

SECTION 07 92 00  
JOINT SEALANTS

Specifier Note: This section includes sealants for interior and exterior, vertical, horizontal, and traffic-bearing joints. The section relies on a schedule at the end of Part 3 to specify the type of sealant used for each joint. Edit the schedule first. Then edit Part 2 to include the description of each sealant product used in the schedule.

Contact CHEM LINK customer service at [customerservice@chemlinkinc.com](mailto:customerservice@chemlinkinc.com) for additional information about products in this specification.

Visit the CHEM LINK web site at <http://www.chemlinkinc.com> for current product information.

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Exterior [silicone] [polyether] sealants.
2. Exterior [silicone] [polyether] EIFS sealants.
3. Exterior and interior polyether traffic sealants.
4. Interior [silicone] [polyether] sealants.
5. Interior [silicone] [polyether] USDA.
6. Interior sanitary silicone sealants.
7. Metal lap joint sealants.
8. Threshold and sheet metal bedding sealants.
9. Joint accessories.

B. Related Sections:

1. Section 07 24 00 – Exterior Insulation and Finish Systems: Compound system warranty for EIFS and silicone sealants used with EIFS.
2. Section 08 80 00 – Glazing: Glazing sealants and protective glazing systems.

1.2 REFERENCES

Specifier Note: List reference standards included within text of this section. Edit the following for Project conditions.

A. ASTM International Inc.

1. ASTM C 510 - Standard Test Method for Staining and Color Change of Single or Multi-component Joint Sealants.
2. ASTM C 719 - Standard Test Method for Adhesion and Cohesion of Elastomeric Joint Sealants under Cyclic Movement (Hockman Cycle).
3. ASTM C 794 - Standard Test Method for Adhesion-in-Peel of Elastomeric Joint Sealants.
4. ASTM C 920 - Standard Specification for Elastomeric Joint Sealants.
5. ASTM C 1087 - Standard Test Method for Determining Compatibility of Liquid-Applied Sealants with Accessories Used in Structural Glazing Systems.
6. ASTM C 1193 - Standard Guide for Use of Joint Sealants.
7. ASTM C 1248 - Standard Test Method for Staining of Porous Substrate by Joint Sealants.

8. ASTM D 2203 - Standard Test Method for Staining from Sealants.

1.3 SUBMITTALS

Specifier Note: Only request submittals needed to verify compliance with Project requirements.

- A. Shop Drawings:
  - 1. Submit details to show installation and interface between sealants and adjacent work.
- B. Product Data:
  - 1. Materials list of items proposed to be provided under this Section;
  - 2. Manufacturer's specifications and other data needed to prove compliance with the specified requirements;
- C. Samples:
  - 1. Submit color charts for each sealant type for initial selection.
  - 2. Submit standard cured color samples for each sealant type illustrating selected colors.
- D. Test Reports:

Specifier Note: Coordinate submittal requirements with pre-construction testing included in Quality Assurance article.

- 1. Submit results of laboratory pre-construction testing.
  - 2. Submit results of field pre-construction testing.
  - 3. Submit manufacturer's recommendations for joint preparation, priming, and joint accessory materials based on test results.
  - 4. Submit manufacturer's recommended installation procedure modifications resulting from field adhesion tests.
- E. Manufacturer's Installation Instructions:
  - 1. Submit manufacturer's published installation procedures.

Specifier Note: Include the following paragraph when multiple sealant types are permitted, especially when silicone and polyether sealants may intersect.

- 2. Include instructions for completing sealant intersections when different materials are joined.

Specifier Note: Include the following paragraph when replacing existing sealant. Coordinate with field testing specified in Quality Assurance article.

- 3. Include instructions for removing existing sealants and preparing joints for new sealant.

- F. Manufacturer's Certificate:
  - 1. Certify products are suitable for intended use and products meet or exceed specified requirements.
  - 2. Certify applicator is approved by manufacturer.
- G. Qualifications Data:
  - 1. Submit applicator's qualifications, including reference projects of similar scope and complexity, with current phone numbers and contact names of architects and owners for verification.

- H. Manufacturer's Field Reports:
  - 1. Indicate time present at project site.
  - 2. Include observations; indicate compliance with manufacturer's installation instructions, and supplemental instructions provided to installers.

#### 1.4 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data:
  - 1. Submit recommended inspection intervals.
  - 2. Submit instructions for repairing and replacing failed sealant joints.

#### 1.5 QUALITY ASSURANCE

**Specifier Note:** Include pre-construction testing to determine joint preparation and primer required and to determine compatibility of joint materials for specific project conditions. Lab tests may take 12-14 weeks to complete because of time required for curing and testing of joint materials.

- A. Laboratory Pre-Construction Testing:
  - 1. Test sealants, joint accessories, and joint substrates in accordance with the following, before starting work of this section:
    - a. Obtain samples of joint substrate products specified in other sections.
    - b. Adhesion: ASTM C 794 and ASTM C 719; determine surface preparation and required primer.
    - c. Compatibility: ASTM C 1087; determine materials forming joints and adjacent materials do not adversely affect sealant materials and do not affect sealant color.
    - d. Staining: ASTM D 2203, ASTM C 510, or ASTM C 1248; determine sealants will not stain joint substrates.

**Specifier Note:** Include the following paragraph to allow manufacturers to rely on previous test results when sealants and substrates are the same.

- 2. Pre-construction testing is not required when sealant manufacturer can furnish data acceptable to Architect based on previous testing for materials matching those of the Work.

- B. Field Pre-Construction Testing:
  - 1. Test each elastomeric sealant and joint substrate in accordance with the following, before beginning work of this section:
    - a. Install sealants in [field samples] [mockups] using joint preparation methods determined by laboratory pre-construction testing.

**Specifier Note:** Include the following paragraph when work includes replacing existing sealant joints.

- b. Remove existing sealant, clean joint, and install new sealant using manufacturer's recommended joint preparation methods.
- c. Install field-test joints in [inconspicuous] location [as approved by Architect].
- d. Test Method: Manufacturer's standard field adhesion test to verify joint preparation and primer required to obtain optimum adhesion of sealants to joint substrate.
- e. When test indicates sealant adhesion failure, modify joint preparation, primer, or both and retest until joint passes sealant adhesion test.

## 1.6 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum ten years documented experience.
- B. Applicator Qualifications:
  - 1. Company specializing in performing work of this section with minimum three years documented experience, minimum three successfully completed projects of similar scope and complexity, and approved by manufacturer.
  - 2. Designate one individual as project foreman who shall be on site at all times during installation.

## 1.7 MOCKUP

- A. Install sealants in mockups specified in other sections including sealant and joint accessories to illustrate installation quality and color.
- B. Incorporate accepted mockup as part of Work.

Specifier Note: Coordinate field testing specified in Quality Assurance article when sealant mockups can be used for field testing.

- 1. Repair seal joint mockups used for field adhesion testing.

## 1.8 PRE-INSTALLATION MEETINGS

- A. Convene meeting minimum [one] [\_\_\_\_\_] week prior to commencing work of this section.

## 1.9 DELIVERY, STORAGE, AND HANDLING

- A. Accept materials on site in manufacturers unopened original packaging. Inspect for damage.
- B. Store primers and sealants in cool dry location with ambient temperature range of 60 to 80° F (15 to 27° C).

## 1.10 ENVIRONMENTAL REQUIREMENTS

- A. Do not install primers or sealants when atmospheric temperatures or joint surface temperatures are less than 35° F (2° C).

## 1.11 SCHEDULING

- A. Schedule work so waterproofing, water repellents and preservative finishes are installed after sealants, unless sealant manufacturer approves otherwise in writing.
- B. Ensure sealants are cured before covering with other materials.

## 1.12 WARRANTY

- A. Submit signed copies of the following warranties against adhesive and cohesive failure of sealant and against infiltration of water and air through sealed joint for period of 3 years from date of completion.
  - 1. Manufacturer's standard warranty covering sealant materials.
  - 2. Applicator's standard warranty covering workmanship.

## PART 2 PRODUCTS

### 2.1 MANUFACTURERS

- A. CHEM LINK Products, LLC.
- B. [\_\_\_\_\_].
- C. [\_\_\_\_\_].

Specifier Note: Multi-component sealants cure by chemical reaction. Cure times are predictable depending on atmospheric temperature. Silicone sealant cure is not affected by temperature; however frost and moisture at bond line will impair adhesion.

Single component sealants cure by reaction with moisture. Cure times will vary depending on atmospheric humidity and temperature.

Fast cure (FC) sealants provide lesser cure times than corresponding standard cure products. Longer cure times will permit more accumulation of dust and other air-borne contamination on surface of sealant, potentially causing apparent color change.

Sealant Types are M – Multi-Component and S – Single Component.

Sealant Grades are P – Pourable or Self-Leveling used for horizontal traffic joints and NS – Non-Sag or Gunnable used for vertical and non-traffic joints.

Sealant Classes are 25, 50, and 100/50 (extension/compression) representing movement capability in percent of joint width. Joint movement is based on the relative percentage of installed width. Design to a minimum of 4 times anticipated movement to accommodate design tolerances and expected movement based on coefficient of thermal expansion.

Sealant Uses are T – Traffic, NT- Non-Traffic, I – Immersion, M – Mortar, A – Aluminum, and O – Other. Use O includes color anodized aluminum, metals other than aluminum, painted surfaces, brick, stone, tile, and wood for example.

Immersion rated sealant applications require primer.

### 2.2 POLYETHER SEALANTS

- A. Single Component Urethane: ASTM C 920, Type S, Grade NS, [Class 100/50] [Class 25], Uses [T,] NT, M, A, O; single component, moisture curing, nonstaining, non-bleeding, color as selected.

Specifier Note: Use the following paragraph for sealants rated for 35% movement capability. Edit description above to include Class 35

- 1. NOVALINK.

Specifier Note: Use the remaining paragraphs for sealants rated for 25% movement capability. Edit description above to include Class 25

2. TRIM CAULK.
3. CLEAR.

B. Single Component Self-Leveling Polyether: ASTM C920, Type S, Grade S, Class 25; self leveling, single component, moisture curing, nonstaining, nonbleeding, color as selected.

1. NOVALINK SL.

### 2.3 SILICONE SEALANTS

A. Single Component Silicone: ASTM C920, Type S, Grade NS, [Class 50] [Class 100/50]; Uses NT, M, G, A and O: single component, [moisture] [neutral] curing, nonstaining, nonbleeding, color as selected.

1. DURASIL.

### 2.4 ACCESSORIES

A. Joint Cleaner: Non-corrosive and non-staining type, recommended by sealant manufacturer; compatible with joint forming materials.

B. Primer: Non-staining type, recommended by sealant manufacturer to suit application.

C. Joint Backing: Round foam rod compatible with sealant; oversized 25 to 50 percent larger than joint width; recommended by sealant manufacturer to suit application

D. Bond Breaker: Pressure sensitive tape recommended by sealant manufacturer to suit application.

E. Masking tape: Non-staining, non-absorbent tape product compatible with joint sealants and adjacent joint surfaces.

## PART 3 EXECUTION

### 3.1 EXAMINATION

A. Verify substrate surfaces and joint openings are ready to receive work.

1. Verify joint surfaces are clean and dry.
2. Ensure concrete surfaces are fully cured.

B. Report unsatisfactory conditions in writing to the Architect;

C. Do not proceed until unsatisfactory conditions are corrected.

### 3.2 PREPARATION

A. Prepare joints in accordance with ASTM C 1193 and manufacturer's instructions.

B. Clean joint surfaces to remove dirt, dust, oils, wax, paints, and other contamination capable of affecting primer and sealant bond.

1. Clean concrete joint surfaces to remove curing agents and form release agents.

- C. Protect elements surrounding the Work of this section from damage or disfiguration. Apply masking tape to adjacent surfaces when required to prevent damage to finishes from sealant installation.

### 3.3 EXISTING WORK

**Specifier Note:** Use this Article for removing existing sealants to prepare joints to receive new sealants.

- A. Mechanically remove existing sealant.
- B. Clean joint surfaces of residual sealant and other contaminants capable of affecting sealant bond to joint surface.
- C. Allow joint surfaces to dry before installing new sealants.

### 3.4 SEALANT INSTALLATION

- A. Install primer and sealants in accordance with ASTM C 1193 and manufacturer's instructions.

**Specifier Note:** Joints must be sized and detailed to allow for the recommended width/depth ratio of the sealed joint based on anticipated joint movement and construction tolerances. Design joint to minimum of 4 times anticipated movement to accommodate construction tolerances and expected movement based on coefficient of thermal expansion.

- B. Install joint backing to maintain the following joint ratios:
  - 1. Joints up to **1/2 inch (13 mm)** Wide: 1:1 width to depth ratio.
  - 2. Joints Greater than **1/2 inch (13 mm)** Wide: 2:1 width to depth ratio; maximum 1/2 inch joint depth.
- C. Install bond breaker where joint backing is not used.
- D. Apply primer where required for sealant adhesion.
- E. Install sealants immediately after joint preparation.
- F. Install sealant free of air pockets, foreign embedded matter, ridges, and sags.

**Specifier Note:** Delete the following when single joint material is used. CHEM LINK silicone sealants can be joined to cured CHEM LINK polyether sealants. Polyether sealants cannot be joined to cured silicone sealants.

- G. Joining Silicone and Polyether Sealants:
  - 1. Install polyether sealants first.
  - 2. Join silicone sealant to polyether in accordance with manufacturer's instructions.
- H. Tool exposed joint surface flat.

### 3.5 MANUFACTURER'S FIELD SERVICES

- A. Require sealant manufacturer to be present at project site to:
  - 1. Observe sealant mockup installation and to issue reports of observations.
  - 2. Conduct field pre-construction testing.

### 3.6 CLEANING

- A. Remove masking tape.
- B. Clean adjacent surfaces soiled by sealant installation.

### 3.7 SCHEDULE – SEALANT JOINTS

- A. Exterior Sealant Joint [Type A]:
  - 1. Applications:
    - Control and expansion joints in cast-in-place concrete.
    - a. Joints between [architectural] [structural] precast concrete units.
    - b. Control and expansion joints in unit masonry.
    - c. Control and expansion joints in stone masonry.
    - d. Butt joints between metal panels.
    - e. Joints between different materials listed above.
    - f. Perimeter joints between materials listed above and frames of doors, windows, storefronts, louvers and similar openings.
    - g. Control and expansion joints in soffits and overhead surfaces.
    - h. Other exterior joints in vertical surfaces and non-traffic horizontal surfaces for which no other sealant is specified.
  - 2. Single Component Polyether Sealants:
    - a. M-1
    - b. DURALINK
    - c. NOVALINK
    - d. CLEAR
    - e. TRIM CAULK
  - 3. Single Component Silicone Sealants:
    - a. DURASIL
- B. EIFS Sealant Joint [Type B]:
  - 1. Applications:
    - a. Control and expansion joints.
    - b. Butt joints between prefabricated panels.
    - c. Joints between EIFS and other materials.
    - d. Perimeter joints between EIFS and frames of doors, windows, storefronts, louvers and similar openings.
    - e. Other joints within or abutting EIFS materials.
  - 2. Single Component Polyether Sealants:
    - a. NOVALINK
    - b. DURALINK
    - c. M-1
  - 3. Single Component Silicone Sealants:
    - a. DURASIL
- C. Interior Sealant Joint [Type C]:
  - 1. Applications:
    - a. Control and expansion joints on exposed interior surfaces of exterior walls.
    - b. Perimeter joints on exposed interior surfaces of exterior openings.
    - c. Joints on precast beams and planks.
    - d. Perimeter joints between interior wall surfaces and frames of interior doors, windows, storefronts, louvers, elevator entrances and similar openings.
    - e. Other interior joints in vertical surfaces and non-traffic horizontal surfaces subject to movement for which no other sealant is specified.
  - 2. Single Component Polyether Sealants:



- a. M-1
    - b. NOVALINK
    - c. DURALINK
    - d. TRIM CAULK
    - e. CLEAR
  - 3. Single Component Silicone Sealants:
    - a. DURASIL
  
- D. Traffic Sealant Joint [Type D]:
  - 1. EXCLUDES HIGHWAYS & PARKING RAMPS
  - 2. Applications:
    - a. Control, expansion and isolation joints in cast-in-place concrete.
    - b. Control, expansion and isolation joints in structural precast concrete units.
    - c. Joints between architectural precast concrete paving units.
    - d. Tile control and expansion joints.
    - e. Joints between different materials listed above.
    - f. Other interior and exterior traffic bearing joints in horizontal and sloped traffic surfaces
  - 3. Single Component Polyether Sealants:
    - a. NOVALINK
    - b. NOVALINK SL
  - 4. Single Component Silicone Sealants:
    - a. DURASIL
  
- E. Interior Food Contact Sealant Joint [Type F]:
  - 1. Applications:
    - a. Joints between food service surrounding construction.
    - b. Other interior joints, where incidental food contact may occur.
  - 2. Single Component Polyether Sealants:
    - a. M-1
    - b. NOVALINK
    - c. DURALINK
    - d. TRIM CAULK
    - e. CLEAR
  - 3. Single Component Silicone Sealants:
    - a. DURASIL
  
- F. Concealed Bedding Sealant Joint [Type K]:
  - 1. Applications:
    - a. Bedding joints under metal thresholds and saddles.
    - b. Bedding joints between sheet metal flashing and other materials.
  - 2. Single Component Polyether Sealants:
    - a. BUILDSECURE
    - b. M-1
    - c. DURALINK
    - d. NOVALINK
  - 3. Single Component Silicone Sealants:
    - a. DURASIL

END OF SECTION