

Brazing Filler Metals For Joining Copper, Brass, Bronze

1. High grade materials, processes and controls, result in an exceptionally high degree of uniformity of composition and finished product.
2. Advanced processing techniques enable **AUFHAUSER** to offer a wider variety of sizes and shapes in these particular alloys than other manufacturers.
3. Chemical analyses, liquidus temperatures and solidus temperatures can be supplied with all material shipped as required by government agencies and some customers.
4. The chemical composition of the alloys is held within a much finer tolerance than that required by the ASTM specifications.
5. The liquidus temperatures are controlled within 10 degrees Fahrenheit.
6. One hundred percent of all brazing rods are ball burnished and cleaned and provide the most appealing surface finish in the industry.
7. All brazing alloys are packaged in hermetically sealed cartons to prolong storage life by eliminating surface oxidation and discoloration caused by sulphur contained in paper packaging materials.
8. Prompt delivery from stock.

Phos Copper

Very fluid, economical, medium temperature brazing alloy. Self-fluxing on copper and ideally suited for copper to copper joints in radiators, air conditioners and electrical connections.

Chemical Composition:

Phosphorus	6.9 - 7.2%
Silver	0
Copper	Balance
Others	0.1% Max.

Temperatures:

Liquidus	1455 degrees F
Solidus	1310 degrees F
Brazing Range	1350 - 1500 degrees F

Phos Copper - 2% Silver

Virtually the same characteristics as the phosphor copper alloy containing no silver, but has slightly lower brazing temperature and a wider brazing range. This alloy suitable for poorer joint fits.

Chemical Composition:

Phosphorus	6.9 - 7.2%
Silver	1.8 - 2.0%
Copper	Balance
Others	0.1% Max.

Temperatures:

Liquidus	1460 degrees F
Solidus	1185 degrees F
Brazing Range	1250 - 1500 degrees F

Phos Copper - 5% Silver

Used primarily for those applications where close fit - ups cannot be maintained. Has a brazing range similar to AB - 15 and the ability to fill gaps and form fillets without adversely affecting strength.

Chemical Composition:

Phosphorus	5.9 - 6.2%
Silver	4.8 - 5.0%
Copper	Balance
Others	0.1% Max.

Temperatures:

Liquidus	1470 degrees F
Solidus	1190 degrees F
Brazing Range	1300 - 1550 degrees F

Phos Copper - 15% Silver

Very similar to AB - 5 alloy but has a lower liquidus temperature to give an even, more ductile joint. Used where close fit - ups cannot be maintained and joint ductility is of prime importance.

Chemical Composition:

Phosphorus	4.9 - 5.2%
Silver	14.5 - 15.0%
Copper	Balance
Others	0.1% Max.

Temperatures:

Liquidus	1465 degrees F
Solidus	1195 degrees F
Brazing Range	1300 - 1500 degrees F

General Product Information

Phos - copper and phos - copper - silver brazing alloys, produced by **AUFHAUSER**, are of particularly high quality, certified to meet all federal and AWS specifications. High purity to eliminate detrimental trace elements. All brazing rods are ball burnished to remove rough edges and burrs. In addition, they are cleaned to remove smut, oils or foreign matter from the surface, which might interfere with the brazing operation.

Advanced processing and quality control techniques make it possible to control liquidus temperatures within 10 degrees F and further offer a wider variety of sizes and shapes in these particular alloys. All brazing rods are packaged in hermetically sealed cartons. This precaution prolongs storage life of the product by completely eliminating surface oxidation and discoloration. Heat numbers, chemical analysis, liquidus and solidus temperatures are supplied for all materials shipped. Notarized analyses are available upon request.

Packaging

The brazing rods are packed in 25 pound hermetically sealed sub - cartons and 100 pound master cartons; the latter contain four 25 pound packages per carton.

Characteristics

This group of alloys has self - fluxing properties on copper. On copper alloys, a flux is often used. The corrosion resistance of the braze is satisfactory in most atmospheres except those containing sulfur at elevated temperature. Rapid heating is recommended and the color of the joint is a light grey. A copper color can be achieved at the joint by a quick immersion in 10 percent sulfuric acid solution.

Specifications

The above alloys meet the following specifications:

ASTM	(B260 - 62T)	Federal (QQB650A)
AWS	(A5.8 - 62T)	Military (15395)

Sizes

Round 1/32", 1/16", 3/32", 1/8", 3/16", 1/4"

Square 3/32", 1/8", 3/16", 1/4"

Flat 1/16" x .050" and 1/8" x .050"

Rings and foils on special request.

Lengths: 18", 20", 36"

(All lengths provided with a tolerance of + 0% - 5%)

Brazing Alloy Designation Chart

AWS: ASTM Designation Supplier	B Cu P - 2		B CuP - 3	BCuP - 5
AUFHAUSER Handy & Harmon Co. Westinghouse Electric Co. United Wire & Supply Co. Engelhard	Phos Copper 0 — Phos Copper Phoson 0 —	Phos Silver 2 — Phos Silver 2 — —	Phos Silver 5 — Phos Silver 6M Phoson 6 Silvaloy 5	Phos Silver 15 Sil - fos Phos Silver 15 Phoson 15 Silvaloy 15
Alloy Composition, %				
Silver	0	1.8 - 2.0	4.75 - 5.25	4.50 - 15.50
Phosphorus	6.75 - 7.50	6.8 - 7.0	5.75 - 6.25	4.75 - 5.75
Others (Max.)	0.15	0.15	0.15	0.15
Copper	Balance	Balance	Balance	Balance

Distributed By