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### Item # BrazeIt-18M, Copper Phosphorous Alloys

A very fluid alloy suited for tight joints. Its low brazing temperature and narrow solidus-liquidus range makes it ideal for applications where temperature is a factor or in cases where extended heating rates are encountered - such as furnace brazing.

BrazeIt 18M is a ternary alloy of silver, phosphorus, and copper approaching the eutectic composition. It is very fluid at brazing temperature and should be used on well fitted joints. BrazeIt 18M's low brazing temperature and narrow solidus-liquidus range makes it ideal for applications (where temperature is a factor and with slow heating rates) such as in furnace brazing.

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#### Nominal Composition

Silver (Ag)	18.0 ± 1.0%
Copper (Cu)	75.75 (Balance)
Phosphorus (P)	6.25 ± 0.25%
Total Other Elements	0.15% Max.

#### Specifications

Melting Pt.	1190 °F 643 °C
Flow Pt.	1230 °F 666 °C
MBT <sup>1</sup>	1270
AWS A5.8	BCuP-8
Preform Options	Brazing Rings Custom Designs Cut-Offs
Resale Options <sup>2</sup>	Brazing Rods Brazing wire Paste
Pricing & availability	Our advanced manufacturing processes are second to none. This results in superior quality that is still provided at an industry competitive prices. We offer many items from stock including BrazeIt #0 brazing rings and brazing rod items.
Approx. Wire Length (BCuP/lb.) (BAg/Tr.oz)	1100 in; 0.062 diameter 4390 in; 0.031 diameter 487 in; 0.093 diameter

<sup>1</sup> Recommended Brazing Temperature

<sup>2</sup> Brazing Wire - Auto Feed Spools

#### Physical Constants

Solidus	1190 °F 643 °C
Liquidus	1230 °F 666 °C

<b>Brazing Range</b>	1225 to 1350 °F 663 to 732 °C
<b>Specific Gravity</b>	8.35
<b>Density</b>	4.40 T.oz./cu.in. 0.302 lb./cu.in
<b>Electrical Conductivity</b>	6.0 % IACS
<b>Electrical Resistivity</b>	29.0 Micro ohm-cm
<b>Color</b>	Light Copper

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### Properties of Brazed Joints

Generally, the joint strength using Brazeit 18M will surpass the strengths of the base metals. Strength is a function of the base metals being joined, design of joint, joint clearance and brazing procedures. The maximum operation temperatures for Brazeit 18M are 400 °F (continuous service) and 500 °F (short time service). Corrosion resistance is satisfactory except when the joint is in contact with sulfurous atmosphere (especially at elevated temperatures).

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### Applications

Brazeit 18M is used for brazing copper and copper alloys, such as brass or bronze. It is suitable for use on silver, tungsten, and molybdenum. It should not be used on ferrous or nickel alloys. On copper to copper applications, it is self-fluxing due to the fluxing action of the phosphorus content. It's low melting temperature makes it ideal for application on copper to brass where temperature and dezincification is a factor.

Automatic brazing of copper and copper products.

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### Safety Information

The operation and maintenance of brazing equipment or facility should conform to the provisions of American National Standard ANSI/ASC Z49.1, "Safety in Welding, Cutting, and Allied Processing". For more complete information, refer to the Material Safety Data Sheet for Brazeit 18M

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### Available Forms

Standard forms of Brazeit 18M are brazing wire and brazing preforms.