

TRIMET[®] 299

NOMINAL COMPOSITION

Braze Filler Metal: Silvaloy[®] 299 (Clad Portion)

Silver	30.0% ± 1.0%
Copper	36.0% ± 1.0%
Zinc	32.0% ± 1.0%
Nickel	2.0% ± 0.25%
Other Elements (Total)	0.15% Max

Core

Copper	99.90% Min
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PHYSICAL PROPERTIES

Braze Filler Metal: Silvaloy 299 (Clad Portion)

Melting Point (Solidus) ⁽¹⁾	1250°F (676°C)
Flow Point (Liquidus) ⁽¹⁾	1450°F (788°C)
Brazing Temperature Range	1450°F - 1550°F (788°C - 843°C)
Specific Gravity	8.83
Density (Troy oz/in ³)	4.65

PRODUCT USES

Trimet 299 is a three layer composite metal sandwich consisting of a copper core clad on each side with Silvaloy 299 alloy. The relative thicknesses of the three (3) layers are in a 1/2/1 ratio. Other relative thickness ratios can be produced for special applications if warranted.

Trimet 299 is useful for brazing large carbide tools inserts with braze surface areas in excess of 0.5 in² (322.58 mm²) or linear dimension over 0.75 in (19mm). In these cases the stress normally set up in the carbide, by differential contraction between the carbide and tool shank during cooling, is relieved by the yielding of the copper core of the Trimet 299. This product is used as pre-placed shim at the interface of the parts being joined. Brazing procedures are identical with those required for Silvaloy 299.

Trimet is sometimes used to braze aluminum-bronze to steel. The copper acts as a barrier layer to prevent migration of aluminum from aluminum-bronze base metal to the steel surface and adversely affecting the wetting of the steel by the Silvaloy 299.

Trimet shims have also found use in joining porous sintered parts and wire mesh screens where “wicking” of the filler metal is normally challenging. The copper core in these cases acts to restrict filler metal flow, confining it to the joint area where needed.

AVAILABLE FORMS

Strip, engineered preforms, specialty preforms per customer specification.

SPECIFICATIONS

Trimet 299 alloy conforms to the following specifications: N/A

APPLICABLE PRODUCT CODE(S)

The applicable Lucas-Milhaupt product code(s) for this technical data sheet: 38-299.

SAFETY INFORMATION

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 Trimet 299.

WARRANTY CLAUSE

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