



Technical Data Guide

Polyether Technology

CSI Section No. 07 92 13

CHEM LINK

Construction & Maintenance

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Product Description

M-1CR (clean room) is solvent-free, extremely low VOC, moisture curing, polyether adhesive-sealant designed for application in areas where outgassing and solvents are not tolerated. It releases virtually no molecular air contamination and contains no isocyanates. **M-1CR** will not shrink upon curing, will not discolor when exposed to UV light, and can not "out-gas" on damp surfaces as is common with urethane sealants. The product has resilient "elastomeric" properties and excellent adhesion to most construction materials. **M-1CR** is designed for environments where molecular airborne contamination can impact human health or clean room manufacturing operations and is specified for biomedical, electronic and aerospace clean rooms.

Applicable Performance Standards

- ASTM C920, Type S, Grade NS, Class 25, Uses NT, T₁, M, G, A, and O
- Federal Specification TT-S-00230-C Type II, Class B
- Corps of Engineers CRD-C-541, Type II, Class B
- Canadian Standards Board CAN 19, 13-M82

Regulatory Compliance

- Conforms to OTC Rule for Sealants and Caulks
- Meets requirements of California Regs: CARB, BAAQMD and SCAQMD
- This product does not contain cancer causing chemicals listed in California Proposition 65
- Conforms to USDA Requirements for Non-food Contact

Storage

Store original, unopened containers in a cool, dry area. Protect unopened containers from water, heat and direct sunlight. Elevated temperatures will reduce shelf life.

M-1CR will not freeze.

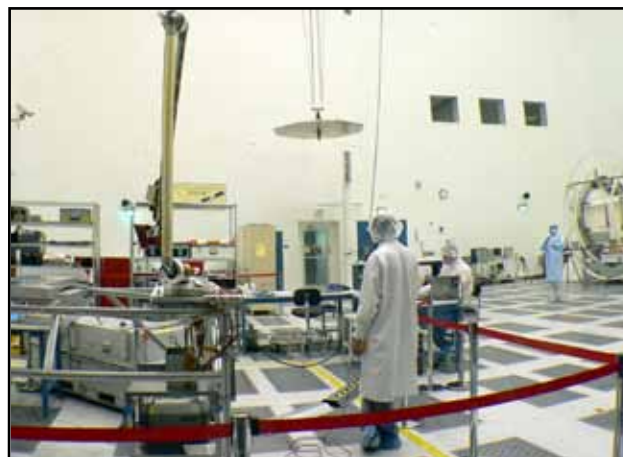
Shelf Life

Twelve months from date of manufacture when stored at 70°F / 21°C with 50% relative humidity. High temperature and high relative humidity may significantly reduce shelf life.

Pails have a shelf life of six months.

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Advantages

- 100% VOC Compliant less than 15 grams/liter
- Tough elastomeric bonds
- Solvent Free
- Fast Setting
- High adhesion
- Paintable within 24 hours
- Gun grade, no special tools or mixing required
- Can be applied at temperatures as low as 32°F (0°C)

Colors

Gray

White

* Color matching is available in batch quantity only

Packaging

- **10.1 oz (300 ml)**
16 cartridges/field pack, 48 field packs/pallet
- **20 oz (600 ml) available by special order**
12 sausages/carton, 45 cartons/pallet
- **5 gallon pails or 50 gallon drums**
available by special order



Substrate Preparation

Bonding surfaces must be clean, dry and free of oxidation, mill oils, wax, and release agents that may interfere with adhesion. Dry and fully cure painted surfaces before bonding. Alcohol and ammonia water are effective cleaners for surface preparation. Abraded or irregular surfaces are acceptable bonding surfaces but must be clean and sound. All substrates must be free of manufacturing defects.*

**Test all substrates for bond strength and compatibility before application.*

Application Instructions

M-1CR is a gun grade material that is applied from caulking guns, high viscosity pump guns, or automated bead application equipment. This product sets rapidly upon exposure to moisture. All application equipment must be clean and dry before using **M-1CR**. Open containers must be quickly protected from atmospheric moisture. Guns, pumps and hoses must be sealed when not in use.

- Mask off areas that must be protected from adhesives.
- Apply adhesive to one side of the assembly. Do not use excessive adhesive. Beads can vary in size from 1/16 inch to 3/8 inch diameter for best application control.
- Compress beads firmly between substrates to set bonds. Presses and clamps are usually not required.
- Allow the assembly to cure for 30 minutes to an hour before handling or machining. When bonding two impermeable materials, brief separation and reassembly of the bonding surfaces to expose the adhesive to atmospheric moisture, will often accelerate the cure.
- In extremely dry environments, local humidification may be needed to initiate curing. Low temperature will retard the cure reaction and heat will accelerate the cure reaction. Optimum application is between 60°F to 100°F (16°C to 38°C).

All properties described in this document are derived from testing conducted in laboratory conditions. Properties and performance will vary depending on environmental conditions and application technique. Test and evaluate to determine appropriate usage. Visit www.chemlink.com for the Safety Data Sheet, Technical Data Guides and full warranty for this product.

LIMITED WARRANTY: **CHEM LINK** warrants this product's performance, provided it is properly stored and applied within 1 year. If this **CHEM LINK** material is proved to be defective, return remaining product and purchase receipt for refund or replacement of product exclusive of labor or cost of labor. This is the sole and exclusive remedy for defects or failure of this product. User must read and follow the direction of the current Technical Data Guide and SDS prior to product use. User determines suitability of product for intended use and assumes all risks. Manufacturer shall not be liable for damages (including consequential or incidental damages) in excess of the purchase price, except where such exclusion or limitation is prohibited by state law. THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, WRITTEN OR ORAL, STATUTORY, EXPRESS OR IMPLIED INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE; except for the above express warranty given by manufacturer, the product is sold with all faults. **CHEM LINK** SHALL NOT BE RESPONSIBLE FOR THE USE OF THIS PRODUCT IN A MANNER TO INFRINGE ON ANY PATENT OR ANY OTHER INTELLECTUAL PROPERTY RIGHTS HELD BY OTHERS. This warranty gives you specific legal rights, and you may also have other rights in the U.S. which vary from state to state. For warranty claim information, call 800-826-1681.

Typical Physical Properties		
Viscosity	1,200,000 +/- 400,000 cp at 72°F (22°C)	Brookfield RVF, TF spindle, 4 RPM
Density	11.8 +/- 0.2 lbs per gallon	ASTM D1475
Tack Free Time	20 +/- 10 min	45 +/- 5 % R.H.
Elongation at Break	275 - 325%	ASTM D412
Tensile Strength	325 -375 psi	ASTM D412
Hardness Shore A	38 - 42	ASTM C661
Low Temp. Flex	-10°F (-23°C) 1/4 inch mandrel	ASTM D816
Shrinkage	No visible shrinkage after 14 Days	
Service Temp.	-40°F to 200°F / -40°C to 93°C	
Results of Outgassed VOC Cleanroom Materials and Coatings Test		
VOC Type	VOC in ppmw (Parts Per Million Weight)	
Total VOC bp > 150°C	51 ppmw (µg/g)	
Total VOC bp > 300°C	19 ppmw (µg/g)	
Total VOC Compounds	52 ppmw (µg/g)	

Limitations

- Horizontal applications will require tooling.
- In areas where prolonged chemical exposure is anticipated, contact Technical Services for recommendations.
- Do not store in elevated temperatures.
- Remove all coatings and sealers before application.
- Please contact customer service for application guidelines with temperatures below 32°F (0°C).
- Test and evaluate all paints before application.