

1.2316 | X36CrMo17 | SUS420J

Pre-hardened stainless martensitic chrome- molybdenum steel with excellent resistance to corrosion, higher than similar Cr grades (i.e. 1.2083), good polishing and photoengraving.

Its applications are equipments and plastic moulds, particularly for corrosive plastic as PVD.

Chemical composition

W.nr	EQUIVALENT			C	Si	Mn	S	P	Cr	Mo	Ni
	JIS	DIN	AISI/ASTM								
1.2316		36CrMo17		0.35-0.45	0.30-0.40	0.80-1.00	<0.03	<0.03	15.00-17.00	0.85-1.20	<1

Delivery condition

1.2316 is delivered in quenched and tempered condition, with hardness range 280 - 325 HB (29 – 35 HRC) or in annealed condition with hardness max 240 HB (23 HRC)

Physical properties

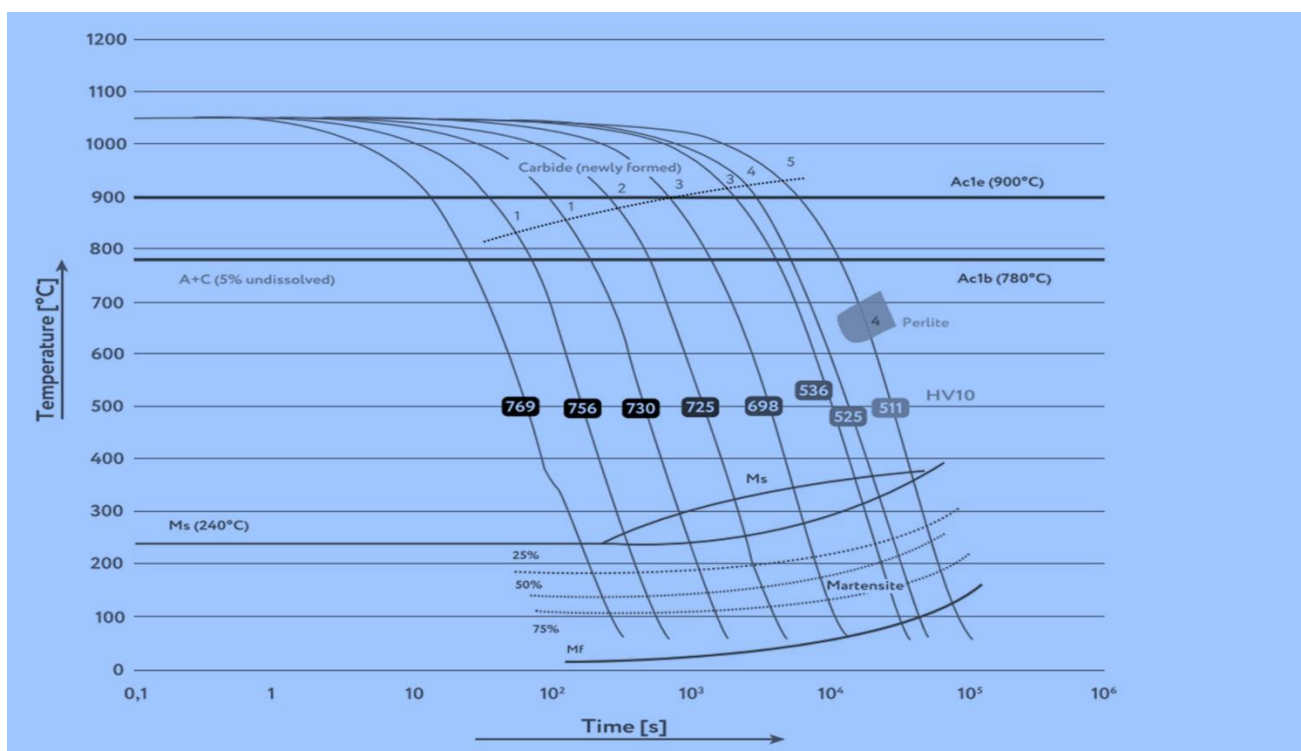
PROPERTIES	20°C	100°C	250°C	500°C
Thermal expansion coefficient (10 ⁻⁶ /K)	10.4	10.7	11	11.9
Thermal conductivity (W/mk)	23.5	23.9	24.2	23.2
Young modulus (Kn/mm ²)	218	209	202	180

Heat treatment

TREATMENT	TEMPERATURE	HOLDING TIME (HT)	COOLING	COMMENTS
Annealing	Heat to 770 - 820 °C	Min. H.T. for 2 minute /mm	Furnace up to 600°C than in air	-

Stress relieving	Heat to 550 - 600 °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	Preheating to 600-700°C Austenitizing to 1000 - 1050 °C	Min. H.T. for 1 minute /mm	Polymer or gas air	Quenched hardness 50 HRC
Tempering	-	-	Air	To be carried out after hardening. 2nd Tempering must be performed to max 30°C below tempering temperature

C.C.T. curve



Tempering curve

