

1.4501 / F55 Super Duplex

Chemical Properties

Element	Chemical Composition %
Carbon (C)	0.00 - 0.030
Chromium (Cr)	24.0 - 26.00
Copper (Cu)	0.5 - 1.0
Iron (Fe)	Remainder
Molybdenum (Mo)	3.0 - 4.0
Manganese (Mn)	0.00 - 1.0
Nitrogen (N)	0.20 - 0.30
Nickel (Ni)	6.00 - 8.00
Phosphorous (P)	0.00 - 0.030
Sulphur (S)	0.00 - 0.010
Silicon (Si)	0.00 - 1.00
Tungsten (W)	0.50 - 1.00

Mechanical Properties

Property	Value
0.2% Proof Stress (N/mm ²)	550
Ultimate Tensile Strength (N/mm ²)	750
Elongation (%)	25
Hardness (HBN)	270 max
Reduction of Cross Section Area (%)	45
Charpy V-notch Impact at ambient Temp (J)	80 min
Charpy V-notch Impact at -46°C (J)	45av, 35 min

Physical Properties

Property	Value
Density (Kg.m ⁻³)	7810
Magnetic Permeability	33
Young's Modulus (N/mm ²)	199 x 10 ³
Fracture Toughness, KQ (MPa.m ^{1/2})	98
Specific Heat, 20oC (J.Kg ⁻¹ .degK ⁻¹)	475
Specific Electrical Resistance, 20°C (10 ⁻⁶ Ω.m)	0.80
Thermal Conductivity, 20°C (W.m ⁻¹ .degK ⁻¹)	14.2
Mean Coefficient of Thermal Expansion, 20-100 °C (degK ⁻¹)	11.1 x 10 ⁻⁶

Disclaimer

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