Olin Brass Alloy C7025 is a High Performance Alloy developed to meet the increasing material requirements of interconnect designers. C7025 combines good electrical and thermal conductivity with high strength, excellent stress relaxation resistance, good solderability and plateability. This combination of properties lends the alloy to be used in a wide variety of applications including automotive and electrical connectors, semiconductor leadframes and CPU sockets. The alloy can often be substituted directly for some Be-Cu alloys.

### Chemical Composition

- **Copper**: Remainder
- **Nickel**: 2.2-4.2%
- **Silicon**: 0.25-1.2%
- **Magnesium**: 0.05-0.30%
- **Iron**: 0.20% max
- **Lead**: 0.05% max
- **Zinc**: 1.0% max

1. Cu plus Named Elements, 99.5%

### Physical Properties

#### Density

- **English Units**: 0.318 lb/in³ @ 68ºF
- **Metric Units**: 8.82 g/cm³

#### Thermal Conductivity

- **English Units**: 100 BTU-ft/ft²-hr-ºF
- **Metric Units**: 172 W/m⁰K

#### Electrical Resistivity

- **English Units**: 25.9 ohm circ mils/ft
- **Metric Units**: 4.3 microhm-cm

#### Electrical Conductivity (annealed)

- **English Units**: 40% IACS*
- **Metric Units**: 0.23 megamho/cm

#### Modulus of Elasticity

- **English Units**: 19,000,000 psi
- **Metric Units**: 131 kN/mm²

#### Coeff. Of Thermal Expansion

<table>
<thead>
<tr>
<th>Temperature</th>
<th>English Units</th>
<th>Metric Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>68-212ºF (20-100ºC)</td>
<td>9.3 PPM/ºF</td>
<td>16.7 PPM/ºC</td>
</tr>
<tr>
<td>68-392ºF (20-200ºC)</td>
<td>9.6 PPM/ºF</td>
<td>17.4 PPM/ºC</td>
</tr>
<tr>
<td>68-572ºF (20-300ºC)</td>
<td>9.8 PPM/ºF</td>
<td>17.6 PPM/ºC</td>
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</tbody>
</table>

*International Annealed Copper Standard

### Mechanical Properties

#### Temper

<table>
<thead>
<tr>
<th>Temper</th>
<th>Tensile Strength</th>
<th>Yield Strength</th>
<th>% Elongation</th>
<th>Typical 90º Bend Formability</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ksi</td>
<td>N/mm²</td>
<td>ksi</td>
<td>N/mm²</td>
</tr>
<tr>
<td>TM00</td>
<td>90-110</td>
<td>620-760</td>
<td>65-90</td>
<td>450-620</td>
</tr>
<tr>
<td>TM02</td>
<td>95-120</td>
<td>655-830</td>
<td>85-110</td>
<td>590-760</td>
</tr>
<tr>
<td>TM03</td>
<td>100-125</td>
<td>690-860</td>
<td>95-120</td>
<td>655-830</td>
</tr>
<tr>
<td>TM03 HDC¹</td>
<td>103-125</td>
<td>710-860</td>
<td>100-120</td>
<td>690-830</td>
</tr>
<tr>
<td>TR02</td>
<td>88 Min</td>
<td>605 Min</td>
<td>80 Min</td>
<td>550 Min</td>
</tr>
</tbody>
</table>

1. Mechanical properties subject to change. Tensile strength and elongation are for reference only.
2. C7025 is manufactured to a yield strength.
3. DATA FOR REFERENCE ONLY. R/T = Minimum Bend Radius/Material Thickness <0.020” (0.5mm) thick, 11/16 (17.5mm) wide.

1. TM03 HDC - High Density Connector. Developed specifically for socket contacts demanding very narrow tight bend performance.

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