

# TECHNICAL SHEET

## CuP7Sn

### Product name

CuP7Sn

### Class of product

Copper-Phosphorous-Tin brazing alloy

### Corresponding standards

ISO 17672      CuP 386  
EN1044        CP 302  
AWS A5.8-04    ~ BCuP-9

### Nominal composition (weight %)

Cu:    Bal.  
P:     7  
Sn:    7

### Physical and technical properties

Melting range (Solidus – Liquidus):    650 - 700 °C  
Minimum brazing temperature (flow point): 700 °C  
Density:                                        8 g/cm<sup>3</sup>  
Tensile Strength (filler metal):            60 kg/mm<sup>2</sup>  
Recommended joint gap:                    0,75 – 0,2 mm  
Continuous service joint operating temp.: -55 / + 150 °C  
Max. short service joint operating temp.: 200 °C

### Range of application

CuP7Sn is a copper-phosphorous-tin brazing alloy, with very good flow characteristics.

It can be used to join copper to copper or copper based base materials (e.g. bronzes / brasses).

The alloy has the ability of producing a large shoulder, or cap, around the joint.

The alloy should be used with a proper flux or with the gas-flux process.

CuP7Sn should not be used on ferrous or nickel alloys, or alloys containing more than 10% of nickel, due to the formation of brittle intermetallic compounds which will cause failure of the joint.

Corrosion resistance of CuP7Sn is generally satisfactory, except when the joint is contact with sulphurous atmospheres (especially at high temperatures); the alloy should therefore not be used to join parts that could come into contact with sulphur containing medias.

Typical brazing processes include flame, induction and furnace brazing.

Tensile strength of joints brazed with CuP7Sn will generally exceed base metals strength.

Joint strength is however a function of various factors, such as: type of base metals to be joined, type of joint, joint clearance, brazing procedure, etc.

Typical applications are in plumbing, in metalware industry, in the manufacturing of valves and manifolds, in the refrigeration and air-conditioning industry, in the assembly of copper and brass elements.

### Characteristics Make-up

Rods  
Wires  
Rings  
Preforms from Wire  
Pastes & Powders

### NOTE:

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