	Si %	Mn %	P %	S %	Cr %	Ni %	Mo %	Cu %
258D	IC	Min	0.16	0.15	0.45	-	0.016	1.85	1.85	0.95	-
		Max	0.20	0.35	0.60	0.025	0.023	2.10	2.10	1.15	0.25

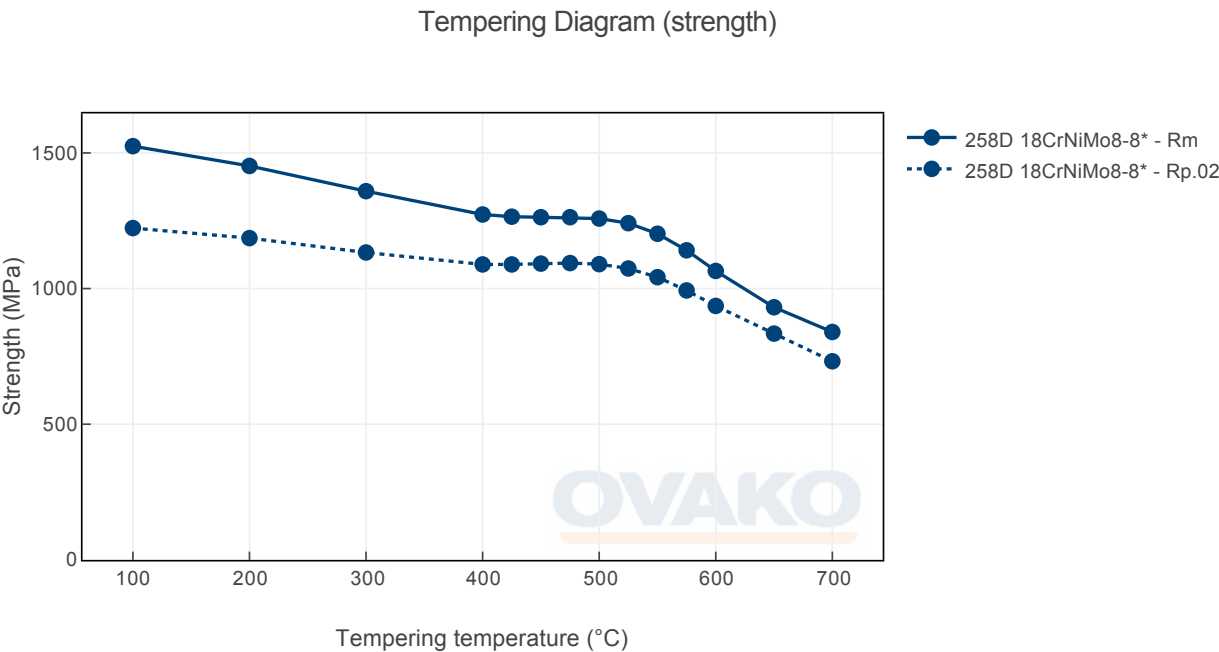
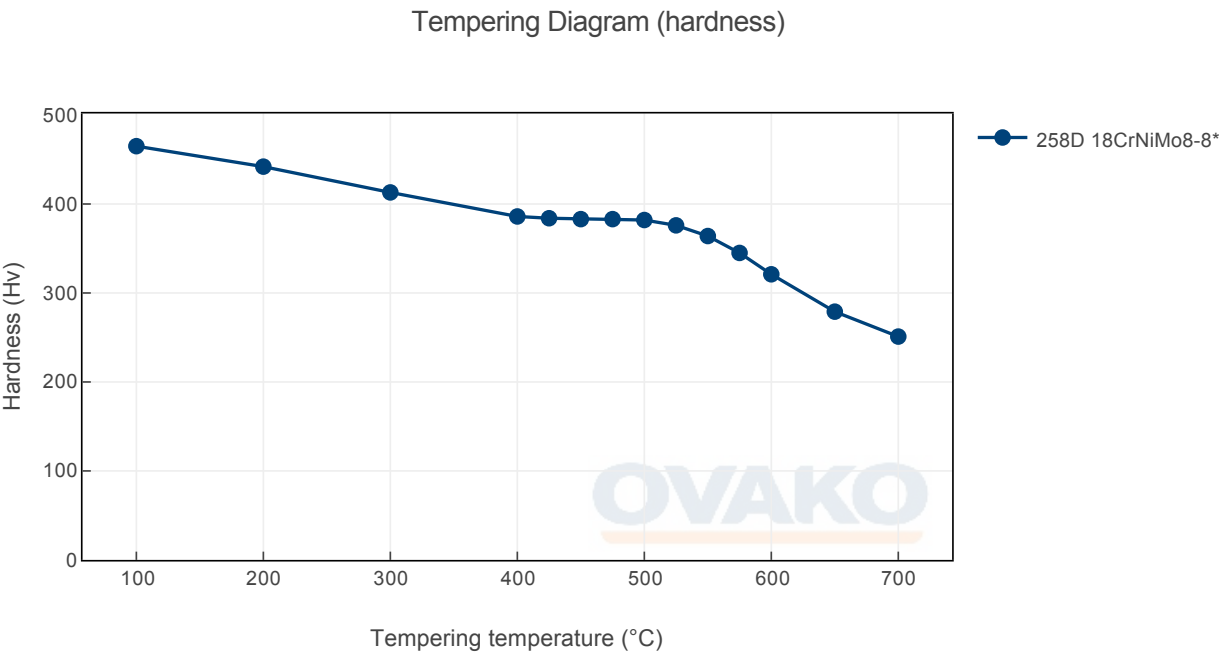
Mechanical Properties

Variant	Condition	Format	Dimension [mm]	Hardness
258D	+A	Round bar	< 55	250 HB typical

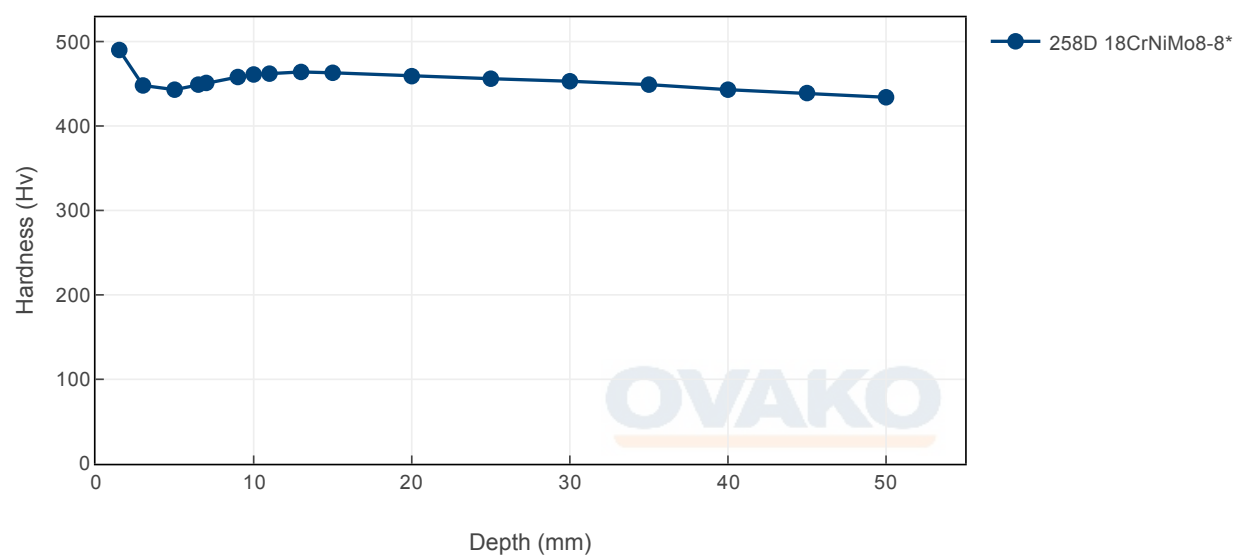
$Rp_{0.2}$ * R_{eh} , ** R_{el}

Heat Treatment Guide generated Graphs

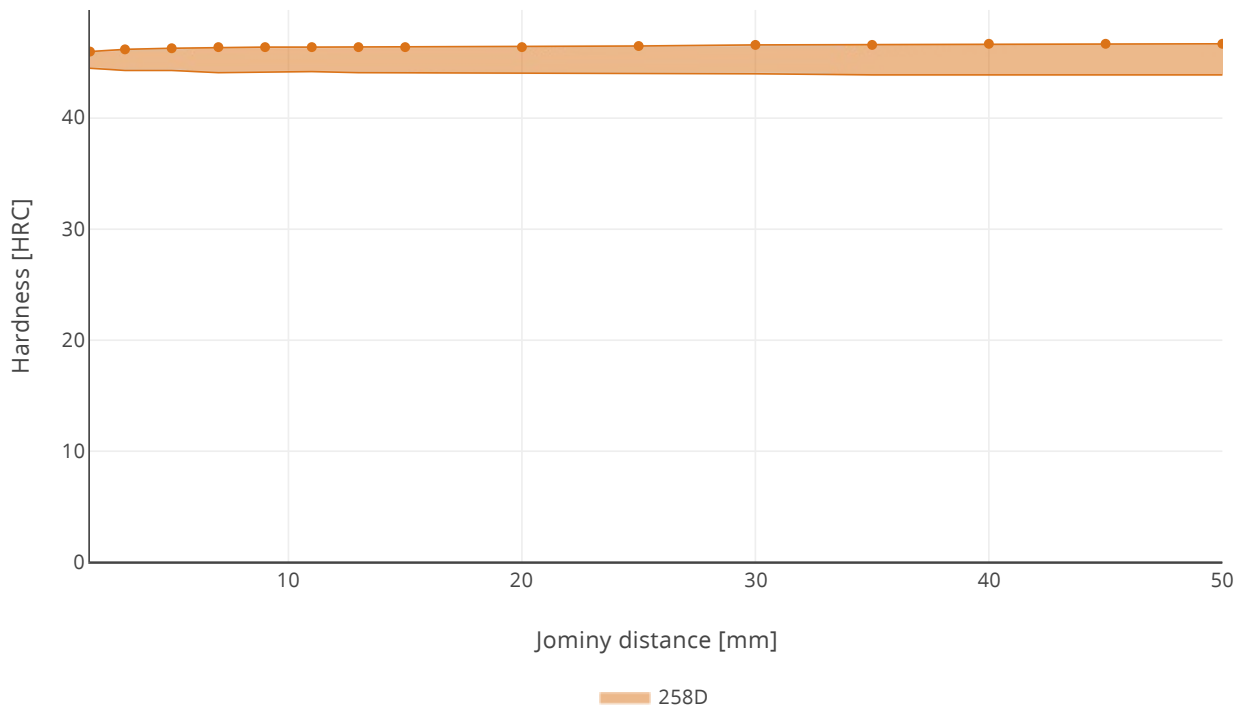
The following graphs are generated from a theoretical model. For further info see the Heat treatment guide module. Select a specific grade version for individual display.



Jominy



Hardenability



Jominy hardenability according to ASTM A255. Data is average value with +/- standard deviation.

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, ie. the CO₂ 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 ₂ e/kg	120	62	76

To get the full picture of our products environmental impact we have to look at all of our CO₂ 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 ₂ e kg /1000 kg steel)	Climate compensated Net emission = Scope 3 (CO ₂ e kg /1000 kg steel) Scope 1 - 2 = 0 (compensated)
258D	Round bar	+AR	997	598
258D	Round bar	+A	1005	603

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Other properties (typical values)

Youngs module (GPa)	Poisson's ratio (-)	Shear module (GPa)	Density (kg/m ³)
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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For more detailed information please visit <http://www.ovako.com/en/Contact-Ovako/>

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