Super Duplex S32760 / A182 F55 / 1.4501 specification

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UNS S32760 Specification Sheet

S32760 is a super duplex stainless steel with a 50:50 austenite, ferrite microstructure. The material combines high mechanical strength and good ductility with excellent corrosion resistance in a variety of environments. This material is generally supplied in the annealed condition giving yield strength in excess of 550Mpa, this material cannot be hardened by heat treatment but stronger surface strength can be achieved by cold working. Typical applications include many components for the chemical processing, marine, oil and gas, pollution control and food industries amongst others.

Common Name: Super Duplex Stainless Steel
Trade Name: Zeron® 100 (Trademark)
Material Standard:

- ASTM A182 (for forged parts)
- ASTM A479 (for bars)
- ASTM A790 (for pipes)
- ASME SA182 / SA479

Chemical Composition (% by weight)

Ni	W	Cr	Cu	Mo	N
6.0~8.0	0.5~1.0	24.0~26.0	0.5~1.0	3.0~4.0	0.2~0.3
C	Mn	P	S	Si	Fe
0.03max	1.0max	0.03max	0.01max	1.0max	Balance

Mechanical Properties

Material Grade	Yield Strength, Min(Mpa)	Tensile Strength, Min(Mpa)	Elongation, Min(%)	Hardness
S32760	> 550	730 - 930	25	290HB Max

Heat Treatment

- Solution Annealing: 1100 - 1150° C
- Cooling: Rapid air or water quenching

Corrosion Resistance

- Excellent resistance to:
  - Pitting and crevice corrosion
  - Chloride stress corrosion cracking (SCC)
  - Sulphide stress corrosion (SSC)
- PREN (Pitting Resistance Equivalent Number): > 40
  (PREN = %Cr + 3.3 × %Mo + 16 × %N)

Product Forms & Standards

Product Form	Specification
Forged flanges	ASTM A182 F55
Forged bars	ASTM A479, ASTM A182
Seamless pipe/tube	ASTM A790, A789
Plate/sheet	ASTM A240
Weld fittings	ASTM A815