

# CARBON STEEL

## S355

# BORNMORE METALS



## S355

Carbon Steel S355 is a versatile structural steel known for its high strength, good weldability and suitability for a wide range of applications in construction, engineering, manufacturing, and other industries. Its combination of mechanical properties and ease of fabrication make it a preferred choice for structural components where durability and reliability are paramount. It is supplied with certification according to EN 10204.

### KEY FEATURES

- High strength and ductility
- Good weldability
- Excellent machinability
- Can be welded using standard techniques
- Suitable for various cutting techniques

### CHEMICAL PROPERTIES

Manganese (Mn)	Copper (Cu)	Silicone (Si)	Carbon (C)	Phosphorus (P)	Sulphur (S)	Nitrogen (N)
<b>1.6%</b>	<b>0.55%</b>	<b>0.55%</b>	<b>0.24%</b>	<b>0.045%</b>	<b>0.045%</b>	<b>0.012%</b>

### MECHANICAL PROPERTIES

Tensile strength (N/mm <sup>2</sup> )	<b>470-630</b>
Yield strength (N/mm <sup>2</sup> )	<b>355</b>
Elongation (% in 4D)	<b>20</b>
Hardness - Rockwell C (HRC) max	<b>10-20</b>
Hardness - Brinell (HB) max	<b>140-180</b>

### PHYSICAL PROPERTIES

Density (kg/m <sup>3</sup> )	<b>7850</b>	
Modulus of elasticity (Gpa)	<b>210</b>	
Mean coefficient of thermal expansion	0-100°C (µm/m/°C)	<b>12.0</b>
	0-350°C (µm/m/°C)	<b>14.1</b>
	0-538°C (µm/m/°C)	<b>15.2</b>
Thermal conductivity	at 100°C (W/m.K)	<b>46.0</b>
	at 500°C (W/m.K)	<b>33.0</b>
Specific Heat 0-100°C (J/kg.K)	<b>490</b>	
Electrical resistivity (nΩ.m)	<b>150</b>	
Melting point (°C)	<b>1440</b>	

### MARKET SECTORS



**Engineering & Machinery**

Frames, supports, base plates, gussets



**Construction Applications**

Beams, columns and girders in buildings and bridges



**Oil & Gas Industry**

Platforms, pipelines, structures for offshore and onshore



**Engineering & Infrastructure**

Components for highways, tunnels, engineering structures



**Marine Equipment**

Plates and sections for hull structures, components for decks



**Power Generation**

Frameworks and support structures for wind turbines