

4H13/1.4034/X46CR13



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NAZWA GATUNKU: 4H13/1.4034/X46CR13

NAZWA: STAINLESS MARTENSITIC STEEL

NORM: EN 10088-1

**APPLICATION**

Steel susceptible to cutting tools, Machining tools, die inserts for corrosive plastics (PVC or rubber) and surgical instruments, pump parts, valves etc.

**CHEMICAL COMPOSITION:**

C	Si	Mn	P	S	Cr	Mo	W	V	Co	Ni
0,43-0,50	Max 1,00	Max 1,00	Max 0,040	Max 0,015	12,50-14,50	-	-	-	-	-

**MECHANICAL PROPERTIES:**

Property	Symbol	Unit	After heat treatment
Ultimate tensile strength	R <sub>m</sub>	MPa	-
Yield stress	R <sub>0,2</sub>	MPa	-
Elongation	A <sub>5</sub>	%	-
Hardness	HRC	HRC	52-54
Modulus of elasticity	E	GPa	215

**PHYSICAL PROPERTIES:**

Property	Unit	Value
Density, ρ	g*cm <sup>3</sup>	7.70
Specific heat capacity	J*kg <sup>-1</sup> *K <sup>-1</sup>	460
Thermal conductivity, λ	W*m <sup>-1</sup> *K <sup>-1</sup>	30

**TECHNOLOGICAL TREATMENT PROCESSES:**

Technological treatment processes		Possible application	Temperature, °C	
Hot forming	Forging	+	1100-800	
	Rolling	+	1100-800	
Treatment	Heat treatment	Quenching	+	980-1030
		Tempering	+	100-200
	Precipitation strengthening	Supersaturation	-	-
		Ageing	-	-
	Annealing	Normalising	-	-
	Soft annealing	+	750-850	
Thermochemical treatment	Carburising	-	-	
	Other	-	-	

**INTERNATIONAL STEEL GRADES:**

ISO	EN	Russia
-	X46Cr13 EN 10088-1	-
US	Japan	China
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