

Brass

bedra 27200

Material Designation*

| | |
|-----|-------------------|
| UNS | C27200 |
| EN | CuZn37 (CW 508 L) |
| JIS | C2720 |
| GB | H63 |

Chemical Composition

| | | |
|----|---------|---|
| Cu | 62-65 | % |
| Zn | Balance | % |



Characteristics

This single-phase brass has good mechanical properties and also high strength and plasticity performance. It can withstand cold and hot pressure processing and has fair corrosion resistance.

Typical Applications

It is applied for all kinds of light stamping parts, sugar machinery and ship parts, hardware screws, plugs, etc.

Physical Properties

| | | |
|---|------|---------------------|
| Density ^① | 8.44 | g/cm ³ |
| Electrical conductivity ^① | 27.6 | %IACS |
| Thermal conductivity ^① | 116 | W/(m·K) |
| Coefficient of thermal expansion ^② | 19.7 | 10 ⁻⁶ /K |
| Modulus of elasticity | 110 | GPa |

Note①: Temperature for testing is 20°C.

Note②: Temperature range for testing is 20-300°C.

Fabrication Properties

| | |
|---------------------------------------|-----------|
| Cold workability | Fair |
| Hot workability | Excellent |
| Brazing | Excellent |
| Machinability Compared with C36000 | 35% |

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Mechanical Properties

| Diameter | Temper | Tensile Strength | Yield Strength | Elongation | Hardness |
|------------------|--------|------------------|----------------|------------|----------|
| mm | | MPa min. | MPa min. | % min. | HV min. |
| 3 < Φ ≤ 12 | H02 | 375 | 250 | 10 | 110 |
| 12 < Φ ≤ 18 | H02 | 350 | 230 | 14 | 100 |
| 3 < Φ ≤ 12 | H04 | 590 | 450 | -- | 170 |
| 12 < Φ ≤ 18 | H04 | 490 | 360 | -- | 140 |

Tolerance and Delivery Form

Straight Bar

| Diameter | Tolerance ^③ | Ovality | Length | Straightness | |
|--------------------|------------------------|---------|---------|--------------|-----------|
| mm | mm | mm | mm max. | ft max. | mm/m max. |
| 2 ≤ Φ < 3 | 0.03 | 0.0075 | 2500 | 8.2 | 1.0 |
| 3 ≤ Φ < 6 | 0.04 | 0.01 | 2500 | 8.2 | 0.5 |
| 6 ≤ Φ < 10 | 0.06 | 0.015 | 4000 | 13.1 | 0.5 |
| 10 ≤ Φ < 18 | 0.08 | 0.02 | 4000 | 13.1 | 0.5 |
| 18 ≤ Φ < 25 | 0.12 | 0.03 | 4000 | 13.1 | 0.5 |
| 25 ≤ Φ < 40 | 0.20 | 0.05 | 4000 | 13.1 | 0.5 |
| 40 ≤ Φ < 60 | 0.30 | 0.075 | 4000 | 13.1 | 0.5 |
| 60 ≤ Φ < 80 | 0.60 | 0.15 | 3000 | 9.8 | 3.0 |
| 80 ≤ Φ < 100 | 1.60 | 0.40 | 2000 | 6.6 | 5.0 |
| 100 ≤ Φ ≤ 120 | 2.00 | 0.50 | 1500 | 4.9 | 6.0 |

Note③: The tolerances listed in the table are specified as all plus or all minus. When tolerances are specified as plus and minus (\pm), half the values given.

*Composition UNS
 Conductivity UNS
 Mechanical Properties For reference only, measured at room temperature, 68°F(20°C).
 Fabrication Properties UNS, Machinability for reference only.
 Other Physical Properties For reference only

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