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Item # BrazeIt A-54N, Cadmium Free Brazing Alloys

BrazeIt A-54N is a silver brazing alloy suitable for furnace brazing due to its low zinc content. Its broader melting range (250 °F) is helpful where clearances are not uniform. During melting, BrazeIt A-54N passes from the solid state to a mushy or plastic state and progressively to a liquid. If heated slowly through this plastic state (1325-1575 °F) the liquid portion may flow from the solid portion. This causes a separation of the alloy into a low temperature melting (solid) portion. This phenomenon is called liquation. The high temperature melting portion will melt only above the normal brazing temperature of BrazeIt A-54N. For this reason, BrazeIt A-54N should be heated rapidly through the melting range.

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Nominal Composition

Silver (Ag)	54.0 ± 1.0%
Copper (Cu)	40.0 ± 1.0%
Zinc (Zn)	5.0 ± 2.0 %
Cadmium (Cd)	1.0 ± 0.5 %
Nickel (Ni)	1
Total Other Elements	0.15% Max.

Specifications

Melting Pt.	1325 °F 718 °C
Flow Pt.	1575 °F 857 °C
MBT ¹	1775
AWS A5.8	BAG-13
ASME	BAG-13
AMS	4772
Resale Options ²	Brazing Rod Brazing Strip Brazing wire
Preform Options	Brazing Discs Brazing Rings Brazing Washers Custom Designs Cut Offs Edgewounds
Approx. Wire Length (BCuP/lb.) (BAG/Tr.oz)	260 in @ 0.031 diameter 29 in @ 0.093 diameter 65 in @ 0.062 diameter

¹ Recommended Brazing Temperature

² Brazing Wire & Brazing Strip - Spooling Available
 Brazing Rod - Flux Coating Available

Physical Constants

Solidus	1325 °F 720 °C
Liquidus	1575 °F 857 °C
Brazing Range	1575 to 1775 °F 857 to 968 °C
Specific Gravity	9.63
Density	5.07 T.oz./cu.in.
Electrical Conductivity	49.8 % IACS
Electrical Resistivity	3.46 Micro ohm-cm
Color	White

Properties of Brazed Joints

Generally, the joint strength using Brazeit A-54N 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 temperature for Brazeit A-54N is up to 700 °F (370 °C).

Applications

Typical applications are the brazing of ferrous, nonferrous and dissimilar metal and alloys.

Low zinc suitable for furnace brazing. Good for elevated temperatures to 700°F. Used for carbon assemblies.

Safety Information

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 A-54N.

Available Forms

Standard forms of Brazeit A-54N are brazing wire, brazing strip, and brazing preforms.