# RHOPLEX™ MC-76

## Acrylic Cement Modifier for Sprayable and Patching Mortar Applications

### Description

RHOPLEX MC-76 is a water dispersion of an acrylic polymer specifically designed for sprayable cementitious compositions, such as sprayable stucco-type coatings, which can be applied over a variety of surfaces. RHOPLEX MC-76 can be highly successful when formulated into a standard patching mortar. Both the sprayable and patching mortars exhibit a long history of consistency and quality. Additional information on cement modifiers is available in the technical notes for RHOPLEX E-330, RHOPLEX MC-1834P, and Drycryl™ DP-2904.

### Performance Advantages

#### Strength and Adhesion Advantages

Cement mortars modified with RHOPLEX MC-76 exhibit increased tensile and flexural strengths versus unmodified mortars. When ambiently cured, thin sections dry rapidly and exhibit excellent toughness and good adhesion to old concrete and masonry, brick, wood, metals, and many other surfaces. Chemical resistance is improved over unmodified mortars.

#### Application Advantages

RHOPLEX MC-76 modified mortars exhibit outstanding pot life under high temperature conditions versus other polymer-modified mortars.

#### Pot Life Comparison of RHOPLEX MC-76 Versus Competitive Latex at 42°C

| RHOPLEX MC-76 | Competitive Latex |
|---|---|
| 3-5 hours | < 1 hour |

Under conditions of higher shear, such as spray applications, mortars modified with RHOPLEX MC-76 offer good stability and ease of application.

### Durability Advantages

Mortars modified with RHOPLEX MC-76 have extraordinary durability as is evidenced by long-term exposure of starting point formulations.

### Typical Physical Properties

These properties are typical but do not constitute specifications.

| | |
|---|---|
| Appearance | White, milky liquid |
| Solids Content, % | 47 ± 0.5 |
| pH (when packed) | 9.5-10.0 |
| Specific Gravity | 1.059 |
| Lbs./Gal. | 8.8 |
| Freeze/Thaw Stability | 5 Cycles |
| Minimum Film-Formation Temperature, °C | 10-12 |

### Storage Advantages

RHOPLEX MC-76 emulsion is sediment-free and stable to a minimum of five cycles of freezing at -15°C and thawing at -18°C. These characteristics ensure trouble-free storage and package stability for extended periods of

time.

## Formulation Techniques

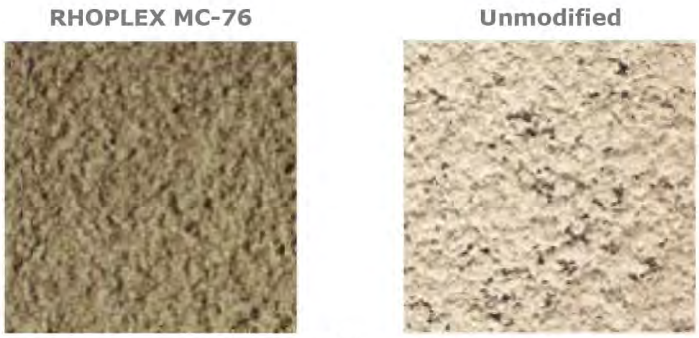
To prepare RHOPLEX MC-76-modified mortars for evaluation, thoroughly premix the solid components. Blend together the RHOPLEX MC-76, water, and defoamer, then add to the premixed solids. Mix thoroughly for about two to four minutes.

When preparing mortars for application in the field, a portion of the water should be withheld and added to the modified mortar mixture gradually, until the desired consistency is reached. This is necessary due to the variable moisture demands of the particular solid component used.

A suggested starting point formulation is given below:

**Table 1**
**Suggested Starting Formulation for a White Mortar Spray Coat Modified with RHOPLEX MC-76 (Formulation SC-76-1)**

| Materials | Parts by Weight | Formulating Notes |
|---|---|---|
| White cement | 100 | For additional whitening, $TiO_2$ can be added as required. |
| XO Aggregate | 100 | Limestone from George Marble Co. |
| RHOPLEX MC-76 (47%) | 21 | Provides 10% polymer solids based on cement weight. |
| Antifoaming agent (based on 100% active) | 0.1-0.2 | Nopco NXZ (100% active)—Henkel Co., Ambler, PA or GE Antifoam #60 (30% active)—General Electric Co., Silicone Products Dept. |
| Water | as required | Withhold a portion and add gradually to obtain the desired consistency. |




1996 After 24 Years Exposure

**Table 2**
**Latest Developments in Technology for Construction Products**
**Suggested Starting Formulation for a Patching Mortar Modified with RHOPLEX MC-76**

| Materials | Parts by Weight | Formulating Notes |
|---|---|---|
| Sand | 300.0 | |
| Portland Cement (Type I) | 100 | |
| RHOPLEX MC-76 (47%) | 21 | 10% polymer solids, based on cement weight. |
| Defoamer[1] | 0.10 | Suggested minimum of 1%, based on polymer solids, using 100% active defoamer. More may be added if necessary to maximize wet density. |
| Water | To desired consistency | Withhold a portion and add gradually to obtain desired consistency. |

The above formulation demonstrates outstanding durability and continued excellent adhesion upon exterior exposure.

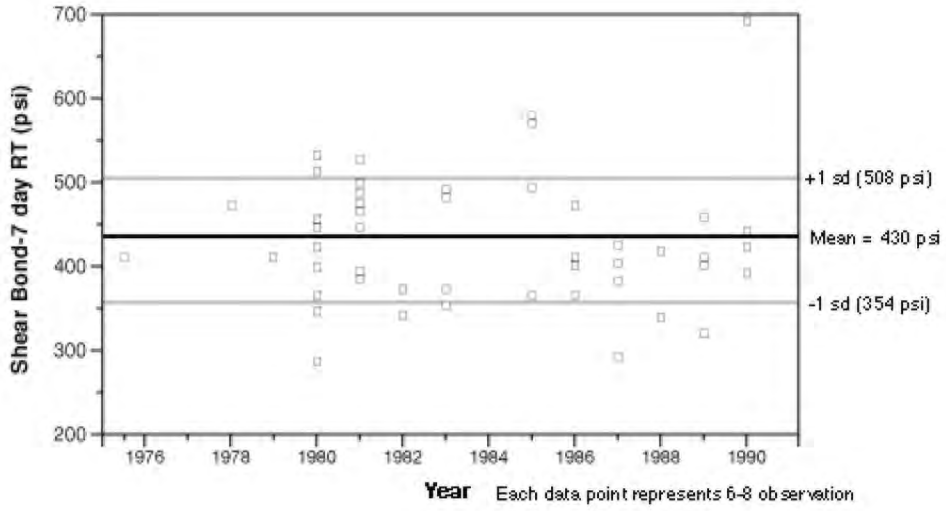
| Years of Exposure | Shear Bond Adhesion (psi) |
|---|---|
| Initial (0) | 387 + 28 |
| One Year | 489 + 102 |
| Three Years | 451 + 117 |
| Six Years | 530 + 162 |

[1]Recommended Defoamers:
Henkel Company, Ambler, PA
GE Antifoam #60 (30% active), General Electric Co., Silicone Products Dept., Waterford, NY

## Quality Advantages

Throughout more than 26 years of production, mortars made with RHOPLEX MC-76 demonstrate constantly high shear bond values, as noted in the chart below:

**Shear Bond of RHOPLEX MC-76 (1975-1990)**
3:1 sand:cement with 10% RHOPLEX MC-76 on cement




## Safe Handling Information

Animal toxicity screening tests conducted on closely related analogs of RHOPLEX MC-76 suggest that this product should be essentially nontoxic by single acute oral or dermal exposure and that it may also be a mild to moderate skin and eye irritant. In addition, many of the components of cement used in conjunction with RHOPLEX MC-76 may also possess significant skin and eye irritant potential.

The Rohm and Haas Company maintains comprehensive and up-to-date Material Safety Data Sheets (MSDS) on all of its products. These sheets contain pertinent information that you may need to protect your employees and customers against any known health or safety hazards associated with our products.

The Rohm and Haas Company recommends that you obtain copies of our Material Safety Data Sheets from your local Rohm and Haas representative on each of our products prior to its use in your facilities. We also suggest that you contact your supplier of other materials recommended for use with our products for appropriate health and safety precautions prior to their use.

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