

7CrMoBS5 All

General Information

Imaform is a high strength steel suitable for hot forging and direct hardening. It also can be hardened separately. Due to low carbon content the tempering is unnecessary. The structure in as hardened condition consist off lath martensite and/or bainite.

Similar designations

1.7278, 5CrB5

Chemical composition

Variant	Cast		C %	Si %	Mn %	P %	S %	Cr %	Ni %	Mo %	B %
Imaform 5450	CC	Min	0.04	0.15	0.80	0.000	0.050	1.20	0.00	0.00	0.0030
		Max	0.09	0.35	1.00	0.025	0.080	1.50	0.20	0.15	0.0050

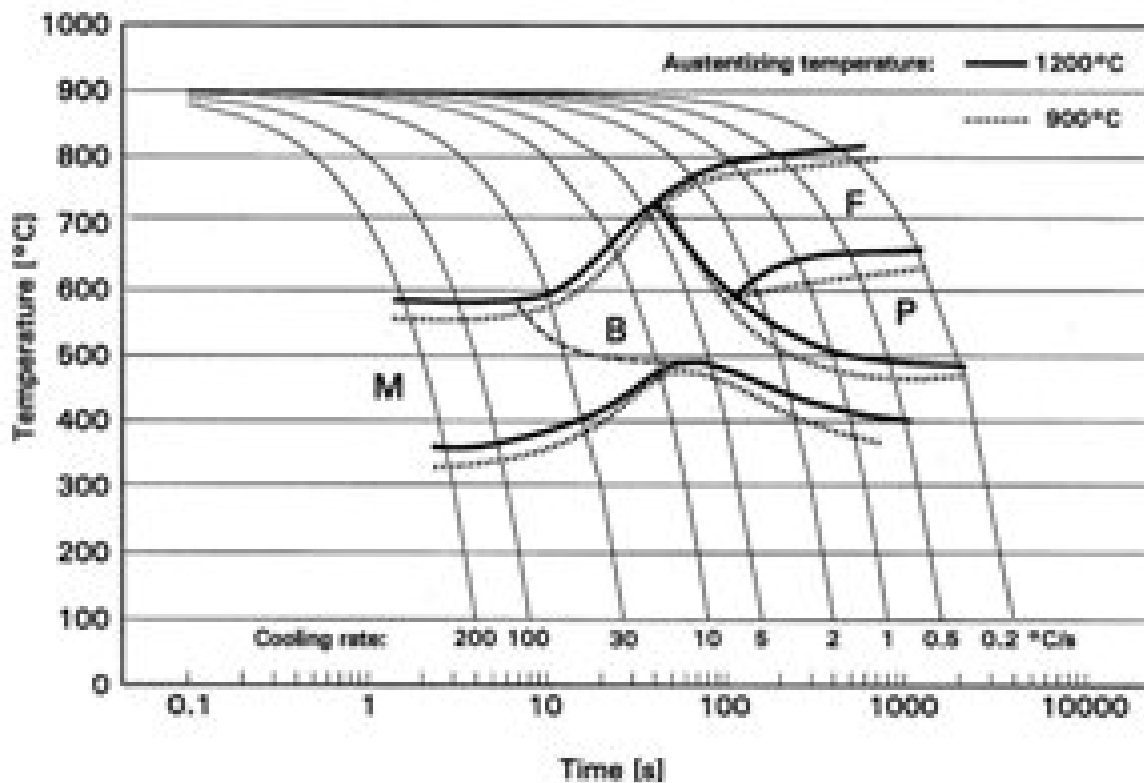
Mechanical Properties

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}
Imaform 5450	+QT	Round bar	< 30	750	900-1200	10	40	280-350 HB	20 °C 30 J (long)
		Round bar	30 < 60	700	800-1100	12	40	250-330 HB	20 °C 40 J (long)

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

Transformation temperatures

	Temperature °C
MS	465
AC1	743
AC3	833



Heat treatment recommendations

Treatment	Condition	Temperature cycle	Cooling/quenching
Hardening	+QW	Soaking 900 - 940°C	Quenching in water, water temperature <40°C, core temperature after quenching must be below 200°C

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.