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Item # Brazeit 30, Cadmium Bearing Brazing Alloys

Brazeit 30 is historically a modification of Brazeit 35 with a further reduction in silver content resulting in a higher melting point and a longer melting range (185 °F). Brazeit 30 is used for brazing steel, stainless steel, copper, copper alloys, nickel, nickel alloys or combinations of these metals. It is similar to Brazeit 35 in performance although it contains less silver. Its broader melting range is helpful where clearances are not uniform. During melting, Brazeit 30 passes from the solid state to mushy or a plastic state and progressively to a liquid. If heated slowly through this plastic state (1125-1310 °F) the liquid portion may flow from the solid portion. This causes a separation of the alloy into a low temperature melting (fluid) portion and a high temperature melting (solid) portion. This phenomenon is called liquation. The high temperature melting portion will melt only above the normal brazing temperature of Brazeit 30. For this reason, Brazeit 30 should be heated rapidly through the melting range.

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Nominal Composition

| | |
|----------------------|--------------|
| Silver (Ag) | 30.0 ± 1.0% |
| Copper (Cu) | 27.0 ± 1.0% |
| Zinc (Zn) | 23.0 ± 2.0 % |
| Cadmium (Cd) | 20.0 ± 0.5 % |
| Total Other Elements | 0.15% Max. |

Specifications

| | |
|---|--|
| Melting Pt. | 1125 °F 607 °C |
| Flow Pt. | 1310 °F 710 °C |
| MBT ¹ | 1550 |
| AWS A5.8 | BAG-2a |
| ASME | BAG-2a |
| Preform Options | Brazing Discs Brazing Rings Brazing Washers Cut-Offs |
| Resale Options ² | Brazing Rod Brazing Strip Brazing wire |
| Pricing & availability | We offer competitive pricing backed up by an extensive in-house inventory. For custom formulations, consult our technical support team for assistance. |
| Approx. Wire Length (BCuP/lb.) (BAG/Tr.oz) | 275 in; 0.031 diameter 30 in; 0.093 diameter 65 in; 0.062 diameter |

¹ Recommended Brazing Temperature

² Rod - Flux Coating Available

Physical Constants

| | |
|---------|-------------------|
| Solidus | 1125 °F 607 °C |
|---------|-------------------|

| | |
|--------------------------------|----------------------------------|
| Liquidus | 1310 °F 710 °C |
| Brazing Range | 1310 to 1550 °F 710 to 843 °C |
| Specific Gravity | 8.76 |
| Density | 4.79 T.oz./cu.in. |
| Electrical Conductivity | 31 % IACS |
| Electrical Resistivity | 5.5 Micro ohm-cm |
| Color | Light Yellow |

Properties of Brazed Joints

Generally, the joint strength using Brazeit 30 will surpass the strengths of the base metals. Strength is a function of the base metals being joined, type of joint, design of joint, joint clearances and brazing procedures. The recommended maximum operating temperatures for Brazeit 30 is up to 400 °F in continuous service and up to 600 °F in intermittent service. Where improved corrosion resistance is needed, Brazeit A-50N and Brazeit A-40N2 are recommended over silver base filler metals not containing nickel.

Applications

Typical applications are the joining of ferrous, nonferrous and dissimilar metals and alloys close joint clearances.

Less silver than Sil. 35 at the expense of increased melt temperature and range.

Safety Information

Brazeit 30 contains cadmium and therefore upon heating may produce toxic fumes. It is essential that adequate ventilation be provided so that personnel will not inhale gases and fumes while brazing. The operation and maintenance of brazing equipment or facility should conform to the provisions of American National Standard (ANSI) Z49.1, "Safety in Welding and Cutting." For more complete information refer to the Material Safety Data sheet for Brazeit 30.

Available Forms

Standard forms of Brazeit 30 are wire, strip and preforms.