

STEEL GRADE

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P355NH All

General Information

Hot rolled weldable steel bars for pressure purposes with specified elevated temperature properties.

Similar designations

WStE 355, A 510AP, FeE 355-2

Chemical composition

Variant	Cast	Weldability		C %	Si %	Mn %	P %	S %	Cr %	Ni %	Mo %	V %	Ti %	Cu %	Al %	Nb %	N %
2714	CC	CEV 0.43 _{max}	Min	0.01	0.01	1.10	0.000	0.000	0.00	0.00	0.00	0.000	0.000	0.00	0.020	0.000	0.0000
		Pcm 0.27 _{max}	Max	0.18	0.50	1.70	0.025	0.010	0.30	0.50	0.08	0.100	0.030	0.30	-	0.050	0.0120

Mechanical Properties

Variant	Condition	Format	Dimension [mm]	Yield strength min [MPa]	Tensile strength [MPa]	Elongation A ₅ [%]	Impact (ISO-V) strength _{min}
2714	+AR	Round bar	25 < 35	355*	490-630	22	-20 °C 40 J (long)
		Round bar	35 < 50	345*	490-630	22	-20 °C 40 J (long)
		Round bar	50 < 70	325*	490-630	22	-20 °C 40 J (long)
		Round bar	70 < 100	315*	470-610	21	-20 °C 40 J (long)
		Round bar	100 < 150	295*	450-590	21	-20 °C 40 J (long)

*R_{p0,2} * R_{eh}, ** R_{el}*

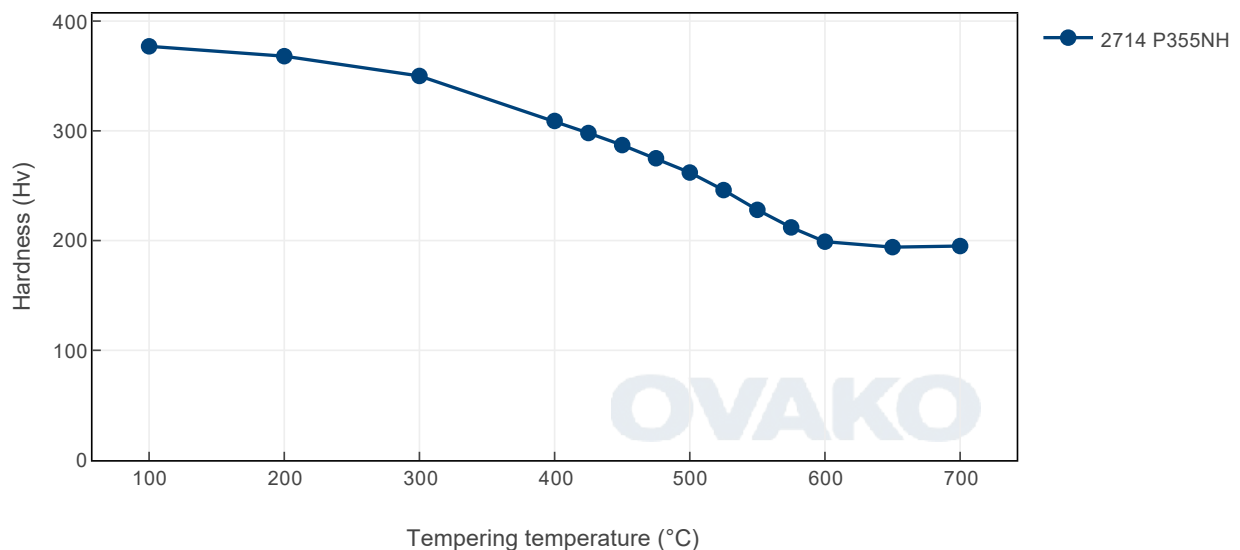
Transformation temperatures

	Temperature °C
MS	432
AC1	717
AC3	847

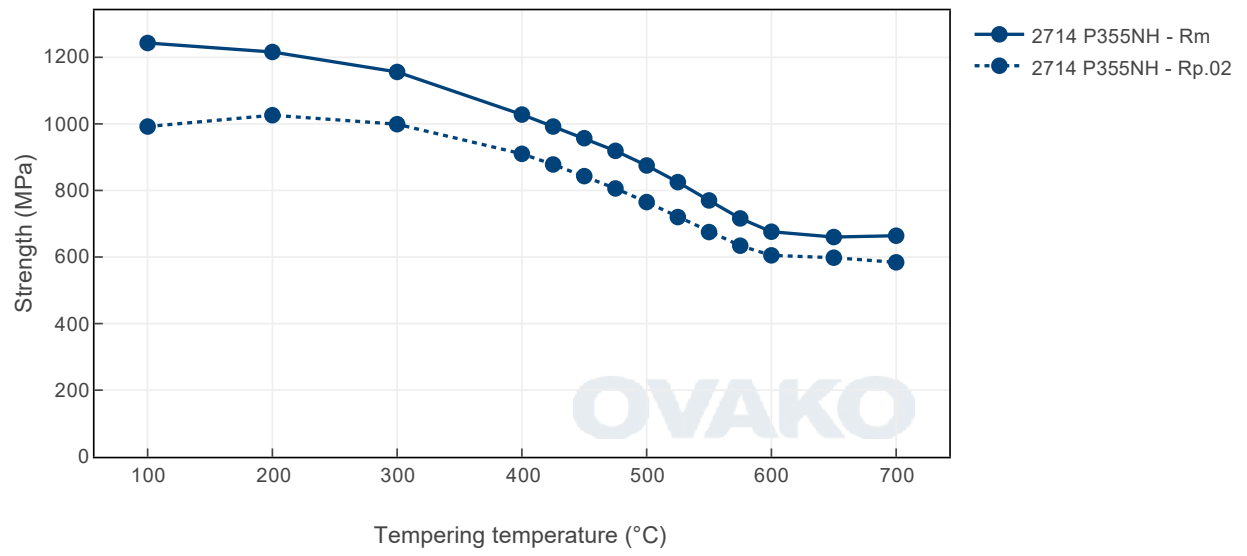
Heat Treatment Guide generated Graphs

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.

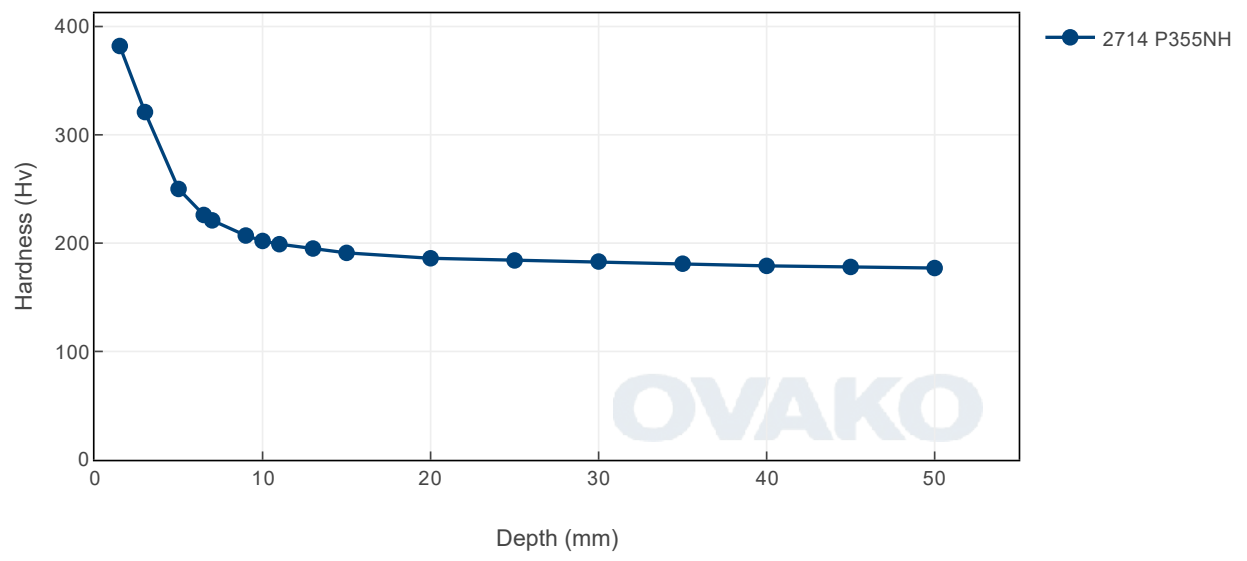
Tempering Diagram (hardness)



Tempering Diagram (strength)



Jominy



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
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)
2714	Round bar	+AR	519

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 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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Via telephone: +46 8 622 1300

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

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