

**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:

<b>C</b>	<b>Si</b>	<b>Mn</b>	<b>P</b>	<b>S</b>	<b>Cr</b>	<b>Mo</b>	<b>W</b>	<b>V</b>	<b>Co</b>	<b>Ni</b>
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 , $\lambda$	$W \cdot m^{-1} \cdot K^{-1}$	30
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## 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		European Union		Russia	
-	-	X46Cr13	EN 10088-1	-	-
US		Japan		China	
-	-	-	-	-	-