HONGCHEN METAL
INDUSTRIAL METAL MATERIALS

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PRODUCT SPECIFICATIONS · PLATE

# Duplex Steel Zeron 100 Plate

Chemical composition, mechanical properties and material characteristics

### Features

- Zeron 100 (UNS S32760) is a super duplex stainless steel offering high mechanical strength and strong resistance to chloride stress-corrosion cracking, pitting, and crevice corrosion for demanding industrial service.

### Typical Applications

- Commonly selected for offshore platforms, chemical pressure vessels, desalination plants, oil & gas pipelines, FGD equipment and heat exchangers—where chloride resistance and higher strength than typical 300-series austenitic grades are needed. Confirm medium, temperature and crevice geometry against the project specification.

## Product Parameters

| | |
|---|---|
| Product Name | S32760 / Zeron 100 Plate |
| Type | Super Duplex Stainless Steel |
| Standard | ASTM A182/A240/A790; UNS S32760 |
| Surface | No.1 / 1D, 2D, 2B, pickled, sandblasted or shot-blasted; ground finish on request. |
| Delivery Condition | Solution annealed and pickled (or equivalent condition per order). |
| Scope of Application | Commonly selected for offshore platforms, chemical pressure vessels, desalination plants, oil & gas pipelines, FGD equipment and heat exchangers—where chloride resistance and higher strength than typical 300-series austenitic grades are needed. Confirm medium, temperature and crevice geometry against the project specification. |
| Certificate | EN 10204 3.1 mill test certificate as standard; 3.2, PMI, ferrite, ASTM A923 / G48 and impact tests available on request. NACE MR0175 / ISO 15156 compliance available when specified. |
| Production Technology | Hot- or cold-worked, then solution annealed to restore the balanced ferrite–austenite microstructure and corrosion resistance. Cutting, leveling, slitting and end finishing available. Cut-to-length, leveling, plasma / waterjet cutting and surface grinding available. |
| Edge Processing | Mill, slit or trimmed edge; final edge condition confirmed by thickness, width tolerance and downstream welding / forming needs. |
| Thickness | 0.5-100 mm |
| Width | 1000-2500 mm |
| Length | 2000-12000 mm |

## Chemical Composition

| C | Cr | Ni | Mo | W | N | Cu |
|---|---|---|---|---|---|---|
| ≤0.03 | 24.0-26.0 | 6.0-8.0 | 3.0-4.0 | 0.5-1.0 | 0.20-0.30 | 0.5-1.0 |

## Mechanical Properties

| Tensile (MPa) | Yield (MPa) | Elongation (%) | Hardness |
|---|---|---|---|
| ≥750 | ≥550 | ≥25 | ≤310HBW |

## Physical Performance

| Density | PREN (typ.) | Thermal Cond. | Modulus |
|---|---|---|---|
| 7.8 g/cm³ | ~41 | ~14 W/m·K | ~200 GPa |

*Reference: UNS S32760 / Zeron 100 public datasheets*

## Related Properties

| | |
|---|---|
| **Corrosion Resistance** | Offers stronger resistance to chloride pitting, crevice corrosion and stress-corrosion cracking than many 300-series austenitic grades in process, marine and brine duties. Final suitability still depends on chloride level, temperature, pH and whether stagnant crevices are present. |
| **Strength Advantage** | Yield and tensile strength are typically higher than common austenitic stainless of similar thickness, which can allow thinner wall or higher allowable stress where the design code permits. Confirm mechanical values against the ordered condition and product form. |
| **Weldability** | Can be welded with GTAW, GMAW and SMAW when heat input, interpass temperature and duplex-matched filler are controlled to keep a balanced ferrite–austenite weld microstructure. Poor practice may reduce toughness or corrosion resistance in the HAZ. |
| **Forming & Fabrication** | Cold forming is feasible but needs higher force and springback allowance than 304/316 because of the higher strength. Hot forming and subsequent solution annealing should follow the grade procedure to restore corrosion performance. |
| **Service Window** | Best suited to chloride-bearing aqueous service inside a limited temperature window. Prolonged holding in the 300–550 °C embrittlement range should be avoided unless the grade data explicitly allow it. |

**Material guidance for your next project**

Send your grade, size and application requirements to our team.

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