



# CHEM-TILE

High Performance Solvent Free Epoxy  
Tile Adhesive and Grout

## PRODUCT DESCRIPTION

CHEM-TILE is two component, solvent free epoxy resin based adhesive and tile grouting system.

CHEM-TILE is suitable for vertical and horizontal application in interior and exterior location with high chemical resistance to many reagents.

## FIELDS OF APPLICATION

CHEM-TILE is an ideal system for the fixing of ceramic, acid resistant tiles, etc. and for grouting tiles in a single operation with one material.

Bonding and pointing of tiles on vertical and horizontal surfaces exposed to high mechanical loads and chemical attacks. CHEM-TILE may be extensively used in the fields of:

- Laboratories
- Hospitals, sanitary installations
- Garages and workshops
- Electrical sub-stations and plant rooms
- Industrial kitchens and catering facilities
- Food productions, meat, fish, vegetable and fruit processing, canning areas, dairies and bakeries
- Swimming pools and leisure facilities, health clubs, etc.
- Bottling plants

## PRODUCT FEATURES

- Ready to use work pack ensures correct mixing
- No priming required
- Rapid Shrink free curing and early strength
- Dual purpose: Tile fixing and pointing with the same material
- Excellent resistance to mild chemicals
- Excellent mechanical properties
- Impermeable: Resistant to staining and absorption when permanently immersed in water
- Hygienic: Will not support bacterial growth in kitchens, swimming pools, laboratories, etc.
- Non-toxic: Can be used in most areas where drink and foodstuff are processed
- Water miscible: Tools, equipment, etc. can be cleaned with water. Uncured material can be wiped-off from tiles with a wet sponge following grouting
- Suitable for vertical and horizontal application in interior and exterior location

## PACKAGING

Product	Packaging
CHEM-TILE*	1 GAL (3.785 LITER) UNIT Part A - Resin: 0.715 Gal (2.7 Liter) Can Part B – Hardener: 0.285 Gal (1.08 Liter) Can

\* Color: Grey, White

## TECHNICAL DATA

### Technical Data for Unmixed Parts

Property @ 25°C (77°F)	Resin - Part A	Hardener - Part B	Test Method
Solids	100 %	100 %	-
Color	White	White, Black	-
Density, Lb/Gal (Kg/L)	14 (1.69)	14 (1.69)	ASTM D-1475
Mixing Ratio A: B	≈ 2.5: 1 By Volume		-
Shelf Life	1 years	1 years	-

### Technical Data for Mixed Parts

Property (Mixed A & B)	Value @ 25°C (77°C)	Test Method
Mixed Density, Lb/Gal (kg/L)	14 (1.69)	ASTM D-1475
Mixed Color	White, Grey	-
Gel Time @ 60 grams, minute	60	ASTM D-2471
Pot Life @ 1 Gal (3.785 Liter), minute	40	-
Shore Hardness @ 7 Days, D	84	ASTM D-2240
Compressive Strength @ 7 Days, Psi (MPa)	9000 (61)	D-695
Flexural Strength @ 7 Days, Psi (MPa)	5120 (34.8)	ASTM C-348
Bond Strength (Slant Shear) @ 7 Days, Psi (MPa)	Concrete Failure	ASTM C-882
Water Absorption 24 hrs, %	0.02	ASTM D-570
Final Cure, day	7	-

**Chemical Resistance:** tests were performed according the ASTM D543 –Practice A (Immersion test for 7 days at 25°C). The fully cured coating is resistant to:

- Water (Distilled, Tap, chlorinated, sewage, sea)
- Sulfuric acid 70%wt\*
- Sulfuric acid 50%wt
- Citric Acid, 30% wt
- Caustic Soda, 50%
- Hydrochloric acid, 15%
- Diesel
- Hydraulic Oil
- Isopropanol

\*Slight Yellowing, without any change in mechanical properties.

Refer to manufacturer for resistance of other reagents.

## APPLICATION DATA

**Limitations:** applications at ambient temperatures below 40°F (4°C) is not recommended. Exposure to temperatures exceeding 150°F (65°C) for prolonged period is not recommended.

**Coverage:** coverage of CHEM-TILE can be estimated at approximately 1.6 gm/cm<sup>3</sup>

### Pre-treatment of Substrate:

**Concrete Surfaces:** the substrate must be clean, dry, free from grease or oil, etc. Laitance and loose particles must be

removed by either sandblasting or mechanical grinding. Holes must be cleaned using oil free compressed air.

**Steel Surfaces:** all steel surfaces to be bonded with CHEM-TILE must be clean, dry, free from rust, oil, grease, etc. Shot blasted to Swedish Standard SA 2 1/2 is preferable to achieve a white metal finish prior to application.

**Mixing:** stir each component separately. Pour part B into part A in a clean mixing container. Mix the epoxy with a slow speed electric drill with a mixing paddle attachment. Carefully scrape the sides and bottom of the pail during mixing. Blend for 3 minutes.

**Note:** large batches of epoxy will cure much faster than small batches. Mixed epoxy will cure much faster in hot weather than in cold weather.

**Application:** the mixed CHEM-TILE can be applied manually. Should there be a necessity of using automatic metering equipment, the un-mixed CHEM-TILE should be dosed into the automatic metering equipment, which ejects part A, and part B in equal volumes, fitted with a static mixer.

#### Tile Fixing:

**Horizontal Application:** apply CHEM-TILE to the pre-treated substrate using a solid bed technique at 3 mm thickness.

**Vertical Application:** apply the mixture to the pre-treated substrate using a 3 mm notched trowel to leave ribbed bedding.

Tiles should be pressed firmly into place with a twisted motion until properly aligned and bedded.

On vertical applications, tiling should begin from bottom upwards. Ensure that at least 75% of the tile back is in contact with the adhesive.

Adequate plastic spacers should be used where necessary. Soiled tiles must be cleaned immediately with water.

**Tile Grouting:** the tile grouting application can be carried out simultaneously with the application or after the initial curing of the tile fixing/bedding material.

- When proceeding with one continuous operation, apply extra thickness in the bed to allow the material to ooze through the gaps as tiles are pressed onto the adhesive. The grout is then trimmed-off and grouted joints are finished with a spatula or putty knife.
- Where grouting is to be carried out after the bed has set and permanently fixed in place, apply CHEM-TILE evenly to the joints using a plastic trowel, a hard rubber spatula or caulking gun. Ensure that the joints are completely filled. Smooth-off the freshly placed material in diagonal

direction using a hard rubber squeeze. Subsequently, emulsify the residues of CHEM-TILE on the tiles with a moistened hard sponge. Rub the surface in circular movements and rinse the sponge frequently. The tiles should be cleaned immediately after placing the grout, at least within the specified pot life.

Preliminary application tests should be made if non-glazed or porous tiles have to be grouted, as the cleaning of such type of tiles can be difficult.

### CLEANING

Remove uncured **CHEM-TILE** from tools and equipment with a suitable solvent such as Xylene or Toluene immediately after use. Cured material may only be removed mechanically.

### STORAGE

Store in a dry area between 10°C and 25°C. Protect from direct sunlight. Shelf Life is one year in original, unopened container

### SAFETY PRECAUTIONS

After full curing the product is physiologically harmless. Keep the resin and hardener away from the eyes, mouth and skin. Do not inhale vapors. Uncured mixture can cause irritation of the skin. The best precaution is to wear safety protective gloves, overall, mask and goggles while working. Skin contamination should be immediately cleaned with soap and plenty of water. The use of solvents should be avoided. If resin or hardener splashes into the eyes, wash immediately with running water. A Doctor must be visited in all cases.

### TECHNICAL ASSISTANCE

Please contact International Chem-Crete Corporation for Technical Personnel.

### WARRANTY

**LIMITED WARRANTY:** International Chem-Crete Inc. warrants that, at the time and place we make shipment, our materials will be of good quality and will conform to our published specifications in force on the date of acceptance of the order.

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