

Fast Curing Form-in-Place EMI Shielding Material

DESCRIPTION

CHOFORM® 5538 is a one component, moisture cure, electrically conductive, form-in-place EMI gasketing material. The formulation contains nickel –plated graphite particles dispersed in a silicone elastomer. The material is designed for ease of dispensing with increased flow rates when dispensing 0.5 mm height beads. CHOFORM 5538 is designed to be robotically dispensed onto a variety of substrates, ranging from metal castings to electrically conductive coatings on plastic substrates. Typical adhesion values for dispensed part QC requirements are 4 – 6 N/cm and typical resistance values from dispensed bead to substrate are less than 2 ohms. The choice of CHOFORM 5538 for a specific application should be discussed with a Chomerics' applications engineer so as to ensure proper material selection and ensure specific dispense parameters.



HANDLING AND CURING OF MATERIAL

CHOFORM 5538 is a moisture cure material and where the temperature and humidity combination will determine the time necessary for both handling of the parts as well as time for full cure. Handling time for this material is typically 4 hours, depending on temperature and humidity conditions. While optimum electrical properties and adhesion can be achieved after this relatively short cure cycle, full cure for these materials is typically 72 hours at 20°C and 50% RH.

TABLE 2 - CHOFORM 5538 CURE SCHEDULE

Cure Cycle	Time/Temperature/Humidity
Properties Measurement – Resistance/Adhesion	4 hours @ 20° C & 50% RH
Full Cure – Compression Set	Min. 72 hours at 20° C & 50% RH

FEATURES / BENEFITS

- Moisture cure at room temperature
- Fast cure within 4 hours
- Designed for excellent adhesion to many substrates
- Designed for small, 0.5 mm height beads
- Low material and installation costs
- Superior EMI shielding characteristics
- Excellent salt fog corrosion resistance
- Ni/C Filled
- One part silicone
- Moisture cure mechanism

MATERIAL DISPENSING

CHOFORM 5538 is easily dispensed from a variety of commercially available gasket dispense systems. In addition to Chomerics' existing worldwide network of CHOFORM applicators, our CHOFORM applications group can provide support for material dispense needs worldwide for customers wishing to utilize their own or other dispense equipment.

PACKAGING

CHOFORM 5538 is packaged with 650 grams of material in an aluminum cartridge. Other packaging options can be made available at customer request.

Chomerics part numbers are as follows:

19-26-5538-0650 - 650 grams of CHOFORM 5538 in an 11 fluid ounce (0.33 liter) aluminum cartridge

DESIGN AND PROTOTYPING

Application and design assistance is available to prospective customers. The specific focus of the assistance is on the examination/identification of design issues with regard to the substrate. These design issues include: enclosure material and surface finish, available gasket placement area, part flatness, transitions in the design layout of the dispensed bead, obstructions in the design of the enclosure to the unimpeded travel of the dispense needle, and z-direction dispense needs.

Prototype dispensing is available on sample parts or sample coupons for customer evaluation.

Subsequent to the purchase of CHOFORM material, application support is also available for part-gasket shipment packaging design, part fixturing/palletizing for robotic dispense, and establishment of appropriate QC test procedures for resistivity and bead placement and dimensioning.

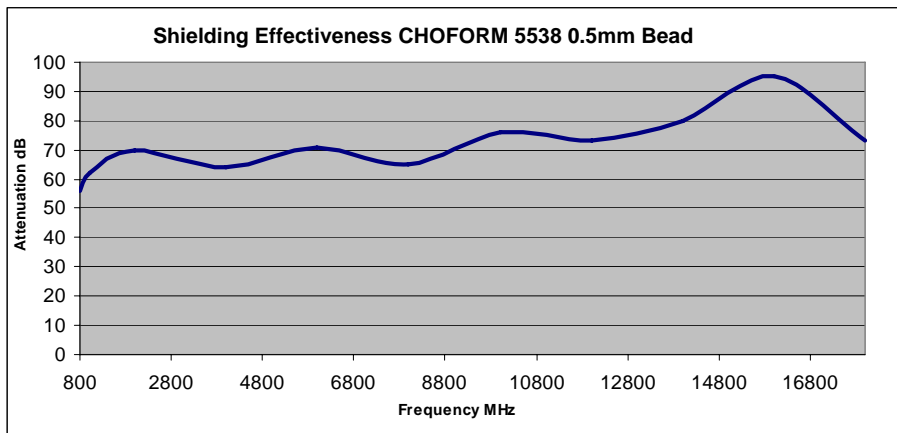


TABLE 3 - QUALITY CONFORMANCE TESTS

Property	Method	Typical Values
Volume Resistivity Initial Aged	CHO MAT-1019	0.15 ohm-cm 0.25 ohm-cm
Hardness	ASTM D2240	65 +/- 7 Shore A
Tensile Strength	ASTM D412	325 psi
Specific Gravity	ASTM D792	2.2 – 2.5
Flow Rate * 5538	CHO MAT-1200	4.0 gm/min

*Flow rate measured using standard .054 inch diameter needle

TABLE 4 - QUALIFICATION TESTS

Property	Method	Typical Value
Adhesion - Shear	CHO-FORM WI038	4 – 6 N/cm
Shielding Effectiveness 200 MHz to 10 GHz	CHO TP08	> 60 dB
Galvanic Corrosion	CHO TM-100	10 mg
Compression/ Deflection	CHO NBD -001	20%/10 lbs. 30%/21 lbs.
Compression/ Deflection	CHO NBD -001	20%/32 milliohms 30%/15 milliohms
Use Temperature		85°C
Shelf Life		3 months room temp.

⚠ WARNING – USER RESPONSIBILITY

FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.

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The user, through its own analysis and testing, is solely responsible for making the final selection of the system and components and assuring that all performance, endurance, maintenance, safety and warning requirements of the application are met. The user must analyze all aspects of the application, follow applicable industry standards, and follow the information concerning the product in the current product catalog and in any other materials provided from Parker or its subsidiaries or authorized distributors.

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