



## **E STEEL SDN BHD (891338-A)**

NO 3, Lorong Sungai Puloh 7/KU 6,  
Kawasan Perindustrian Sungai Puloh, 42100 Selangor D.E  
Tel : 03-3292 8686 / 32928666 / 32928777  
Fax : 03-3292 8383



### **Super Duplex 2507 (UNS S32750), 1.4410, F53**

Alloy 1.4410 ( S32750 ) is a super duplex stainless steel supplied in the solution annealed condition. As a super duplex stainless steel, it combines the desirable aspects of both austenitic and ferritic grades. The higher chromium, molybdenum and nitrogen contents result in a Pitting Resistance Equivalent number (PREN) of >41, providing pitting and crevice corrosion resistance superior to austenitic and duplex stainless steels in almost all corrosive media, and a Critical Pitting Temperature exceeding 50°C.

Supplied in the annealed condition, it achieves yield strengths of 80ksi (550Mpa), greater than most austenitic and duplex stainless steel grades. It cannot be hardened by heat treatment but can be strengthened by cold working. It also exhibits a low coefficient of thermal expansion and higher heat conductivity than austenitic steels and is suitable for working temperatures up to 300°C. Alloy 32750 is listed in NACE MR 0175 for sour service and having gained ASME Approval for Pressure Vessel applications it can be used in a wide variety of applications.

### **Chemical Composition of F53**

<b>Element</b>	<b>Content (%)</b>
Chromium, Cr	24 – 26
Nickel, Ni	6 – 8
Molybdenum, Mo	3 – 5
Manganese, Mn	1.20 max
Silicon, Si	0.80 max
Copper, Cu	0.50 max
Nitrogen, N	0.24 – 0.32
Phosphorous, P	0.035 max
Carbon, C	0.030 max
Sulfur, S	0.020 max
Iron, Fe	Balance



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### MECHANICAL PROPERTIES

	Yield strength Rp0.2, MPa	Tensile strength Rm, MPa	Elongation [%]	Hardness [HB]	Impact, Charpy-V, -46°C [J]	Pre
BAR	≥ 550	≥ 750	≥ 25	≤ 310	≥ 45	≥ 40
PLATE CR (COIL)	≥ 550	750 – 1000	≥ 25	≤ 310	≥ 45	≥ 40
PLATE HR (COIL)	≥ 550	750 – 930	≥ 25	≤ 310	≥ 45	≥ 40
PLATE (QUARTO)	≥ 550	750 – 930	≥ 25	≤ 310	≥ 45	≥ 40

### Applications of S32750, Duplex 2507

Super Duplex 2507 is widely used in the following sectors:

- Power
- Marine
- Chemical
- Pulp and paper
- Petrochemical
- Water desalinization
- Oil and gas production