

S690QL High Yield Strength Steel

Quality S690 steel available in plate cut to your sizes.

S690QL steel plate stockholders and suppliers, delivering to the whole of the UK.

S690QL S690QL1 is a quenched and tempered high strength steel commonly supplied as plate. With its high yield of 690MPa it offers better strength than standard carbon steel grades. S690 has good forming and welding qualities. This grade offers good impact properties at sub-zero temperatures.

Form of Supply

West Yorkshire Steel are stockholders and suppliers of S690 in plate which can be [flame cut](#) to your required sizes.

Applications

With its high yield and high tensile properties S690 is used for many applications and structures where weight savings are required. Popular in the mining, agricultural and construction industries for applications such as dumper bodies and chassis, lifting equipment, cranes and jaw crushers



Contact our experienced sales team who will assist you with your enquiry.

- Plate

Typical Analysis

| | | | |
|-------------|-----------|------------|-----------|
| Carbon | 0.20% max | Chromium | 1.50% max |
| Manganese | 1.70% max | Nickel | 2.00% max |
| Silicon | 0.80% max | Molybdenum | 0.70% max |
| Phosphorous | 0.02% max | Sulphur | 0.01% max |

Forming

Bending and forming is possible using suitably powerful equipment. When bending transversal to the rolling direction it is recommended to form to a maximum of 2 x thickness. For longitudinal to the rolling direction a maximum of 3 x thickness is recommended. S690 is not ideally suited for hot forming over 600°C. Forming at over this temperature can have an effect on the mechanical properties of the steel and re hardening and tempering may be required.

Welding

With its low carbon content S690 is suitable for welding. Welding areas should be cleaned of any grease and rough edges, pre heating is required. We recommend you contact your welding consumables supplier who should provide you full assistance and information on welding S690 steel.

Typical Mechanical Properties

| Plate Size mm | Tensile N/mm ² | Yield N/mm ² | Elongation |
|------------------|------------------------------|----------------------------|------------|
| Up to 50 | 770-790 | 690 | 14 |
| 50 to 100 | 760-930 | 650 | 14 |
| over 100 | 720-900 | 630 | 14 |

Typical Impact Properties

| Steel Name | Sample Direction | 0°C | -20°C | -40°C | -600°C |
|------------|------------------|-----|-------|-------|--------|
| S690QL | Longitudinal | 50J | 40J | 30J | - |
| | Transverse | 35J | 30J | 27J | - |
| S690QL1 | Longitudinal | 60J | 50J | 40J | 30J |
| | Transverse | 40J | 35J | 30J | 27J |

Certification

S690 high yield strength steel is available with a BS EN 10204 3.1 mill certificate, please request when placing any orders.

Quality Assured Supply

S690QL/QL1 tool steel is supplied in accordance with our ISO 9001:2015 registration.