

8CrMnMo15-4* All

General Information

8303, also known as, Imacro NIT has been designed for nitriding. After nitriding, it gives a similar hardness distribution as aluminium alloyed nitriding steels, and also has a much better machinability.

Similar designations

8CrMoV16-5

Chemical composition

Variant	Cast	Di	Weldability		C %	Si %	P %	S %	Cr %	Mo %	Cu %
8303	CC	6.03	CEV 1.15 _{max}	Min	0.04	0.10	-	0.010	3.70	0.40	-
			Pcm 0.38 _{max}	Max	0.12	0.40	0.025	0.035	4.30	0.60	0.25

Mechanical Properties

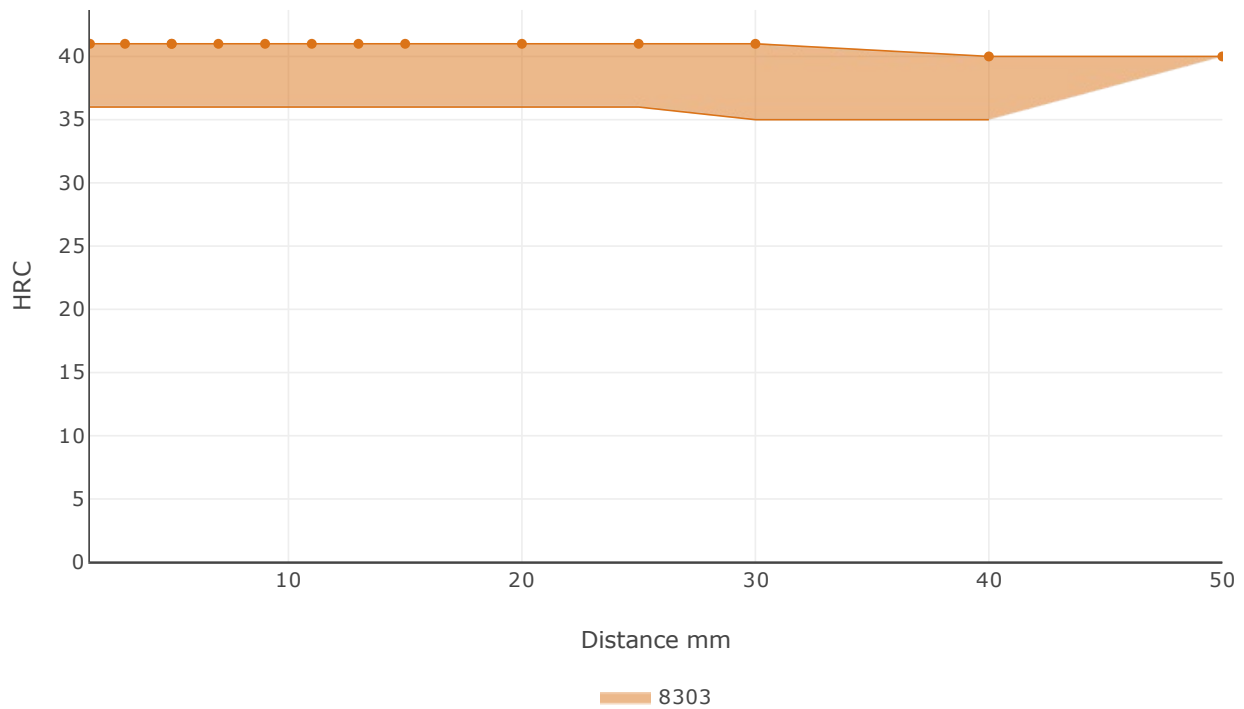
Variant	Condition	Format	Dimension [mm]	Yield strength min [MPa]	Tensile strength [MPa]	Elongation A ₅ [%]	Reduction of area Z _{min} [%]	Hardness	Impact (ISO-V) strength _{min}
8303	+AR	Round bar	25 < 140	-	-	-	-	< 320 HB	-
	+A	Round bar	25 < 140	-	-	-	-	< 150 HB	-
	+QT	Round bar	25 < 120	700	800-1000	14	55	< 290 HB	-40 °C 35 J (long)

*RP_{0.2} * R_{eh}, ** R_{el}*

Transformation temperatures

	Temperature °C
MS	376
AC1	769
AC3	861

Hardenability



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)	Climate compensated Net emission = Scope 3 (CO ₂ e kg /1000 kg steel) Scope 1 - 2 = 0 (compensated)
Imacro NIT, 8303	Round bar	+AR	613	332
Imacro NIT, 8303	Round bar	+QT	884	397

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

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

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