RADHIKA ALLOYS

1.2738 HH | P-20 NICKEL HH

It is a high hard tool steel with a high performance of trough hardening homogeneity (39 - 43 HRC). To be used for plastic injection moulds, compression moulds, big sizes moulds for automotive industry with texturing.

1.2738 HH is designed to provide improved performance and offers the following advantages:
• High polish ability.
• High machinability.
• Excellent suitability for texturing.
• Greatly increased thermal conductivity.
• Improved weld ability than 1.2738.
• High toughness.

Chemical composition

W.nr	EQUIVALENT			C	Si	Mn	S	P	Cr	Mo	V	Ni
	JIS	DIN	AISI/ASTM									
1.2738HH		40CrMnNiM0864+HH	P20+Ni+HH	0.25-0.35	0.10-0.20	1.25-1.55	<0.03	<0.03	1.20-1.40	0.40-0.60	0.05-0.15	0.90-1.10

Delivery condition

1.2738HH is delivered in quenched and tempered condition, with hardness range 360 - 400 HB (39 - 43 HRC).

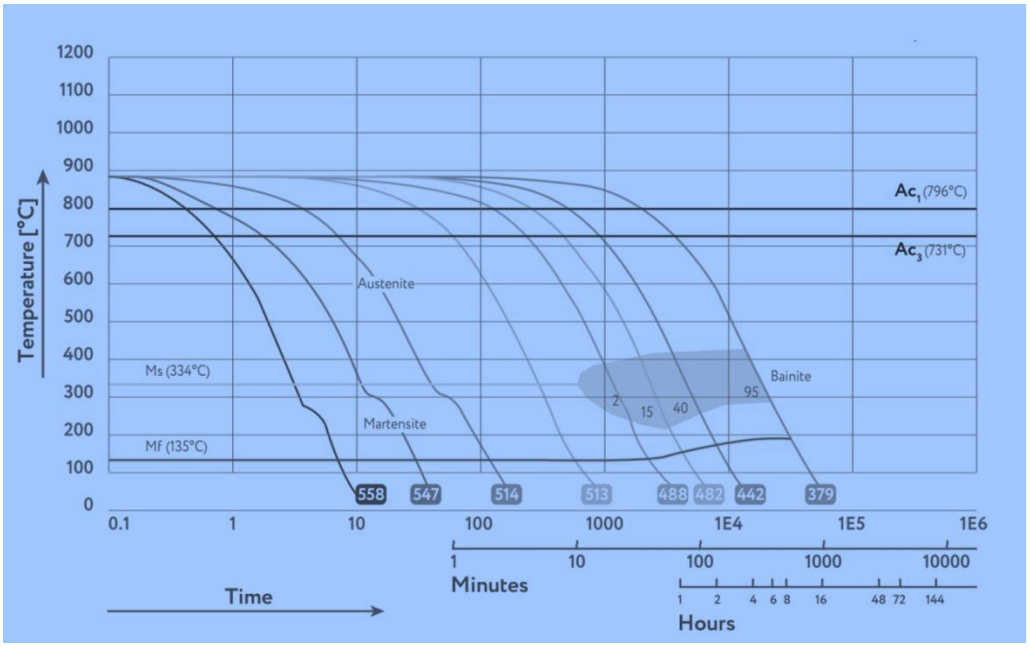
Physical properties

PROPERTIES	20°C	100°C	250°C	500°C
Thermal expansion coefficient (10-6/K)	11.4	11.6	12.7	14.2
Thermal conductivity (W/mk)	36	36.7	38	34.3
Young modulus (Kn/mm2)	211	207	199	166

Heat treatment

TREATMENT	TEMPERATURE	HOLDING TIME (HT)	COOLING	COMMENTS
Annealing	Heat to 650 - 700 °C	Min. H.T. for 2 minute /mm	Air or furnace	In order to obtain hardness lower than 250 HB (24 HRC) to improve machinability
Stress relieving	Heat to 500 - 550 °C	Min. H.T. for 2 minute /mm	Air or furnace	To be carried out after machining, is recommended to eliminate the residual stresses induced by mechanical working
Hardening	Heat to 860-900°C	Min. H.T. for 1 minute /mm	Polymer	-
Tempering	Heat to 550 – 610°C	Min. H.T. for 3 minute /mm	Air or furnace	To be carried out after hardening. 2nd Tempering must be performed to max 30°C below tempering temperature

C.C.T. curve



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Mechanical properties

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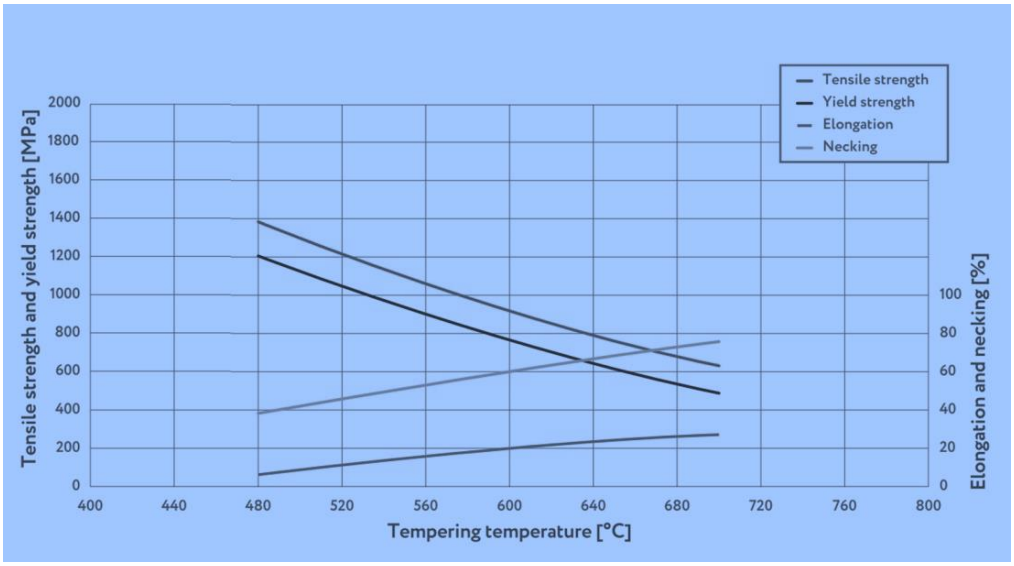
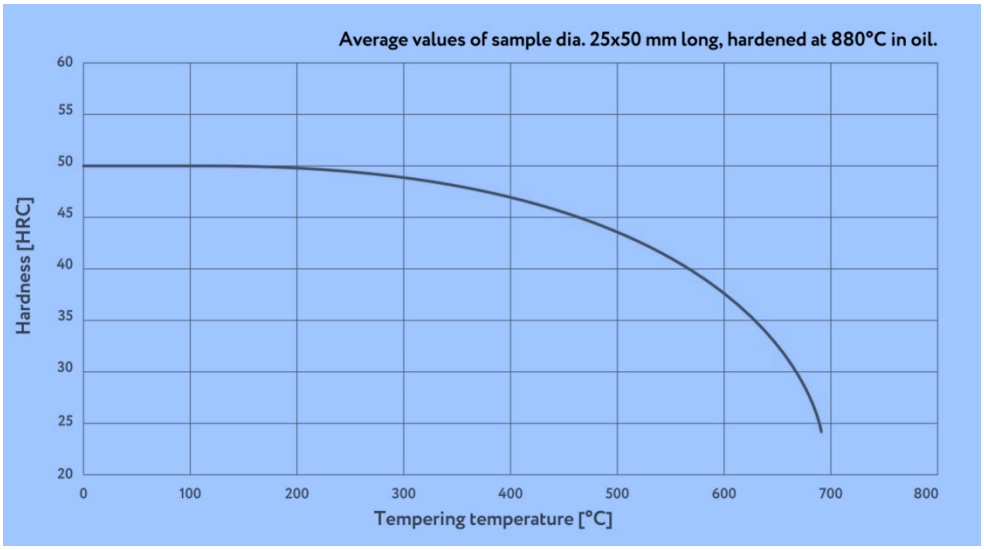


Tempering curve



Application

To be used for plastic injection moulds, compression moulds, big sizes moulds for automotive industry with texturing.