

# SUPER DUPLEX STEEL

## UNS 32760 - 1.4501



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1.4501 is a specific grade of super duplex stainless steel with the common designation for this steel grade of UNS S32760, and it is also referred to as Alloy 2507. The 1.4501 (UNS S32760) super duplex stainless steel belongs to the family of duplex stainless steels, but it is specifically classified as a "super" duplex due to its higher alloy content and enhanced properties.

### KEY FEATURES

- Excellent corrosion resistance
- High tensile and yield strength
- Good ductility and toughness
- High temperature resistance
- Pitting and crevice resistance

### CHEMICAL PROPERTIES

Chromium (Cr)	Nickel (Ni)	Molybdenum (Mo)	Manganese (Mn)	Silicone (Si)	Tungsten (W)	Copper (Cu)	Nitrogen (N)	Phosphorus (P)	Carbon (C)	Sulphur (S)
24.5-26%	6-8%	3-4%	1%	1%	1%	0.5-1%	0.25%	0.03%	0.03%	0.01%

### MECHANICAL PROPERTIES

Tensile strength (N/mm <sup>2</sup> )	750
Yield strength (N/mm <sup>2</sup> )	550
Elongation (% in 4D)	25
Hardness - Rockwell (HRB) max	105
Hardness - Brinell (HB) max	270

### PHYSICAL PROPERTIES

Density (kg/m <sup>3</sup> )	7800	
Modulus of elasticity (Gpa)	200	
Mean coefficient of thermal expansion	0-100°C (µm/m/°C)	17.2
	0-350°C (µm/m/°C)	17.8
	0-538°C (µm/m/°C)	18.4
Thermal conductivity	at 100°C (W/m.K)	14.2
	at 500°C (W/m.K)	19.6
Specific Heat 0-100°C (J/kg.K)	500	
Electrical resistivity (nΩ.m)	800	
Melting point (°C)	1450	

### MARKET SECTORS



**Oil & Gas Industry**

Pumps, valves, pipes, vessels, wellhead equipment



**Chemical Processing**

Caustic evaporators, tankers, heat exchangers



**Marine Equipment**

Propellers, shafts, pumps, bolts, fasteners, valves



**Desalination Components**

Sewage treatment, pumps, valves, piping systems



**Power Generation**

Fans, pumps, valves, fasteners, condensers



**Pulp & Paper Industry**

Digester vessels, bleach towers, equipment