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## Copper C101 data sheet.

Besides acting as a base for all brasses and bronzes, copper is an engineering material in its own right. C101 harnesses high electrical and thermal conductivity and along with having a high ductility and impact strength, it can be a very useful material.

A restriction of C101 is poor weldability and as a result welding is not recommended.

As mentioned above, the versatility of C101 leads to lots of potential different uses...

- It can be used in countless electrical and domestic appliances.
- It features in many different components used in the automotive industry.
- General engineering.
- Cold-formed parts.

C101 is available from us in rods, bars, squares and flats.

**Rods and bars from 3/16" dia – 6" dia**

**Flats from 1/2 x 1/8 – 4" x 2"**

**Squares from 6mm sq – 3" Sq**

## Chemical and Physical Properties

### Typical chemical composition

| <i>Elements</i> | <i>Min %</i> | <i>Max %</i> |
|-----------------|--------------|--------------|
| <b>Bi</b>       |              | 0.001        |
| <b>Cu</b>       | 99.90        |              |
| <b>Pb</b>       |              | 0.005        |

### Typical mechanical Properties

O= Annealed

M= As manufactured

1/2H= Cold Rolled, half hard

H= Cold Rolled, full hard

| Property/unit                         | Condition | Min | Max |
|---------------------------------------|-----------|-----|-----|
| Tensile Strength (N/mm <sup>2</sup> ) | O         | 210 |     |
| Elongation in 50mm %                  | O         | 35  |     |
| Vickers Hardness (HV)                 | O         |     | 55  |
| Tensile Strength (N/mm <sup>2</sup> ) | M         | 210 |     |
| Elongation in 50mm %                  | M         | 35  |     |
| Vickers Hardness (HV)                 | M         |     | 65  |
| Tensile Strength (N/mm <sup>2</sup> ) | 1/2H      | 240 |     |
| Elongation in 50mm %                  | 1/2H      | 10  |     |
| Vickers Hardness (HV)                 | 1/2H      | 70  | 95  |
| Tensile Strength (n/mm <sup>2</sup> ) | H         | 290 |     |



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## Tolerances

**Round bars: Above 2.5mm – 3mm + 0-0.04mm**

**Above 3mm – 6mm + 0-0.05mm**

**Above 6mm – 10mm + 0-0.06mm**

**Above 10mm – 18mm + 0-0.07mm**

**Above 18mm – 20mm + 0-0.052mm**

**Above 20mm – 30mm + 0-0.08mm**

**Square: Above 3mm – 6mm + 0-0.08mm**

**Above 6mm – 10mm + 0-0.09mm**

**Above 10mm – 18mm + 0-0.11mm**

**Above 18mm – 30mm + 0-0.13mm**

**Above 30mm – 50mm + 0-0.16mm**

**Above 50mm – 60mm + 0-0.19mm**

**The information above is based on our current knowledge and is given in good faith; however the company will accept no liability in respect of any third party reliance thereon.**