



## BRODER METALS GROUP UNS S32750 F53

F53 has excellent resistance to stress corrosion cracking in chloride bearing environments, excellent resistance to pitting, crevice and general corrosion, high mechanical strength, and good weldability. Any application with high corrosive environments conditions is suitable for F53.

Duplex stainless steels are about twice as strong as regular austenitic or ferritic stainless steels, have significantly better toughness and ductility than ferritic grades (although they do not reach the values of austenitic grades), have a range of corrosion resistance comparable to the range for austenitic stainless steels, have very good stress corrosion cracking resistance.

The term "Super-Duplex" denotes high-performance Duplex steel based on elevated contents of chromium, nickel and molybdenum. These elements improve pitting corrosion resistance, while additions of nitrogen promoted structural hardening, raising the yield strength and ultimate strength values without impairing toughness.

### Mechanical Properties

Tensile Strength (MPa /N/mm <sup>2</sup> )	730-930
0.2% Proof Stress (MPa /N/mm <sup>2</sup> ) minimum	530
Elongation (A5 & 4D) minimum	23.00%
Hardness (HB) maximum	290
Charpy V-notch Impact at ambient Temp (J)	100 minimum
Ultrasonic Testing	At customers request
Ferrite Content	50.00%
Microstructure	Microstructure certified free from grain boundary carbides, sigma, chi and laves phases.

**Properties: Melt practice: E+AOD or equivalent**

**Heat Treatment & finish condition: Annealed & Peeled/Polished**

### Chemistry Analysis

	C	Cr	Fe	Mo	Mn	N	Ni	P	S	Si
<b>Min</b>	-	24	Balance	3	-	0.24	6	-	-	-
<b>Max</b>	0.03	26		4.5	2	0.35	8	0.02	0.015	1

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