# CW612N

## FORGING BRASS

## DESCRIPTION

Brass is an alloy mainly consisting of copper and zinc. Brass alloys can be easily shaped and are available in various colors. Brass has high thermal conductivity. CW612N forging brass alloys have good forgeability. They are available in the form of rod.
The following datasheet gives details about CW612N brass alloys.

## CHEMICAL COMPOSITION

| Elements | Min (%) | Max (%) |
|---|---|---|
| Cu | 59.00 | 60.00 |
| Pb | 1.60 | 2.50 |
| Sn | - | 0.30 |
| Fe | - | 0.30 |
| Al | - | 0.05 |
| Ni | - | 0.30 |
| Total Others | - | 0.20 |
| Zn | Remainder | |

## MECHANICAL PROPERTIES (AS PER TEMPER R410)

| Range (mm) | From | To | UTS Min ($N/mm^2$) | PS Min ($N/mm^2$) | Elongation Min (%) | Hardness Min | Hardness Max |
|---|---|---|---|---|---|---|---|
| Round (Dia) | 2.00 | 40.00 | 410.00 | 230.00 | 12.00 | - | - |
| Hex (A/F) | 2.00 | 35.00 | 410.00 | 230.00 | 12.00 | - | - |
| Square (A/F) | 2.00 | 35.00 | 410.00 | 230.00 | 12.00 | - | - |



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## FORGING BRASS

## PHYSICAL PROPERTIES

| | |
|---|---|
| Melting Point - Liquidus°F | 1640 |
| Melting Point - Solidus°F | 1620 |
| Densitylb/cu in. at 68°F | 0.305 |
| Specific Gravity | 8.44 |
| Electrical Conductivity% IACS at 68°F | 27 |
| Thermal ConductivityBtu/ sq ft/ ft hr/ °F at 68°F | 69 |
| Coefficient of Thermal Expansion 68-57210-$^{6}$ per °F (68 – 572°F) | 11.5 |
| Specific Heat CapacityBtu/ lb /°F at 68°F | 0.09 |
| Modulus of Elasticity in Tensionksi | 15000 |
| Modulus of Rigidityksi | 5600 |

## FABRICATION PROPERTIES

| Technique | Suitability |
|---|---|
| Soldering | Excellent |
| Brazing | Good |
| Oxyacetylene Welding | Not Recommended |
| Gas Shielded Arc Welding | Not Recommended |
| Coated Metal Arc Welding | Not Recommended |
| Spot Weld | Not Recommended |
| Seam Weld | Not Recommended |
| Butt Weld | Fair |
| Capacity for Being Cold Worked | Poor |
| Capacity for Being Hot Formed | Excellent |
| Forgeability Rating | 100 |
| Machinability Rating | 80 |

## TYPICAL USES

- Builders Hardware
- Building
- Consumer
- Electrical
- Industrial



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