

PRODUCT NAME

Corro-Chem™ 100

Acid Resistant Mortar / Concrete



MANUFACTURER

Gemite® Products Inc.

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FEATURES

- Min. 3/8" (10 mm) - add aggregates for thicker layer
- Resists Low & High concentrations of Nitric & Sulfuric acid - even at High temperatures
- Resists high concentrations of Inorganic & Organic acids
- Not attacked by organic solvents
- Eliminates mechanical anchoring required by potassium silicate systems
- Resistant to high thermal shock
- Resistant to high temperatures > 800°C (1500° F)
- Horizontal and Vertical formulations
- One-Coat system - NO primer or elastomeric membrane
- High abrasion resistance
- Vapor permeable (breathable)
- Completely Nonflammable & Nontoxic
- Bonds to Wet surfaces
- Bonds to Chemically contaminated surfaces
- Less Expensive than complicated Polymer systems

PRODUCT DESCRIPTION

Basic Use

Corro-Chem 100 is an inorganic, acid resistant mortar for protection of horizontal and vertical concrete surfaces against acid attack in chemical plants, secondary containment structures, etc. It replaces Portland cement in corrosive environments for pump pads, curbs, walls, dikes, loading docks, tank support columns and bases, etc. It resists most Organic and Inorganic acids including sulfuric, hydrochloric, acetic, phosphoric & nitric acids, even at elevated temperatures.

Thermal expansion & contraction coefficients of Corro-Chem 100 extended with aggregates is alike Portland cement concrete, which eliminates the need for mechanical anchoring required by resistant systems based on potassium silicate chemistry.

Corro-Chem 100 will not debond due to entrapped moisture and capillary pressure at concrete and Corro-Chem 100 interface.

Most applications require only one coat.

Corro-Chem 100 requires less labor, and is significantly less expensive than most polymer systems.

Composition and Materials

Corro-Chem 100 is an inorganic mortar, supplied as 2-part kit. Dry Comp. A + Liquid Comp. B..

Limitations

Corro-Chem 100 is not suitable for a continuous exposure to alkaline or caustic environments.

Refer to Chemical Resistance section for resistance details.

Do NOT use calcite aggregates (limestone, marble, etc.) to extend Corro-Chem 100.

Health and Safety

Liquid Component B is an alkaline water solution. Use rubber gloves & protective goggles when mixing. Must avoid contact with eyes & prolonged contact with skin. If contact occurs, flush immediately with water. Seek medical advice if irritation occurs. Harmful if digested. Keep product out of reach of children. FOR INDUSTRIAL USE ONLY. Consult current SDS for health effects, precautions and first aid directions before using.

Packaging

Dry Comp. A - 22.7 kg (50 lbs.) packaged in heavy-duty bags. Liquid Comp. B - 2.26 L (0.6 USG) is packaged in plastic jugs. Packaged 40 kits (Comp. A + B) per pallet.

Yield

Each Kit yields 11.9 L (0.42 ft³). In Horizontal applications, when extended with 19 lbs (9 kg) of 3/8" (9 mm) pea gravel or 1/4" (6 mm) crushed granite stone, it yields 15.6 L (0.55 ft³).

Storage and Transportation

Corro-Chem 100 when stored on pallets in a dry cool area has 12-months shelf-life. Liquid Comp. B must be declared as DG.

Color

Dark Grey.

TECHNICAL DATA (Corro-Chem 100 H)

Tensile Strength in Bending	4.0 - 4.9 MPa (580 - 720 psi)
Modulus of Elasticity	14 - 20 GPa (2.0 - 2.9 x 10 ⁶ psi)
Compressive Strength (ASTM C109)	24.1 - 29.6 MPa (3,500 - 4,300 psi)
Thermal Expansion & Contraction	10 x 10 ⁻⁶ /°C (6 x 10 ⁻⁶ /°F)
Direct Tension Bond Strength	1.01 - 1.5 MPa (140 - 220 psi)
Fire Testing (ULC 114)	Noncombustible, 0-Flame, 0-Smoke

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03550 Concrete Topping

Chemical Resistance

Chemical resistance of *Corro-Chem 100* in acid environments is similar to potassium silicate systems and novolac or vinyl ester resin-based mortar.

It is not resistant to acid fluorides or hydrofluoric acid.

To evaluate suitability of *Corro-Chem 100* for specific project, supply the following information to Technical Service:

Environment - List of chemicals, their concentrations, exposure temperature, pH value, frequency of chemical attack and length of time between cleanup.

Existing Concrete - Type of structure, concrete compressive strength, degree of deterioration and contamination, any surface treatment & description of use.

INSTALLATION

Current Guide Specification & Application Instructions contain information specific to each application and must be followed. Consult Gemite's Technical Service to ensure correct surface preparation, application procedures and cure requirements.

Surface Preparation

For most applications removal of 3-12 mm (1/8"-1/2") of existing concrete is necessary, depending on deterioration, depth of contamination and specific application. Remove all delaminated, loose and contaminated concrete, grease, laitance, dirt and efflorescence using shotblast, sandblast, or high-pressure waterblast 24-35 MPa (3,500-5,000 psi) with sand injection at nozzle.

Contact Technical Service for detailed surface preparation procedures or to review alternative surface preparation methods.

Crack Treatment

Route cracks, approximately 4 cm (1 1/2") wide and 2.5 cm (1") deep, and fill with *Corro-Chem 100* mortar.

Mixing

Use 12 mm (1/2") drill with suitable mixing paddle. For larger quantities, use paddle or helix screw type mortar mixer. Place liquid Comp. B in the mixer and mix, while adding dry Comp. A into the liquid, Mix a minimum of five (5) minutes, until homogeneous & free of lumps. If "splitting" the kit is necessary, shake the liquid Comp. B before using. Convey mixed material to the point of placement in clean containers.

When applying *Corro-Chem 100 H (horizontal)* at thickness 12-25 mm (1/2"-1"), each Kit must be extended with 10.5 kg (23 lbs) of 6 mm (1/4") crushed granite stone. For thicker layers, over 25 mm (1"), use 9 mm (3/8") clean pea gravel, or 12 mm (1/2") stone. Do NOT use calcite aggregates (limestone, marble, etc.)

Water Saturation

Surfaces must be thoroughly saturated, using clean water, for a minimum 30-45 minutes prior to application. Remove all standing water immediately before application to achieve a saturated damp condition.

Application

Do not apply when the temperatures are expected to fall below 4°C (40°F) within 48 hours, or when rain is imminent. Follow hot weather concreting precautions when temperatures exceed 25°C (77°F), or under sunny and windy conditions.

Apply to a uniform specified thickness. Keep a wet edge. Apply by hand, or use screed to spread the material. Use steel trowel to finish horizontal & vertical surfaces. If thickness requirement exceeds 40 mm (1.5"), or when large variations in thickness are expected. contact Technical Service.

For vertical applications use *Corro-Chem 100 V*. Apply a thin scratch coat and "buildup" to recommended thickness.

Construction (cold) joints, and control & expansion joints must be sealed. Contact Technical Service for further information.

Min. Thickness is 10 mm (3/8") for Horizontal or Vertical use.

Curing

Protect against fast surface evaporation. Air dry cure for 72 hours prior to opening to traffic. When working under tarps at freezing temperatures, requiring heating, avoid using propane heaters.

Clean Up

Tools must be cleaned with water immediately after use. Cured material can only be removed mechanically.

Shelf Life and Storage

Corro-Chem 100, when properly stored on pallets in a dry, cool area, has a shelf life of 12 months. Liquid Comp. B must NOT freeze.

AVAILABILITY AND COST

Corro-Chem 100 is available worldwide. Contact the manufacturer for the name of the nearest Representative/Distributor for pricing information.

Order Information

Corro-Chem 100 H for Horizontal applications.

Corro-Chem 100 V for Vertical applications.

MAINTENANCE

None required.

WARRANTY

A limited twelve (12) month Material Replacement Warranty is available.

TECHNICAL SERVICE

For specification assistance, or suitability of *Corro-Chem 100* for specific applications, and application instructions, contact Technical Service USA 888-443-6483 / Canada: 905-672-2020.

Short Specification

Acid resistant [coating] [topping] will be *Corro-Chem 100*, an inorganic mortar manufactured by Gemite Products Inc., [USA 888-443-6483] [Canada 905- 672-2020].

The performance data shown on the current *Corro-Chem 100* Technical Data Sheet establishes project basis-of-design.