STAINLESS STEEL

1.4003 - 3CR12

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1.4003 (also known as 3CR12) is a utility ferritic Stainless Steel that offers all the benefits of traditional Stainless Steel such as strength, corrosion and abrasion resistance, durability, and low maintenance, but it also provides additional benefits such as good weldability and formability making it capable of fabrication by conventional techniques.

KEY FEATURES

- Good strength properties
- Good resistance to corrosion
- Good wear and abrasion resistance
- Durable and can withstand harsh conditions
- Formability and fabrication

CHEMICAL PROPERTIES

Chromium (Cr)	Manganese (Mn)	Silicone (Si)	Nickel (Ni)	Phosphorus (P)	Nitrogen (N)	Carbon (C)	Sulphur (S)	Iron (Fe)
10.5-12.5%	**1-1.5%**	**1%**	**0.5-1%**	**0.04%**	**0.03%**	**0.03%**	**0.02%**	**rest**

MECHANICAL PROPERTIES

Tensile strength (N/mm²)	**450-630**
Yield strength (N/mm²)	**260**
Elongation (% in 4D)	**25-30**
Hardness - Rockwell (HRB) max	**70-87**
Hardness - Brinell (HB) max	**170-210**

PHYSICAL PROPERTIES

Density (kg/m³)		**7740**
Modulus of elasticity (Gpa)		**200**
Mean coefficient of thermal expansion	0-100ºC (µm/m/°C)	**11.1**
	0-350ºC (µm/m/°C)	**11.7**
	0-538ºC (µm/m/°C)	**12.3**
Thermal conductivity	at 100ºC (W/m.K)	**30.5**
	at 500ºC (W/m.K)	**40.0**
Specific Heat 0-100ºC (J/kg.K)		**478**
Electrical resistivity (nΩ.m)		**678**
Melting point (ºC)		**1430-1510**

MARKET SECTORS

Enclosures & Cabinets

Full fibre network broadband cabinets

Vehicle Frames

Truck frames, bus chassis, gritter vehicles

Materials Handling

Bulk wet systems, conveyors, chutes, screens, troughs

Tanks & Containers

Nuclear waste boxes, cable trays

Food & Beverage Industry

Preparation surfaces, kitchen equipment, storage tanks

Architectural Applications

Structural components, walkways, stairs, railings