

21CrMoV5-7 All

General Information

21CrMoV5-7 is a steel for fasteners with specified elevated and/or low temperature properties. Imanite has been designed for nitriding, giving similar hardness distribution as case hardening. When using nitriding the distortion due to quenching after carburising can be avoided. Imanite is a M-steel version of 21CrMoV5-7 . M-treatment is very beneficial when the machining is done in Q&T condition and the hardness is about 300 HBW.

For additional Heat Treatment Data, please visit the Heat Treatment Guide.

Chemical composition

Variant	Cast		C %	Si %	Mn %	P %	S %	Cr %	Mo %	V %	Ca %
6130	CC	Min	0.17	0.15	0.40	-	-	1.20	0.55	0.250	-
		Max	0.25	0.40	0.80	0.030	0.030	1.50	0.80	0.350	-
Imanite (6132)	CC	Min	0.17	0.15	0.35	-	0.025	1.20	0.65	0.250	0.0020
		Max	0.25	0.35	0.85	0.030	0.040	1.50	0.80	0.350	-

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}
6130	+QT		25 < 160	550	700-850	16	60	205-250 HB	20 °C 63 J (long)
Imanite (6132)	+QT	Round bar	25 < 160	800	900-1100	14	60	280-345 HB	20 °C 35 J (long)

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

Transformation temperatures

	Temperature °C
MS	405
AC1	745
AC3	853

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:

Via e-mail: info@ovako.com

Via telephone: +46 8 622 1300

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

Disclaimer

The information in this document is for illustrative purposes only. The data and examples are only general recommendations and not a warranty or a guarantee. The suitability of a product for a specific application can be confirmed only by Ovako once given the actual conditions. The purchaser of an Ovako product has the responsibility to ascertain and control the applicability of the products before using them. Continuous development may necessitate changes in technical data without notice. This document is only valid for Ovako material. Other material, covering the same international specifications, does not necessarily comply with the properties presented in this document.