



MURRAY STEEL PRODUCTS

PLATE | PLATE PROCESSING | STRUCTURAL

MATERIAL DATASHEET

Title: **S690 / RQT701**

Material Grade: **S690 / S690QL / S690QL1 / RQT701**

Material Condition(s): **quench and tempered**

Surface Finish: **As rolled**

Associated Standard: **BS EN 10025**

Description:

A high strength low alloy structural steel with good weldability and bending properties. Liked particularly by designers to reduce weight in structures by using this high yield, high tensile versatile product.

Typical applications: **Mining, Quarrying, yellow goods, construction, material handling & stadia**

Typical variations:

S690  
S690QL  
S690QL1  
RQT701

Conditions:

no designation or +AR - as rolled  
+ Q - Quenched and tempered  
+ L - low notch toughness testing temperature  
+ 1 - lower temperature test

1. STEELMAKING

|     | <u>C*</u> | <u>Si</u> | <u>Mn</u> | <u>S</u> | <u>P</u> | <u>Cu</u> | <u>CEV*</u> |
|-----|-----------|-----------|-----------|----------|----------|-----------|-------------|
| Min |           |           |           |          |          |           |             |
| Max | 0.2       | 0.5       | 1.5       | 0.005    | 0.02     | 0.2       | 0.52        |

(\* differs with section thickness and grade variation)

Murray Plate: **0121 557 7251** / Murray Plate Processing: **0114 250 3602** / Murray Structural: **0161 866 0292**

[www.murraysteelproducts.com](http://www.murraysteelproducts.com)

## 2. TYPICAL MECHANICAL PROPERTIES

| Test type |             |      | Tensile and hardness test (at room temperature) |                   |                   |           |            | Impact test (KV) |           |       |       |
|-----------|-------------|------|---|-------------------|-------------------|-----------|------------|------------------|-----------|-------|-------|
|           |             |      | Yield (Re)                                      | 0.2 % proof       | UTS (Rm)          | Elong (A) | R of A (Z) | Hardness         | Room Temp | -20°C | -45°C |
| Variation | Sample dia  | Unit | N/mm <sup>2</sup>                               | N/mm <sup>2</sup> | N/mm <sup>2</sup> | %         | %          | HB               | J         | J     | J     |
|           | > 6 ≤ 40mm  | Min  | 690   |                   | 770               | 14        |            |                  |           |       | 27    |
|           |             | Max  |   |                   | 940               |           |            |                  |           |       |       |
|           | > 40 ≤ 65mm | Min  | 690   |                   | 760               | 14        |            |                  |           |       | 27    |
|           |             | Max  |   |                   | 930               |           |            |                  |           |       |       |
|           |             | Min  |   |                   |                   |           |            |                  |           |       |       |
|           |             | Max  |   |                   |                   |           |            |                  |           |       |       |
|           |             | Min  |   |                   |                   |           |            |                  |           |       |       |
|           |             | Max  |   |                   |                   |           |            |                  |           |       |       |