



# PHOSBRAZ 840

Copper Phosphorous Brazing Alloy  
(Oven Brazing)

## TECHNICAL DATA SHEET 51

### Specifications:

| Alloy | Working Temperature (°C) | DIN EN ISO 17672 | AWS A-5.8 | DIN 8513 | EN ISO 3677       | AMS |
|-------|--------------------------|------------------|-----------|----------|-------------------|-----|
| Cu-P  | 730                      | CuP 179          |           | L-Cu P6  | B Cu 94 P 710-840 | -   |

### Characteristics:

**PHOSBRAZ 840** Alloy as being recommended for the furnace brazing is named according to their liquidus temperature. They are more aggressive than their manual counter parts. Their melting range requires a rapid heating cycle to ensure that the elements do not separate through liquidation.

This alloy is used for copper braising without flux. Its low melting temperature and excellent fluidity of alloy allow to save energy cost. IT is quite common to use 2 or 3 different alloys on one assembly for different joint (Step Brazing) This procedure allows for simultaneous melting of all alloy groups.

### Applications:

**PHOSBRAZ 840** is used in the work shop for automatic oven brazing. It is recommended for joining copper to copper it is act as self-fluxing alloy and does not required additional flux. It can be used on cuprous alloys (bronze, brass) with Phosbraz flux, electrical industry and Plumbing trade. This brazing alloy is not recommended to be used for the media having sulphur. Also it is not allowed to use for joining steels (Fe) or materials containing Iron (Fe), Nickel (Ni), Cobalt (Co) as it will form brittle phase in the joint. In Air conditioning and refrigeration application, **PHOSBRAZ 840** can be used for the service temperature between +150°C (without loss in strength) upto -20°C. This alloy can be used for flame...Maximum short service joint operating temperature 200°C

### Typical Chemical Compositions (%):

| Cu       | P    | Al   | Bi    | Cd   | Pb    | Zn     | Zn + Cd | Max. impurities |
|----------|------|------|-------|------|-------|--------|---------|-----------------|
| Reminder | 6.30 | 0.01 | 0.030 | 0.01 | 0.020 | <0.050 | <0.05   | <0.25           |



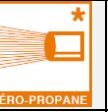

### Typical Physical Properties:

| Colour | Solidus (°C) | Liquidus (°C) | Density g/cm <sup>3</sup> | Elongation % | Tensile strength (MPa) | Electrical Conductivity (%IACS) | Electrical Resistivity (Micro-ohm-cm) |
|--------|--------------|---------------|---------------------------|--------------|------------------------|---------------------------------|---------------------------------------|
| Copper | 710          | 840           | 8.10                      | 5%           | 520                    | 7.20                            | 23.95                                 |

### Properties of Brazed Joint:

The properties of a brazed joint dependent upon numerous factors including base metal properties, joint design, metallurgical interactions between the base metal and the filler metal.

### Standard Size, Types & Heating Source Recommendation:

| Size (mm)           | Type |        |      |          | <br>OXYACETYLENE | <br>INDUCTION | <br>AÉRO-PROPANE | <br>FOUR/OVEN |
|---------------------|------|--------|------|----------|--|--|---|--|
|                     | Bare | Coated | Coil | Preforms |  |  |   |  |
| 1.50,2.00,2.50,3.00 | √    | -      | -    | -        | X  | X  | X   | √  |

Preform sizes and other type other than above standard dimensions are solicited case to case basis

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