

1.4462

X2CrNiMoN22-5-3	%C	%Si	%Mn	%P	%S	%Cr	%Mo	%Ni	%N
Min.	-	-	-	-	-	21.00	2.50	4.50	0.10
Max.	0.03	1.00	2.00	0.035	0.015	23.00	3.50	6.50	0.22

STEEL PROPERTIES

The grade 1.4462 is an acid resistant duplex stainless steel. It has an austenitic-ferritic microstructure. The grade offers excellent corrosion resistance similar to austenitic 1.4307 and 1.4404 grades. It also possesses stress corrosion property of ferritic grades, though a bit inferior. 1.4462 has about twice the strength of its austenitic siblings, making it ideal for applications with weight constraints. Lower nickel content keeps it slightly immune from nickel price volatilities and also is a more economic option in comparison to austenitic grades. High chromium and molybdenum content imparts it good resistance to pitting and crevice corrosions. It has a Pitting Resistance Equivalent Number (PREN) of about 34. The grade can be easily welded using most of the common welding techniques.

EQUIVALENT GRADES

EN 10088-3	1.4462	X2CrNiMoN22-5-3
AFNOR	Z3CND 22-05Az	
ASTM	F51/F60	
BS	318S13	
UNS	S31803/S32205 (2205)	
JIS	SUS329J3L	
SIS	2377	

APPLICATIONS

1.4462 is used in manufacturing of pistons, spindles, bolts, nuts, propeller and pumps shafts and valves for Oil and Gas industry, Paper and Pulp industry, Food and Beverage industry, Chemical processing plants, Marine environments.

HEAT TREATMENT

1.4462 is generally supplied in solution annealed condition (AT)

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Mechanical properties at room temperature of solution annealed 1.4462 and resistance to intergranular corrosion in conditions 1C, 1E, 1D, 1X, 1G and 2D

Diameter (mm)	Hardness HBW max.	0.2% Proof strength min. Rp0.2 MPa.	Tensile Strength R _m MPa.	Elongation after fracture A % Min. (long.)	Impact Energy (ISO-V) KV J Min. (long.)	Resistance to intergranular corrosion	
						in the delivery condition	in the sensitized condition
≤ 160	270	450	650 to 880	25	100	Yes	Yes

Mechanical properties for solution annealed 1.4462 at room temperature in conditions 2H, 2B, 2G or 2P

Diameter (mm)	0.2% Proof strength min. Rp0.2 MPa.	Tensile Strength R _m MPa.	A5 % Min Elongation (long.)	Impact Energy (ISO-V) KV J Min. (long.)
≤10	650	850 to 1150	12	-
10 <t ≤ 16	650	850 to 1100	12	-
16 <t ≤ 40	450	650 to 1000	15	100
40 <t ≤ 63	450	650 to 1000	15	100
63 <t ≤ 160	450	650 to 880	25	100