# PHOSBRAZ E80

Copper Phosphorous Brazing Alloy

## TECHNICAL DATA SHEET 80

### Specifications:

| Alloy | Working Temperature (˚C) | NF EN ISO 17672 | AWS A-5.8 | DIN 8513 |
|---|---|---|---|---|
| **Cu-P** | 720 | CuP 182 | - | L-Cu P8 |

### Characteristics:

**PHOSBRAZ E80** Alloy with excellent fluidity, specially made for strong brazing of fitting, pipes and Fit up, with narrow joint gaps. Its higher Phosphorus content makes it more fluid. Alloy with self-fluxing properties. The corrosion resistance this alloy is comparable to that of copper excepts when the joint is exposed to sulphuric containing gas or at elevated temperatures as in a cooking range. Under these conditions, it is expected that, this alloy will undergo progressive deterioration as other copper phosphorus alloy with Silver or without silver.

### Applications:

**PHOSBRAZ E80** 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, 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 E80** 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 | 7.80 | <0.01 | <0.030 | <0.01 | <0.025 | 0.050 | <0.05 | <0.25 |

**Typical Physical Properties:**

| Colour | Solidus (˚C) | Liquidus (˚C) | Density g/cm³ | Elongation % | Tensile strength (MPa) | Electrical Conductivity (%IACS) | Electrical Resistivity (Micro-ohom-cm) |
|---|---|---|---|---|---|---|---|
| Copper | 710 | 750 | 8.0 | 3% | 450 | 6.1 | 28.30 |

### 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 and Types & Heating Source Recommendation:

| Size (mm) | Type | | | |   |   |   |   |
|---|---|---|---|---|---|---|---|---|
| | Bare | Coated | Coil | Preforms | | | | |
| **1.50,2.00,2.50,3.00** | √ | – | – | – | √ | √ | √ | **X** |

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

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