

# 1.4418

X4CrNiMo16-5-1	%C	%Si	%Mn	%P	%S	%Cr	%Mo	%Ni	%N
<b>Min.</b>	-	-	-	-	-	15.00	0.80	4.00	0.020
<b>Max.</b>	0.06	0.70	1.50	0.040	0.030	17.00	1.50	6.00	-

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## STEEL PROPERTIES

1.4418 is a low carbon martensitic steel. The grade offers good mechanical properties including high strength, toughness and fatigue resistance. Its corrosion resistance is superior to most of the other martensitic grades. Its corrosion behaviour is similar to 1.4301. The grade is suitable for use in slight to moderate corrosive media. It also offers good weldability. The high abrasion-corrosion resistance feature makes it a preferred choice for hydraulic and control system applications.

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## EQUIVALENT GRADES

EN 10088-3	1.4418	X4CrNiMo16-5-1
AFNOR	Z6CND16-05-01	
AISI	S165M	
SIS	2387	

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## APPLICATIONS

1.4418 is used in manufacturing of hydro power equipments, propeller shafts, water turbine parts, valves, bolts, shear pins. It finds applications in Paper and pulp industry equipments, Oil and gas parts, Automotive and marine applications.

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## HEAT TREATMENT

1.4418 is supplied in annealed (+A) and quenched and tempered (QT760, QT900) conditions

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## Mechanical Values for 1.4418 at room temperature in EN 10088-3: 2014 in conditions 1C, 1E, 1D, 1X, 1G, 2D

Diameter (mm)	Heat Treatment Condition	Hardness HB max.	0.2% Proof strength MPa. min.	Tensile Strength R <sub>m</sub> MPa.	Elongation after fracture A % Min.		Impact Energy (ISO-V) KV J Min.	
					(long)	(tr.)	(long)	(tr.)
-	+A	320	-	Max 1100	-	-	-	-
≤ 160	+QT 760	-	550	760 to 960	16	-	90	-
≤ 160	+QT 900	-	700	900 to 1100	16	-	80	-

## Mechanical Values for 1.4418 Bright Bars at room temperature in EN 10088-3: 2014 in conditions 2H, 2B, 2G, 2P

Diameter (mm)	Annealed		Heat Treatment Condition	0.2% Proof strength min.	Tensile Strength R <sub>m</sub> MPa.	A5 % Min Elongation		Impact Energy (ISO-V) KV J Min.	
	R <sub>m</sub> MPa. Max	HB Max				(long)	(tr.)	(long)	(tr.)
≤10	1150	380	+QT 900	750	900 to 1150	10	-	-	-
10 <t ≤ 16	1150	380		750	900 to 1150	10	-	-	-
16 <t ≤ 40	1100	320		700	900 to 1100	12	-	80	-
40 <t ≤ 63	1100	320		700	900 to 1100	16	-	80	-
63 <t ≤ 160	1100	320		700	900 to 1100	16	-	80	-