

STAINLESS STEEL

1.4003 - 3CR12

BORNMORE METALS



1.4003 - 3CR12

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/mm ²)	450-630
Yield strength (N/mm ²)	260
Elongation (% in 4D)	25-30
Hardness - Rockwell (HRB) max	70-87
Hardness - Brinell (HB) max	170-210

PHYSICAL PROPERTIES

Density (kg/m ³)	7740	
Modulus of elasticity (Gpa)	200	
Mean coefficient of thermal expansion	0-100°C (µm/m/°C)	11.1
	0-350°C (µm/m/°C)	11.7
	0-538°C (µm/m/°C)	12.3
Thermal conductivity	at 100°C (W/m.K)	30.5
	at 500°C (W/m.K)	40.0
Specific Heat 0-100°C (J/kg.K)	478	
Electrical resistivity (nΩ.m)	678	
Melting point (°C)	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