

# SUPER DUPLEX STEEL

## UNS 32760 - 1.4501



### UNS 32760 - 1.4501

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



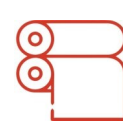
#### Desalination Components

Sewage treatment, pumps, valves, piping systems



#### Power Generation

Fans, pumps, valves, fasteners, condensers



#### Pulp & Paper Industry

Digester vessels, bleach towers, equipment