

VACUBRAZE 42

NOMINAL COMPOSITION

Aluminum	Remainder
Silicon	10.0%
Iron	0.8% Max
Copper	0.30% Max
Titanium	0.20% Max
Other Elements (Each)	0.10% Max
Other Elements (Total)	0.15% Max

PHYSICAL PROPERTIES

Color	Grayish-White
Melting Point (Solidus)	1070°F (577°C)
Flow Point (Liquidus)	1095°F (591°C)
Brazing Range	1095°F - 1120°F (591°C - 604°C)

PRODUCT USES

Vacubraze 42 is a powder aluminum filler metal and an organic binder. It is used for joining aluminum alloys by the fluxless vacuum brazing process. The binder provides excellent paste adhesion to the aluminum parts during fixturing and loading, but vaporizes during the early part of the brazing cycle. At high temperatures, no residue remains that can interfere with wetting and flow of the alloy. Vacubraze 42 does not contain any chloride or fluoride salts.

Vacubraze 42 is a filler alloy in paste form for vacuum brazing aluminum. Lucas-Milhaupt, Inc. has combined rapid solidification technologies in powder production and a unique binder system that enhances the filler alloy in vacuum. An undesirable characteristic of aluminum vacuum brazing is incomplete flow to the edge of the lap joint and miniscule fillets. Vacubraze 42 eliminates this problem resulting in completed joints and generous, smooth fillets.

Mix thoroughly before use. Paste may be thinned with mineral spirits.

Vacubraze 42 is normally used in conjunction with brazing sheet or foil. Vacubraze 42 does not contain magnesium. 280 Magnesium is the preferred source of magnesium.

PROPERTIES OF BRAZED JOINTS

The properties of a brazed joint are dependent upon numerous factors including base metal properties, joint design, metallurgical interaction between the base metal and the filler metal. Joint clearances of 0.002 - 0.004 in (0.051 - 0.102 mm) per side are optimum for achieving highest joint strength in furnace brazing. Joints with increased clearances can still produce adequate joint strengths depending on final operating conditions.

WARRANTY & STORAGE

Lucas-Milhaupt, Inc. warrants their Brazing and Soldering Paste products for 90 days from the date of shipment if stored in the original unopened container. Optimal storage conditions would be 65°F (18°C) - 75°F (24°C), clean and dry. It is recommended that the paste products are stored away from direct heat. Paste may require mixing to regain a homogenous mixture before application.

The 90 day warranty should not be interpreted as the shelf or useful life of the product. The paste products may be used well beyond the 90 day warranty, unless customer testing or production results indicate unsatisfactory performance of the product.

AVAILABLE PACKAGING

Vacubraze 42 Aluminum Vacuum Brazing paste is available in various size syringes, jars and cartridges.

SPECIFICATIONS

Aluminum powder chemistry is manufactured in accordance to the following specifications:

- AWS A5.8 BALS_i-5
- QQ-B-655 (FS-BALS_i-5)
- Alcoa 714
- AA 4045

APPLICABLE PRODUCT CODE(S)

The applicable Lucas-Milhaupt product code(s) for this technical data sheet: 84-380.

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 Vacubraze 42.

WARRANTY CLAUSE

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