



MATERIAL No.: S32760 / 1.4501

DESCRIPTION

EN symbol (short)	X2CrNiMoWCuWN 25-7-4	Density lkg/dm³	7,8
UNS	S 32760 Grade F55	Hardness (HB30)	<=230
AFNOR	X2CrNiMoWCuWN 25-7-4 / NF EN 10088-2 (06/2005) (FR)	Composition	chromium nickel molybdenum steels
BS	X2CrNiMoWCuWN 25-7-4 /B.S. EN 10088-2 (06/2005) (GB)	Category	Stainless steels steel, resistant to rust and acids
		Structure	austenitic ferritic Super duplex
		Corrosion	resistant to intercrystalline corrosion

CHEMICAL COMPOSITION

		C	Si	Mn	S	P	Cr	Cu	Mo	N	Ni	W	Fe
1.4501	Min %						24,00	0,50	3,00	0,20	6,00	0,50	
	Max %	0,03	1,0	1,00	0,015	0,035	26,00	1,00	4,00	0,30	8,00	1,00	
(Key to steel 2010)													
S 32760	Min %						24,00	0,5	3,0	0,20	6,00	0,50	balance
	Max %	0,030	1,00	1,0	0,010	0,030	26,00	1,0	4,0	0,30	8,00	1,00	balance
UNS 32760													

PHYSICAL PROPERTIES

Property	Value
Density: kg/dm³	7,8
Hardness: (HB30)	<=230
magnetizable	yes

Temperature T °C/F (°C/F)	Specific heat J / kgK (Btu / lb °F)	Thermal conductivity W/mK (Btu·in / ft ² ·h·°F)	Electric resistance μΩ · cm (Ω circ mill / ft)	Modulus of elasticity kN/mm ² (10 ³ ksi)	Expansion rate from 70°F bis T 10 ⁻⁶ / K (10 ⁻⁶ / °F)
20 / 68	500 (--)	15 (--)		200 (--)	
100 / 212				194 (--)	13,0 (--)
200 / 392				186 (--)	13,5 (--)
300 / 572				180 (--)	14,0 (--)

Temperature	0,2% Yield strength in high temperatures
°F	Rp 0,2
	MpA /ksi
20 / 68	550 / 79,7
100 / 212	450 / 62,2
200 / 392	400 / 58,0
250 / 482	380 / 55,1

MECHANICAL PROPERTIES (20°C / 68°F)

Yield strength Rp 0,2 MPa	>=550/ >=79,7	
1% Tensile strength Rp1,0 Mpa/ksi	>=640/ >=92,8	
Tensile strength Rm Mpa/ksi	800-1000/116,0-145,0	
Elongation A5 (%)	<=20	
impact work ISO-V (J)	>=40/>=100	transverse/lenghtwise

TEMPERATURE INFORMATION

Solution heat treatment	
Working temperature	1904 °F to 2048 °F
Explanation report	cool down: water
Solution heat treatment	
Working temperature	1832 °F to 2192 °F
Explanation report	cool down : air

STANDARDS / INFORMATION

Standards	Description
ASTM A 182	Standard Specification for Forged or Rolled Alloy-Steel Pipe Flanges, Forged Fittings and Valves and Parts for High-Temperature Service

ASTM A 240	sheet metal and ribbons from stainless Cr and Ni pressure containers
ASTM A 276	Rods and cross-sections made of stainless and heat-resistant steel
ASTM A 479	Rods and cross-sections made of stainless and heat-resistant steel used in boilers and other pressure tanks
DIN EN 10088-1 (09/2005)	Stainless steels Part 1: List of stainless steels
DIN EN 10088-3 (09/2005)	stainless steels. Technical delivery conditions for semi-finished products, bars, rods, wire selection and bright products of corrosion resisting steels for general and construction purposes
DIN EN 10217-7	Welded steel pipes under compression load Pipes made from stainless steel
DIN EN 10297-2 (02/2006)	Welded circular steel pipes for machine construction and general technical service stainless steel. Pipes made from stainless steel

PROCESS INFORMATION

Welding

- Type	manual arc welding MAG cored wire MAG solid wire submerged arc welding WIG
- Add. material	1.4501
- Hints	pre-heat 212°F (>10mm)

MAIN FIELDS OF APPLICATION

Details of application	good mechanical properties with high corrosion resistance
Certifications	listed in NACE Mr 01-75 for sour service
Chemical Industry	for processing nitric acid
Oil field and geothermal applications	
Environmental technology	sewage works
Paper and pulp industry	different components

RANGE OF PRODUCTS

Product type	Product
Plates / Sheets	plates/sheets plate/sheet cuts
Fittings	welded elbows

	welded reductions Welded T-pieces seamless elbows seamless reductions seamless T-pieces Other Fittings, Nipples
Pipes / Tubes	welded pipes/tubes seamless pipes/tubes
Bar steel	round bar steel

[Pipe/Tube/Fitting/Flange/Valve/Plate](#)

Stainless Steel/Nickel Alloy/Duplex

