

# WET CONCRETE BONDER

## Products 5, 501, 502 and 503

**Bonding freshly mixed concrete to hardened concrete**

### PRODUCT NAMES and DESCRIPTIONS

**Thermal-Chem Wet Concrete Bonder**, NORMAL CURE, NON-SAG formula, Product 5

**Thermal-Chem Wet Concrete Bonder**, NORMAL CURE, LOW VISCOSITY formula, Product 501

**Thermal-Chem Wet Concrete Bonder**, VERY SLOW CURE, LOW VISCOSITY formula, Product 502

**Thermal-Chem Wet Concrete Bonder**, VERY SLOW CURE, NON-SAG formula, Product 503

### PRODUCT USES

These moisture insensitive epoxy adhesives were developed for bonding freshly mixed concrete to hardened concrete for repair or new construction projects such as grade lifts, foundation walls, floor toppings, bearing walls and columns. **Wet Concrete Bonder**, Products 5 and 503, were formulated specifically for use on vertical surfaces. **Wet Concrete Bonder**, Products 502 and 503, are used when extended periods, up to 18 hours, of open time are required.

### ADVANTAGES

- The epoxy bond is stronger than the concrete and the bond line eliminates a cold joint.
- Creates a waterproof joint wherever it is used on horizontal, overhead or vertical applications.
- Mix ratio by volume: 2:1

### LIMITATIONS

- Do not apply **Thermal-Chem Wet Concrete Bonders** when the substrate temperatures are below freezing.
- Do not apply to substrates with standing water.
- Do not thin Thermal-Chem products with solvents or other materials.

### TECHNICAL PROPERTIES

**Products 5 and 503:** Comply with ASTM C881, Type 2 and 5, Grade 3, Classes A, B and C. **Thermal-Chem Wet Concrete Bonder**, Products 5 and 503, are medium viscosity systems intended for brush, broom, squeegee and trowel applications.

**Products 501 and 502:** Comply with ASTM C881, Type 2 and 5, Grade 1, Classes A, B and C.

Degrees	Open Time	
	Products 5 and 501	Products 502 and 503
77°F	5 hrs.	16 hrs.
60°F	7 hrs.	24 hrs.

The above table assumes that the ambient temperature, material and substrate are equal.

### TYPICAL PHYSICAL PROPERTIES

#### Thermal-Chem Wet Concrete Bonders

	Product No. 5	Product No. 501	Product No. 503	Product No. 502
Viscosity, CPS	Paste	500-600		
Consistency, inches No Sag	N/R			
Bond Strength, psi ASTM C884, 14 day				
Class A	3270	3100		
Class B	3490	3250		
Class C	3480	3400		
Shrinkage, ASTM C883	Pass	Pass		
Absorption, 24 hr. % ASTM D570				
Class A	.18	.23		
Class B	.21	.16		
Class C	.22	.11		
Volatile Content, % ASTM D1259				
Class A	.4	.6		
Class B	.5	.6		
Class C	.4	.8		
Tensile Elongation, % ASTM D638	3	2.7		

**NOTES:**

1. N/R = Not required by ASTM
2. Potlife will be shorter than indicated when larger quantities of epoxy are mixed and/or they are mixed at higher temperatures.

**APPLICATION**

Read Safety Cautions, Material Safety Data Sheets, product label and literature before handling. Become thoroughly familiar with application directions before using.

**Surface Preparation:** Prepare all substrate surfaces before mixing the epoxy components. All oils, grease, waxes, paints, curing compounds and other foreign contaminants must be removed. Loose concrete, laitance and scaling should be removed by mechanically chipping the substrate surface to sound concrete and/or abrasive blasting with sand or high pressure water (min. 7,000 psi).

**Mixing:** For 1, 3 and 15 gallon containers, open Component A and pre-blend contents with an electric drill (max. 600 rpm) fitted with an appropriate sized paint stirrer until one even color develops. Open Component B container and pour contents into Component A container and blend until one homogeneous mass develops, about 2 minutes. Apply the epoxy immediately.

**Hot Temperature Application:**

1. Shield the epoxy containers from direct sunlight.
2. Cool epoxy containers to optimum temperature using ice water or air conditioned storage. Do not allow water to mix with either epoxy component.
3. Mix only the amount of epoxy that can be used within the potlife specified at the working ambient temperature.
3. After mixing, do not delay application.

**Cold Temperature Application:**

1. Preheat individual component containers to 77 or 90°F (25 or 30°C) with heating jackets or heating box. Do not apply direct flame.
2. Mix only the amount of epoxy that can be used within the potlife time specified at the working substrate temperature.
3. It is not necessary to heat the substrate.
4. After mixing (thermo-set only as directed by Thermal-Chem), do not delay application.

**Installation:** Apply Thermal-Chem Wet Concrete Bonders evenly to the surface and then immediately place the fresh concrete in a normal manner. Place the fresh concrete before the open time has elapsed. Open time will vary with temperature, chill factor and thickness of bond coat. Cold temperatures and a thin bond coat will provide slower tack-free times compared to higher temperatures and thicker bond coat. If the epoxy bond coat sets before the concrete is placed, reapply a thin bond coat over the existing coat. Caution: Do not apply the epoxy thicker than 20 mils (1 gal./80 ft.<sup>2</sup> or 3.8L/27M<sup>2</sup>).

Coverage rates will vary depending on surface texture, absorption factor, and application technique and method. The viscosity (grade) of the epoxy selected will also determine coverage. Typically, Products 5 and 503 will yield up to 130 ft<sup>2</sup>/gal. (3.8L/43M<sup>2</sup>) and Products 501 and 502 will yield up to 160 ft<sup>2</sup>/gal. (3.8L/53M<sup>2</sup>). For actual coverage, a small field application is recommended.

Overhead and vertical applications will normally require Products 5 or 503 for their non-sag properties. Lightweight concrete has a high absorption factor and therefore Products 5 or 503 should be used to prevent a starved bond line.

**Clean Up:** Clean tools and equipment with mineral spirits, methyl ethyl ketone (MEK) or Toluene solvents before the epoxy dries. Read all safety data on solvents before using them.

**Colors:** All Wet Concrete Bonder products are available in Saber Gray.

**PRODUCT AVAILABILITY**

Products are manufactured and available through the Thermal-Chem Corporation, 2120 Roberts Drive, Broadview, IL 60155 U.S.A.

Tel: 800/635-3773 or 847/288-9090  
Fax: 847/288-9091  
E-Mail: sales@thermalchem.com  
Web Site: www.thermalchem.com

**PRODUCT HANDLING**

Read the Material Safety Data Sheet thoroughly before

use.

**Warning:** For professional use only. Avoid contact of uncured material with skin and eyes. Contact with skin may result in irritation. Wash skin with soap and water. If contact with eyes should occur, flush with water for 15 minutes and seek immediate medical attention.

## STORAGE

All Thermal-Chem products should be stored elevated from the floor on pallets, in an environment that maintains a constant temperature above 36° F (2° C). Do not allow Thermal-Chem products to freeze.

## TECHNICAL/SPECIFICATION SERVICES

Additional Product Data, complete Technical Support and Product Specifications are all available through Thermal-Chem Corporation; or their local representatives.

Every reasonable precaution and effort has been taken in the manufacturer of all Thermal-Chem products to comply with the published product data. Actual product performance may vary slightly due to environmental influences and/or conditions.

## LIMITED WARRANTY

Thermal-Chem Corporation warrants its product to be of good quality and will replace any product proved defective. Satisfactory results depend not only upon quality products but also upon many factors beyond our control. Therefore, except for such replacement, **THERMAL-CHEM CORP. MAKES NO WARRANTY OR GUARANTEE, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE OR MERCHANTABILITY, RESPECTING ITS PRODUCTS**, and Thermal-Chem Corporation shall have no other liability with respect thereto, including without limitation, liability for incidental or consequential damages. Any claim regarding product defect must be received in writing within one hundred and eighty (180) days from the date of shipment. No claim will be considered without such written notice or after the specified time interval. The user shall determine the suitability of the products for the intended use and assume all risks and liability in connection therewith.