

SilverAlloy A-54N

◆ INTRODUCTION

SilverAlloy 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, SilverAlloy A54N 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°) 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 SilverAlloy A54N. For this reason, SilverAlloy A54N should be heated rapidly through the melting range.

◆ APPLICATIONS

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

◆ CHEMICAL COMPOSITION

<u>Silver</u>	<u>Copper</u>	<u>Zinc</u>	<u>Nickel</u>	<u>Total others</u>
54.0%	40.0%	5.0%	1.0%	.15% max

◆ PHYSICAL and MECHANICAL PROPERTIES

Solidus:	1325 °F (718 °C)
Liquidus:	1575 °F (857 °C)
Brazing Range:	1575-1775 °F (857-968°C)
Specific Gravity:	9.590
Density:	5.054 TO/Cu.In.
Electrical Conductivity:	49.8
Electrical Resistivity:	3.46
Color:	White



◆ SPECIFICATIONS MEET or EXCEED

- AWS A5.8 BAg-13
- ASME BAg-13
- AMS 4772

◆ STANDARD SIZES AND DIAMETERS

- Diameters: 1/32", 3/64", 1/16", 3/32", 1/8"
- Sizes: 1, 3, 5, or 50 troy ounce

◆ PROPERTIES OF BRAZED JOINTS:

Generally, the joint strength using SilverAlloy 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 Silver Alloy A-54N is up to 700°F (370°C).