

AISI 1.4003/3CR12/X2CRNI12 Stainless Steel Sheet Plate

General Characteristics:

Utility ferritic stainless steel of type 1.4003 is frequently used in place of mild steel. It offers the advantages of stronger, more corrosive- and abrasion-resistant, long-lasting, low maintenance stainless steels. ASTM a240 Type 1.4003 sheet plate, also known as Type X2CRNI12 sheet plate, can also be formed and welded, making it possible to produce it using standard methods. Benefits of employing stainless steel type 1.4003 include:

- 250 times greater corrosion resistance than mild steel
- Corrosion/abrasion resistance
- Economical - Low initial cost, low maintenance
- High Strength Excellent impact resistance
- Can be welded by conventional methods
- Can eliminate need for protective coating
- Can eliminate need for corrosion allowance
- Proven success in many applications across a wide range of industries
- Good performance at elevated temperatures
- Lower cost than austenitic stainless

SS 1.4003 Sheet Plate Chemical Properties:

Designation		%C	%Mn	%S	%P	%Si	%Ni	%Cr	%N	%Fe
EN 1.4003	Min	--	--	--	--	--	0.30	10.50	--	Balance
	Max	0.030	1.50	0.020	0.040	1.00	1.00	12.50	0.030	

SS 1.4003/3CR12 Sheet Plate Mechanical Properties:

Mechanical properties	UTS (MPa)	YS (MPa)	%EL
EN 1.4003	450-650 min	250-280 min	18-20 min

X2CRNI12/1.4003 Stainless Steel Sheet Plate Physical Properties:

Modulus of Elasticity (GPa)	Density (g/cm ³)	Electrical resistivity (μΩm)	Thermal conductivity (W/m.K)	Co-efficient of Thermal Expansion (μ/K)
200	7.74	678	30.5	11.1-12.3

Products available:

Hot rolled and Cold Rolled coils and sheets.

Corrosion Resistance:

The corrosion resistance of 1.4003 steel ([Grade 3CR12 Sheet Plate](#)) is 250 times greater than that of mild steels, making it particularly useful in corrosion/abrasion applications. Even when expensive coatings are used, the cycle of abrasive removal of a metal surface after surface corrosion quickly erodes mild/carbon steels. ASTM a240 Type 1.4003 offers superior performance in wet or damp environments where abrasion is present by fending off corrosion attack and retaining improved flow and slideability in comparison to non-alloyed or low-alloy steels, including abrasion resistant grades.

Weldability:

The microstructure of Type 4003 is fine-grained, which inhibits grain formation in the heat-affected zone (HAZ) and permits high integrity welds in sections up to 30mm thick. Processes including SMAW, GTAW, FCAW, PAW, Laser, Spot, and Seam are appropriate for welding. To prevent sensitization from happening in service, emphasis must be given to design and welding techniques.

Strength and Stiffness:

Type 4003 has the same structural stiffness as mild steels like BSEN10113 Grade Fe430A while providing greater strength (ASTM A36). In addition, it is more energy and impact resistant than aluminium. It acts similarly to austenitic steel in that it yields gradually and doesn't have a clear yield point.

Applications:

1.4003 stainless steel is typically used in:

- Bulk wet materials handling
- Vehicle frames/chassis
- Rail car hoppers Sweeper and gritter vehicles
- Conveyors, chutes, screen, troughs
- Bunkers & hoppers
- Tanks & containers
- Chimneys & ducting
- Enclosures & cabinets
- Walkways, stairs & railings
- Cable trays

For more details visit: [Stainless Steel 1.4003 Sheets Plate Stockist](#)

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