



PRODUCT INFORMATION

HIGH TECHNOLOGY MATERIALS

MERECO CLN-658 FLEXIBLE, ELECTRICALLY CONDUCTIVE SILVER-FILLED EPOXY ADHESIVE AND SEALANT

Mereco CLN-658 is a new, flexible, electrically conductive silver-filled epoxy adhesive that is an excellent replacement for RTV silicones and rigid epoxy systems where a compliant, electrically conductive adhesive system with good bond strength to a variety of substrates is required. CLN-658 has found extensive use in bonding electronic components to circuit boards and leadframes, and it is an excellent choice where solder temperatures are too high for the substrates.

Easy Mix Ratios, Flexible Cure Schedule

CLN-658 has an easy, one-to-one (1:1) mix ratio, with a long working life of 4 hours at room temperature. It can be cured in 48 hours at room temperature or 4 hours at 65° C.

Cure Schedule

Hours	° C
4	65
48	25

The outstanding properties of CLN-658 are high adhesion, room temperature or heat accelerated cure schedule, forgiving one-to-one (1:1) mix ratio, long working life, repairability, electrical conductivity, and flexibility, all combined with a very low glass transition temperature which makes it suitable for military and low-temperature applications. Additionally, CLN-658 is lower in cost than RTV silicone and does

not produce corrosive by product such as acetic acid during cure.

Mereco CLN-658 has proven to be an excellent choice in surface mount adhesive applications where electrical conductivity and low solder joint stress are needed. In high reliability applications, the expansion coefficient of CLN-658 does not interfere with leaded component solder joint reliability.

Typical Properties of Uncured CLN-658

Product	Activator	Base	Mixture
Color	Silver	Silver	Silver
Form	Paste	Paste	Paste
Specific Gravity	2.6 – 3.0	2.6 – 3.0	2.6 – 3.0
Flash Point, ° C	154	101	N/A

Typical Properties of Cured CLN-658

Should not be used for specification purposes
Cured 4 hours at 65°C

Mechanical	
Form	Flexible Solid
Shore Durometer, A	80 +/- 10
Tensile Strength, psi	230 - 285
Elongation at break, %	60 – 125
Young's Modulus, Mpa	6 - 66
Tensile Lap Shear (Al – AL), psi	300 – 400
Thermal	
Operating Range ° C, continuous	-55 to 150
Intermittent	to 180
Expansion Coefficient, 10 ⁶ X ° C ⁻¹ (est.)	100 – 120
Volume Resistivity, ohm · cm	9 X 10 ⁻³ max
Glass Transition Temperature, °C (est.)	-27 °C

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FORM 1105 REV. 1

Preparation of Mixture

For product purchased in two-component kits, mix the entire contents of Mereco CLN-658 base and activator in their original shipping containers to a uniform consistency and color, each time, before dispensing. Take care to incorporate all material adhering to the bottom, sides and corners of the containers. Mechanical mixing of the components for two to three minutes is satisfactory. Measure only the approximate amount that can be applied in four hours. A four day quantity may be mixed if promptly packaged, air free, in sealed containers and stored at 0° C. The premixed, frozen packaging needs thawing before dispensing. This normally takes no longer than 5 minutes at 25° C.

Air Removal

Air entrapment during mixing may be removed in vacuum (5mm of mercury). The holding container should be no more than one-third full. Allow the mixture to foam and then subside. Maintain the low pressure for several more minutes, until most of the large bubbles have broken.

Application

The adhesive should be applied in a 2 – 5 mil thickness to one surface after which the parts are mated and set aside to cure using the recommended cure schedules on the front of this data bulletin.

Safety, Storage and Handling

Before using Mereco CLN-658, consult the Material Safety Data Sheet for appropriate handling procedures and protective equipment.

Availability and Order Information

Packaging

Mereco CLN-658 is available as a two-component kit consisting of separate equal weight containers of epoxy resin and curing agent. Mereco CLN-658 is available in 2-oz., 4-oz., 8-oz., 16-oz., and 32-oz. kits. On special order, the product can also be made available in other sizes.

Mereco can also package CLN-658 in dual-pouch mixing packages, and in dual cartridges with a hand-held gun for hand dispensing. In both methods, the two components are premeasured, kept separate until needed, and do not need freezing.

For those customers who do not want to mix CLN-658, premixed and frozen syringes and small plastic cups are available. The premixed syringes or cups are degassed and frozen (-40° C) at the factory. The package requires frozen storage and prompt action at the receiving platform to ensure that the package contents do not thaw prematurely.

When ordering, specify the name, number, letter designation, color, quantity, container size and packaging form. The order should be placed with the Mereco Customer Support Department at 1-800-556-7164 or by mail to the address listed on this bulletin. The minimum order size is \$100.00. Evaluation kits are available for \$50.00