

# 1.4509

	%C	%Si	%Mn	%P	%S	%Cr	%Nb	%Ti
<b>X2CrTiNb18</b>	-	1.00	-	-	-	17.5	[3xC+0.30]	0.10
	≤0.030		1.00	0.040	0.015	18.5	1.00	0.60

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## STEEL PROPERTIES

In comparison to 1.4016 / X6Cr17 materials, the 1.4509 grade has much greater pitting, slit, and intergranular corrosion resistance, and its high temperature oxidation resistance is attributable to higher Niobium concentration. Because of its strong corrosion resistance and longevity, this type of stainless steel is widely used.

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## EQUIVALENT GRADES

EN 10088-3	1.4509	X2CrTiNb18
AISI	441	
AFNOR	-	
BS	-	
JIS	SUS430LX	
UNS	S43940	

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## APPLICATIONS

1.4509 Stainless steel is used in the manufacture of equipment that operates in the presence of salts, chlorides, steam, acetic, nitric, and phosphoric liquids, fuels, machinery and products for the food and catering industries, balustrade and ornamental trim, exhaust systems, and heat exchangers that can withstand temperatures of up to 800°C.

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## HEAT TREATMENT

For castings a suitable grade will be ASTM A 743 Gr CB30. The heat treatment recommended is heat to 790C and the furnace or air cool.

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**Mechanical properties at room temperature for 1.4509 as per EN 10088-3 in the usual delivery condition**

Flat products with thickness <i>a</i>	Heat Treatment Condition	Hardness HB max.	0.2% Proof strength MPa. min.	Tensile Strength R <sub>m</sub> MPa.	A % Min. Long Products
50	+A	200	200	420 to 620	18

**Physical properties of 1.4509 as per EN 10088-1**

Density Kg/dm <sup>3</sup>	Linear Expansion Coefficient 10 <sup>-6</sup> k <sup>-1</sup> Between 20°C and (°C)					Thermal conductivity W/(m.K)		Specific Heat capacity kJ(kg.K)	Electrical resistivity Ωmm <sup>2</sup> /m At 20°C	Magnetizability
	200°C	400°C	20°C	100°C	300°C	20°C	500°C			
7.7	10	10.5	-	10	10.5	17	-	0.46	0.6	YES