

# C34000

# LEADED BRASS

## DESCRIPTION

C34000 are the standard materials for machining (machining index 100 %). These alloys are also particularly suitable for hot stamping when the forged parts are subsequently machined extensively. Is recommended for applications where cold working with little reduction such as knurling is used. The ductility of this material makes it particularly suitable for the manufacture of wires as well as rods and sections.

## CHEMICAL COMPOSITION

| Elements     | Min (%)   | Max (%) |
|--------------|-----------|---------|
| Cu           | 62.00     | 65.00   |
| Pb           | 0.25      | 0.70    |
| Fe           | -         | 0.15    |
| Total Others | -         | 0.4     |
| Zn           | Remainder |         |

## MECHANICAL PROPERTIES (AS PER TEMPER H02)

| Range (Inch) | From  | To    | UTS Min (Ksi) | UTS Max (Ksi) | PS Min (Ksi) | Elongation Min (%) | Hardness Min (HRB) | Hardness Max (HRB) |
|--------------|-------|-------|---------------|---------------|--------------|--------------------|--------------------|--------------------|
| Round (Dia)  | 0.059 | 0.500 | 57.00         | 80.00         | 25.00        | 7.00               | 60.00              | 80.00              |
|              | 0.500 | 1.000 | 55.00         | 70.00         | 25.00        | 10.00              | 50.00              | 75.00              |
|              | 1.000 | 2.953 | 50.00         | 62.00         | 20.00        | 15.00              | 40.00              | 70.00              |
| Hex (A/F)    | 0.118 | 0.500 | 57.00         | 80.00         | 25.00        | 7.00               | 60.00              | 80.00              |
|              | 0.500 | 1.000 | 55.00         | 70.00         | 25.00        | 10.00              | 50.00              | 75.00              |
|              | 1.000 | 2.756 | 50.00         | 62.00         | 20.00        | 15.00              | 40.00              | 70.00              |
| Square (A/F) | 0.118 | 0.500 | 57.00         | 80.00         | 25.00        | 7.00               | 60.00              | 80.00              |
|              | 0.500 | 1.000 | 55.00         | 70.00         | 25.00        | 10.00              | 50.00              | 75.00              |
|              | 1.000 | 2.362 | 50.00         | 62.00         | 20.00        | 15.00              | 40.00              | 70.00              |

# C34000

# LEADED BRASS

## MECHANICAL PROPERTIES (AS PER TEMPER HO2)

| Range (Inch) | From  | To    | UTS Min (MPa) | UTS Max (MPa) | PS Min (MPa) | Elongation Min (%) | Hardness Min (HRB) | Hardness Max (HRB) |
|--------------|-------|-------|---------------|---------------|--------------|--------------------|--------------------|--------------------|
| Round (Dia)  | 1.5   | 12.00 | 395.00        | 555.00        | 170.00       | 7.00               | 60.00              | 80.00              |
|              | 12.00 | 25.00 | 380.00        | 485.00        | 170.00       | 10.00              | 50.00              | 75.00              |
|              | 25.00 | 75.00 | 345.00        | 425.00        | 140.00       | 15.00              | 40.00              | 70.00              |
| Hex (A/F)    | 3.00  | 12.00 | 395.00        | 555.00        | 170.00       | 7.00               | 60.00              | 80.00              |
|              | 12.00 | 25.00 | 380.00        | 485.00        | 170.00       | 10.00              | 50.00              | 75.00              |
|              | 25.00 | 70.00 | 345.00        | 425.00        | 140.00       | 15.00              | 40.00              | 70.00              |
| Square (A/F) | 3.00  | 12.00 | 395.00        | 555.00        | 170.00       | 7.00               | 60.00              | 80.00              |
|              | 12.00 | 25.00 | 380.00        | 485.00        | 170.00       | 10.00              | 50.00              | 75.00              |
|              | 25.00 | 60.00 | 345.00        | 425.00        | 140.00       | 15.00              | 40.00              | 70.00              |

## PHYSICAL PROPERTIES

|   |       |
|---|-------|
| Melting Point - Liquidus°F  | 1700  |
| Melting Point - Solidus°F   | 1630  |
| Densitylb/cu in. at 68°F  | 0.306 |
| Specific Gravity  | 8.47  |
| Electrical Conductivity% IACS at 68°F                                       | 26    |
| Thermal ConductivityBtu/ sq ft/ hr/ °F at 68°F                              | 67    |
| Coefficient of Thermal Expansion 68-57210- <sup>6</sup> per °F (68 – 572°F) | 11.3  |
| 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 | Good            |
| Capacity for Being Hot Formed  | Poor            |
| Machinability Rating           | 70              |

## TYPICAL USES

- > Automotive
- > Builders Hardware
- > Consumer
- > Electrical
- > Fasteners
- > Industrial
- > Ordnance
- > Plumbing