

PRODUCT DATASHEET

F51

Grade

Duplex stainless steel (UNS S31803, ASTM A182 grade F51), ASTM A276, ASTM A479. NACE MR-0175/ISO 15156, NORSOK M-650 qualifications MDS-D44, MDS-D47. Trade name – Zeron 25

Type

High alloy 22 % Cr (dual phase) ferritic-austenitic stainless steel, usually delivered in the solution annealed condition

Composition	
Element	Weight%
Carbon	0.03 max
Silicon	1 max
Manganese	2 max
Phosphorus	0.03 max
Sulphur	0.02 max
Molybdenum	2.5 - 3.5
Chromium	21 - 23
Nickel	4.5 - 6.5
Manganese	2 max
Copper	0.08 - 0.2
PREN	33 min

Notes: The chemical composition of super duplex varies depending on the manufacturer (mill). Duplex grades have enhanced seawater corrosion and mechanical properties when compared to standard austenitic stainless steels.

Property	Values
0.2% Yield Strength	65 KSI min (450 MPA min)
Ultimate Tensile Strength	90 KSI min (621 MPA min)
Elongation	25
Reduction of area	45% min
Charpy Impact Toughness	40 min J at -46°C
Hardness	28 HRC

Notes: The good corrosion resistance of these grades means that they are used in severe environments, for applications such as piping, valves, fasteners and other pressure containing items.