

# CuZn28

## CuZn28

CuZn28 offers excellent cold workability and good strength properties. It possesses good hot workability and excellent soldering characteristics. Its most distinctive feature is its suitability for deep drawing processes.

### Comparable Standards

| EN     | JIS   |
|--------|-------|
| CW504L | C2460 |

### Chemical Composition %

| Cu    | Zn  | Ni       | Sn      | Fe       |
|-------|-----|----------|---------|----------|
| 71-73 | rem | 0.03 max | 0.1 max | 0.05 max |

### Physical Properties

|                         |         |                      |
|-------------------------|---------|----------------------|
| Melting Point           | 910-965 | [°C]                 |
| Density                 | 8.55    | (g/cm <sup>3</sup> ) |
| Cp @ 20°C               | 0.377   | [kJ/kgK]             |
| Thermal Conductivity    | 121     | (W/mK)               |
| Electrical Conductivity | ≥27,6   | %IACS                |
| Modules of Elasticity   | 115     | [GPa]                |
| α @ 20°C                | 20      | [10-6/K]             |

Note: The specified conductivity applies to the soft condition only.

Cp specific heat

α thermal expansion coefficient

### Fabrication Properties

|                           |               |
|---------------------------|---------------|
| Machinability             | less suitable |
| Soft Soldering            | excellent     |
| Gas shield arc welding    | fair          |
| Laser Welding             | less suitable |
| Cold Formability          | excellent     |
| Hot Formability           | good          |
| Resistance welding        | good          |
| Hot-dip tinned properties | excellent     |
| Electroplating Feature    | excellent     |

### Electrical Conductivity

Electrical conductivity is strongly influenced by chemical composition. High levels of cold deformation and small grain size moderately reduce electrical conductivity. The minimum conductivity level can be determined.

#### Typcial Uses

Architecture, connectors, decorative panels, souvenir manufacturing, coins, terminal connectors, rivets, sound insulation equipment, case cups, faucets.

#### Corrosion Resistance

CuZn28 exhibits good resistance to water, steam, various saline solutions, and many organic liquids. However, cold-formed CuZn28 under internal or external stress may corrode in environments containing aqueous ammonia, ammonium salts, or amines. The risk of stress corrosion can be reduced by applying heat treatment to semi-finished or finished products. It is not resistant to acids and aqueous sulfur compounds.

## Mechanical Properties

|      | <b>Tensile Strength [MPa]</b> | <b>Yield Strength [MPa]</b> | <b>Elongation A50 [%]</b> | <b>Hardness HV [-]</b> |
|------|-------------------------------|-----------------------------|---------------------------|------------------------|
| R270 | 270-350                       | ≤ 160                       | ≥ 40                      | 55-90                  |
| R350 | 350-450                       | ≥ 170                       | ≥ 21                      | 95-140                 |
| R450 | 410-550                       | ≥ 340                       | ≥ 9                       | 130-175                |
| R490 | 490                           | ≥ 540                       | -                         | ≥ 160                  |

Other tempers are available upon request.

$r = x * t$  (thickness  $t \leq 0.5\text{mm}$ )

GW bend axis transverse to rolling direction. BW bend axis parallel to rolling direction.

## Dimensional Specifications

| <b>Thickness (mm)</b> | <b>Width (mm)</b> |
|-----------------------|-------------------|
| 0.04-0.20             | 10-380            |
| 0.21-1.00             | 5-380             |
| 1.01-4.00             | 15-400            |
| 4.01-8.00             | 25-400            |