# CW611N

## LEADED BRASS

## DESCRIPTION

Brass is essentially copper alloyed with zinc. It is strong but easy to form, stamp or draw which make it a common choice for a broad spectrum of applications. By varying the amount of zinc content it is possible to achieve a variety of characteristics including different levels of corrosion resistance, ductility and suitability for machining.

## CHEMICAL COMPOSITION

| Elements | Min (%) | Max (%) |
|---|---|---|
| Cu | 59.00 | 60.00 |
| Pb | 0.80 | 1.60 |
| Sn | - | 0.20 |
| Fe | - | 0.20 |
| Al | - | 0.05 |
| Ni | - | 0.30 |
| Total Others | - | 0.20 |
| Zn | Remainder | |

## MECHANICAL PROPERTIES ACCORDING TO EN12164 (AS PER TEMPER R410)

| Range (Inch) | From | To | UTS Min ($N/mm^2$) | UTS Max ($N/mm^2$) | 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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## LEADED BRASS

## PHYSICAL PROPERTIES

| | |
|---|---|
| Melting Point - Liquidus°F | 1650 |
| Melting Point - Solidus°F | 1630 |
| Densitylb/cu in. at 68°F | 0.304 |
| Specific Gravity | 8.41 |
| Electrical Conductivity% IACS at 68°F | 28 |
| Thermal ConductivityBtu/ sq ft/ ft hr/ °F at 68°F | 71 |
| Coefficient of Thermal Expansion 68-57210$^{-6}$ per °F (68 – 572°F) | 11.6 |
| 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 | Fair |
| Gas Shielded Arc Welding | Fair |
| Coated Metal Arc Welding | Not Recommended |
| Spot Weld | Not Recommended |
| Seam Weld | Not Recommended |
| Butt Weld | Fair |
| Capacity for Being Cold Worked | Fair |
| Capacity for Being Hot Formed | Excellent |
| Machinability Rating | 60 |

## TYPICAL USES

- Builders Hardware
- Consumer
- Building
- Industrial



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