M-1®

Structural Adhesive/Sealant

Technical Data Sheet | **Polyether Technology** | **CSI Section No. 07 92 13**

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Product Description

M-1® is a moisture curing, polyether adhesive/sealant designed for applications in damp, dry, or cold climates. **M-1®** is solvent free and contains no isocyanates. **M-1®** will not shrink upon curing, will not discolor when exposed to UV light, and can not "out-gas", or bubble on damp surfaces as urethane sealants often do. **M-1®** is capable of joint movement in excess of 35% in both compression and extension. **M-1®** can be used effectively in many difficult construction site conditions such as wet or dry climates and at temperatures as low as 32°F (0°C).

Applicable Performance Standards

- ASTM C920, Type S, Grade NS, Class 35 Uses NT, T_1, M, G, A & O
- ASTM E84, Class A
- ASTM D4586
- 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
- SWR Institute Validated (Sealant Waterproofing and Restoration)
- Miami Dade County, Florida. NOA No.: 19-0709.02 Expiration Date: 09/19/2024

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

Green Standards:

- LEED 2.2 for New Construction and Major Renovations: Low Emitting Materials (Section 4.1) 1 Point
- NAHB Model Green Home Building Guidelines: 5 Global Impact Points
- VOC Content: less than 24 grams / liter ASTM D2369 EPA Method 24 (tested at 240°F / 115°C)

Advantages

- Solvent free, 100% solids will not shrink
- Non-slump, applies vertically and overhead
- 20 minute skin over
- No outgassing on damp surfaces
- Good color stability, will not suntan
- Paintable within 24 hours (See limitations)
- Gun grade, no special tools or mixing required
- Application at temperatures as low as 32°F (0°C)
- Made in the USA - ISO 9001:2015 certified

Colors

White, Gray, Tan, Limestone & Black

* Color matching is available in batch quantity only

Packaging

- **5 oz Squeeze Tube (148 ml)**
  36 tubes/carton, 40 cartons/pallet
- **10.1 oz (300 ml)**
  24 cartridges/carton, 45 cartons/pallet
- **20 oz (600 ml)**
  12 sausages/carton, 40 cartons/pallet
- **28 oz (825 ml)**
  12 cartridges/carton, 40 cartons/pallet
  White only - Other colors available by special order
- **2 and 5 gallon pails or 50 gallon drums available by special order**

MIAMI-DADE COUNTY APPROVED NOA No.: 19-0709.02

SWR INSTITUTE

NATIONAL ROOFING CONTRACTORS ASSOCIATION MEMBER

Joint Preparation

Joint surfaces should be clean, dry and free from all contamination including: dirt, oils, grease, tar, wax, rust and any other substance that may inhibit the sealant's performance.

Joint Design

Install all joint applications per ASTM and SWRI recommendations and guidelines. Joints shall be designed with a depth to width ratio of 1:2 (joint depth one-half the width). Control the depth of the sealant by using a polyethylene backer rod that is 25% larger than the joint opening at standard temperature. To prevent three-point adhesion use a backer rod or bond breaker tape to ensure proper joint movement and a long lasting weatherproof seal. Where the joint configuration will not permit a backer rod, CHEM LINK recommends that an alternative bond breaker be used.

Joint Width Inches (mm)	**Joint Depth** Inches (mm)
1/4 - 1/2 (6-13)	1/4 (6)
1/2 - 3/4 (13-19)	1/4 - 3/8 (6-10)
3/4 - 1 (19-25)	3/8 - 1/2 (10-13)

CHEM LINK recommends an appropriate substrate primer to be used on high moving joints or dissimilar substrates which require increased adhesion properties.

Typical Peel Values ASTM C794	
Vinyl	55 pli cohesive failure
Glass	55 pli cohesive failure
Aluminum	55 pli cohesive failure
Cut Concrete (unprimed)	36 pli cohesive failure

Compatible Substrates*
EPDM and SBS Mod Bit
Asphalt Shingles
Aluminum and Galvanized Metal
Stainless Steel
Engineered Plastics, PVC
Glass
Fiberglass FRP
Wood
Block and Brick
EPS Foam
Concrete and Stone
EIFS, Stucco

**Test and evaluate to ensure adequate adhesion.*

Typical Physical Properties		
Gun Grade	Zero Slump	
Viscosity	1,200,000 cp +/- 400,000 cp	Brookfield RVF TF Spindle, 4 RPM, 73°F (23°C)
Density	11.94 lbs per gallon	ASTM D1475
Tack Free Time	35 min +/- 10 min	45 +/- 5 % R.H.
Elongation at Break	525%	ASTM D412
Hardness Shore A	45	ASTM C661
Tensile Strength	370 psi	ASTM D412
Shear Strength	390 psi	ASTM D1002
Tear Strength	111 pli	ASTM D624
Low temp. flex	Pass -15°F (-26°C) 1/4 inch mandrel	ASTM D522
Shrinkage	No visible shrinkage after 14 days	
Service Temperature	-40°F to 200°F (-40°C to 93°C)	

Basic Uses
Expansion joints
Pre-cast concrete
Block and Masonry
Window and door frames
Siding
Parapets
Cove Joints
Transportation
Weather Sealing

Application Guidelines:

Concrete
Prior to application remove any residual contamination by mechanical abrasion, sand blasting or power washing. On green concrete, remove all release agents, friable and loose concrete. Dry all visible and standing water prior to applying **M-1®**. Install an appropriate backer rod to avoid three-point bonding.

Metal
Prepare all metal to ensure maximum adhesion. Remove all rust, scale and residue by wire brushing to a bright metal sheen. Remove films, loose or inappropriate coatings and oils with an appropriate solvent such as alcohol.*

**CHEM LINK recommends that coated substrates be tested for adhesion prior to starting a project. Please contact Technical Services for specific application guidelines and recommendations.*

Wood
Wood should be clean, sound and dry prior to sealant application. Allow treated wood to weather for six months prior to application. Remove all coatings and paint (or test for compatibility) to ensure proper bonding. Do not use on fire retardant lumber.

Priming
In most instances **M-1®** will not require a primer. However, certain applications or substrates may require a primer to ensure a long lasting bond and weatherproof seal. It is the applicator's responsibility to determine the need for a primer. CHEM LINK recommends a primer be used for any application where prolonged immersion is anticipated.

Clean-Up
Wet sealant can be removed using a solvent such as alcohol. Cured **M-1®** can be removed by abrading or scraping the substrate.

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-1®** 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.

Application Instructions
Remove all dirt, oil, loose paint, frost and other contamination from all working surfaces with alcohol DO NOT USE petroleum solvents such as mineral spirits or xylene. Maintain **M-1®** at room temperature before applying to ensure easy gunning and tooling. Test and evaluate to ensure adequate adhesion. Carefully gun the sealant with a smooth, continuous bead. If tooling is needed, do so within fifteen minutes of application.

Caution
Avoid prolonged contact with skin. Uncured adhesive irritates eyes. In case of contact with eyes immediately flush with water. Call a physician. Please refer to the SDS for first aid information.
See www.chemlink.com for most current SDS .
KEEP OUT OF REACH OF CHILDREN.

Limitations
- Horizontal applications will require tooling.
- In areas where prolonged chemical exposure is anticipated, contact Technical Services for recommendations.
- Allow treated wood to "cure" for six months prior to application per APA guidelines.
- Do not use in areas subject to continuous immersion.
- Do not store in elevated temperatures.
- Allow asphalt to cure a minimum of six months before applying **M-1®**
- 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. Polyurethane and oil based paints may dry slowly.
- Do not use on TPO without CHEM LINK TPO primer.
- Does not bond to Kynar 500® PVDF coated metals.