

# 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

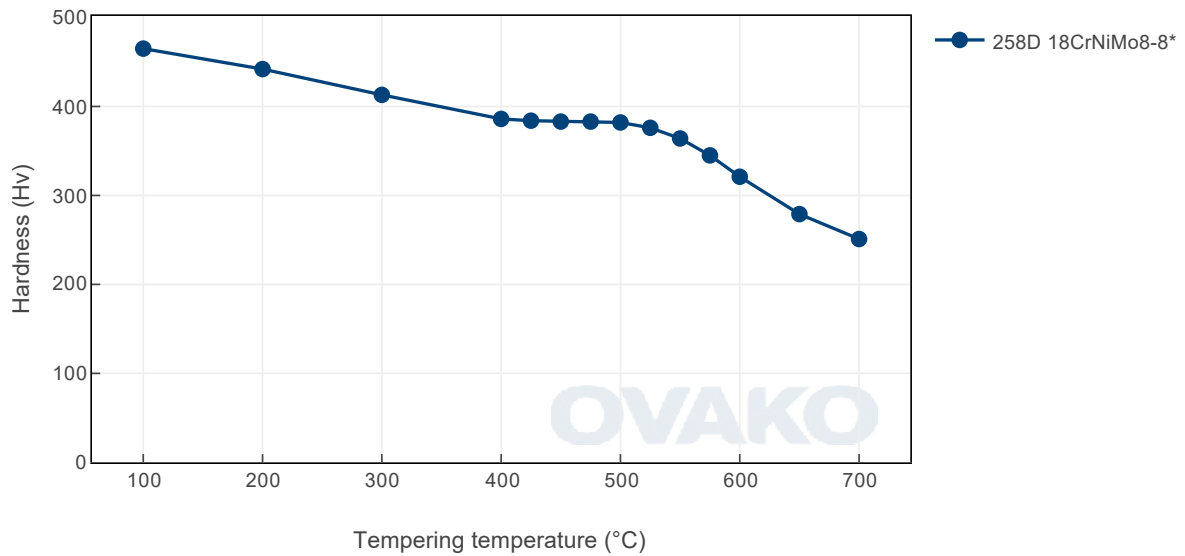
Variant	Condition	Format	Dimension [mm]	Hardness
258D	+A	Round bar	< 55	250 HB typical

$R_{p0.2}$  \*  $R_{eh}$  \*\*  $R_{el}$

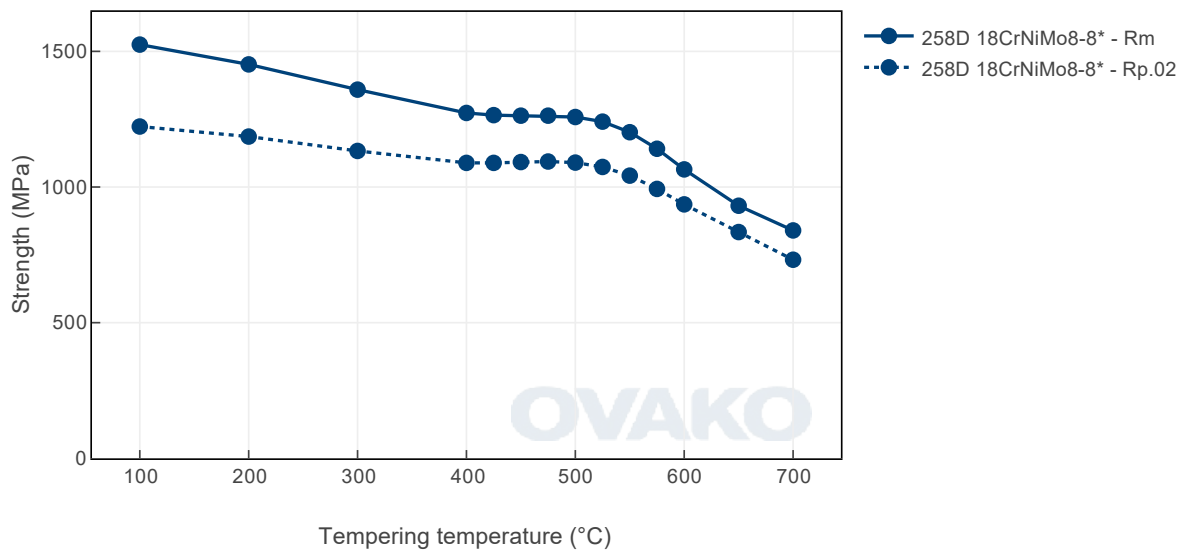
### Heat Treatment Guide generated Graphs

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.

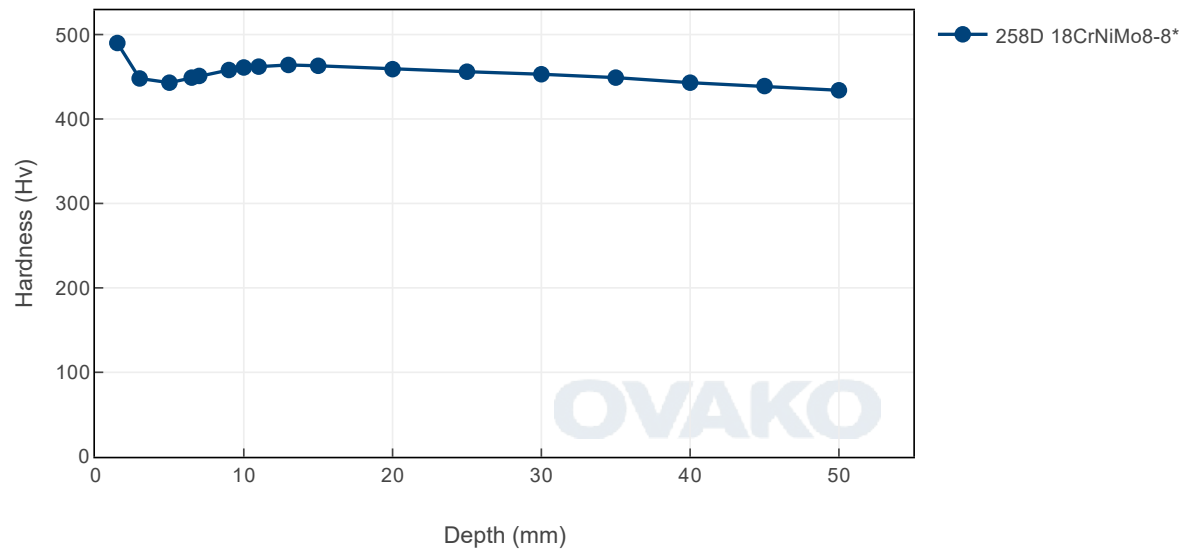
Tempering Diagram (hardness)



Tempering Diagram (strength)

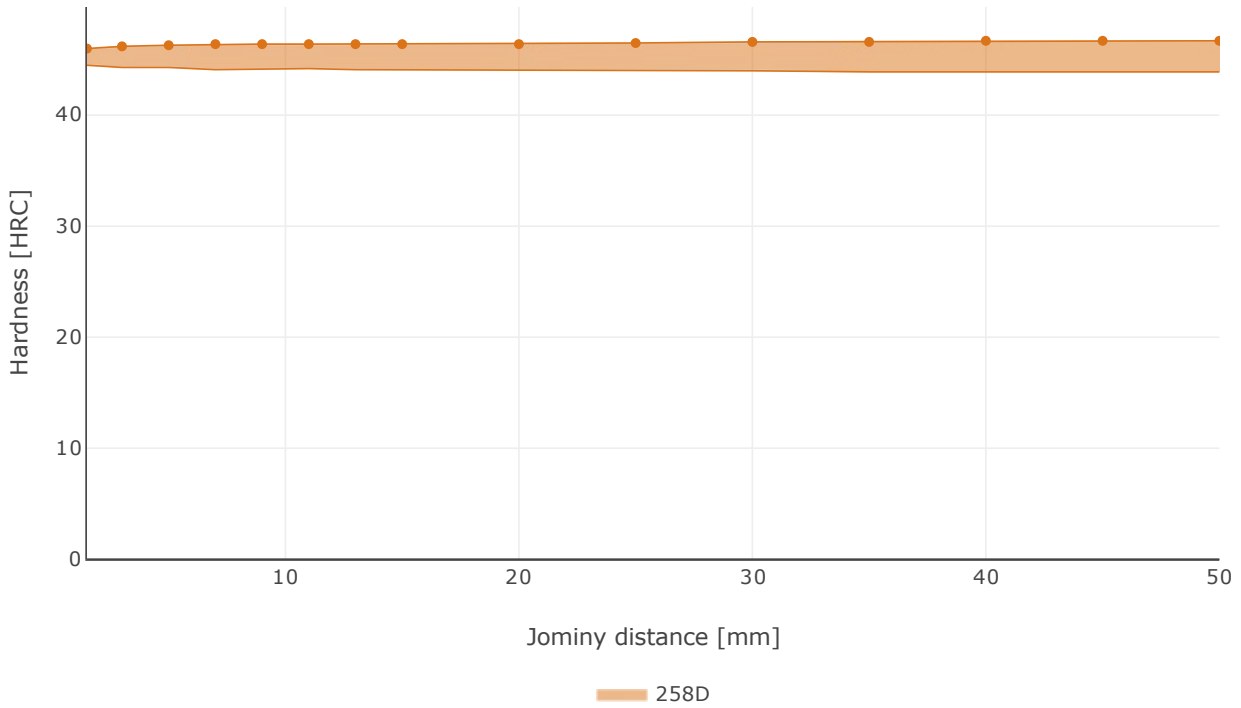


# Jominy





## 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](#).

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)
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/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:

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

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