

## PRODUCT DESCRIPTION

ChemShield 1689 is a spray applied, thick film, 100% solids reinforced, proprietary formulated epoxy phenolic based polymer designed for general use and as internal lining for tanks and other aggressive chemical immersion environments. ChemShield 1689 exhibits superior wide range chemical resistance and physical properties desirable for long term durability and extended service life.

## APPLICATION DATA SUMMARY

See Application Instructions for complete information on surface preparation, equipment, environmental conditions, application procedures, and safety precautions. For conditions outside the specifications or limitations described, contact Wolverine Coatings Corporation for details.

## SOLID (CURED) PHASE PHYSICAL DATA

PROPERTY	VALUE	TEST METHOD (If applicable)
Finish	Semi Gloss	ASTM D523
Color	BU1A	ASTM D2244
Compressive Strength	N/T	ASTM D695 - 10
Elongation	N/T	ASTM D638 - 10
Coefficient of Friction	N/T	ASTM D2047
Hardness (7 Days)	Shore D: 70-80	ASTM D2240
Abrasion Resistance (Taber)	Good	ASTM D4060
Bond Strength (Concrete)	N/T	ASTM D4541
Impact Resistance (in./lbs/20 mils)	N/T	ASTM D5420

## LIQUID PHASE PHYSICAL DATA

PROPERTY	VALUE	TEST METHOD (If applicable)
Work Time	3 mins @ 77°F/ 50% RH	N/A
Rollability	No	N/A
Density (Mixed) @ 77°F	11.1 #/Gal	N/A
Mix Ratio (Volume)	2:1 (A:B)	N/A
Viscosity (mixed)	N/T	ASTM D2196
Flash Point	151°F	N/A
Pot Life	6 mins @ 77°F/ 50% RH	N/A
Recoat	Minimum: 40 mins, Maximum: 2 hours	

Cure Schedule (ASTM D5895) Gel Time (ASTM D2471)	Temp./Humid.	GelTime	Tack Free	Light Duty	Through	Full Cure
	50°F/50% RH	N/T	N/T	N/T	N/T	N/T
	77°F/ 50% RH	10-12 mins	45 mins	2-4 hours	6-8 hours	24-36 hours
	95°F / 50% RH	N/T	N/T	N/T	N/T	N/T

**Packaging (Shipping Weight lbs.)** 3Q - 3/4 gal unit – 1/2 gal Pt. A (4) / Qt. Pt. B (2)  
3G - 3 gal unit – 2 gal Pt. A (16) / 1 gal Pt. B (8)

**Shipping** Part A: DOT Non-Regulated Resin Compound, Class 55  
Part B: UN3066, Paint Related Material, Corrosive, HC8, PGIII, Class 55

## SURFACE PREPARATION

Coating performance is directly related to the quality and degree of surface preparation. Prior to overcoating, all surfaces must be clean, dry, undamaged, and free of all contaminants. For more specific information, consult the surface preparation section contained in the Application instructions.

## SAFETY PRECAUTIONS

Read the Safety Data sheet carefully before use. Safety precautions in the SDS should be carefully followed during storage, handling and use. Improper use and handling can be hazardous to health and cause fire or explosion. For further information, please refer to our Technical Information Bulletin: "Safe Handling of Epoxy Resin Systems".

## INSTALLATION

### SURFACE PREPARATION

Bond strength is directly dependent upon the preparation, strength, and conditions of the substrate. Concrete surfaces should be clean, porous, and textured. Consult WCC TIB: Preparing Concrete to Receive Coatings or Linings. An appropriate primer, typically BondTite 1101, should be used, particularly on uncoated concrete. Steel surfaces should be blasted near white and protected from rusting prior to application. Substrate must be between 40°F and 95°F and at least 5°F above the dew point during installation and cure. Moisture vapor transmission will likely cause coating failure. Always prepare the substrate to receive a coating according to published good painting practices and according to Wolverine Coatings guidelines. Always consult Wolverine Coatings Corporation for other substrates and for specific recommendations for your project.

### MIXING

Consult WCC Technical Information Bulletin (TIB): "Mixing Guide" before installation. Pre-mix all components. While mixing the Resin (Part A) at a low speed, slowly add the Hardener (Part B) into the Resin pail, taking care to keep material off the side of the pail. Slightly increase speed and mix for 3 minutes, being careful to avoid whipping air into the material. Make sure to occasionally scrape around the mixing pail's walls and edges with a stir stick or spatula to ensure all material has been incorporated and mixed. Apply as soon as possible.

### APPLICATION

ChemShield 1689 should be applied by high performance

### SAFETY

For your safety, all required personal protection equipment should be used when operating machinery or handling chemicals. Concrete dust is a source of silica particles and other hazardous materials that can cause silicosis and other illnesses. Proper safety equipment and methods are the responsibility of the installation company, general contractor, and/or facility owner.

### WARRANTY

Wolverine Coatings Corporation warrants its products to be free from defects in material and workmanship. Wolverine Coatings Corporation's sole obligation and Buyer's exclusive remedy in connection with the products shall be limited, at Wolverine Coatings option, to either replacement of products not conforming to this Warranty or credit to the Buyer's account in the invoiced amount of the nonconforming products. Any claim under this warranty must be made by the Buyer to Wolverine Coatings in writing within five (5) days of Buyer's discovery of the claimed defect, but in no event later than the expiration of the applicable shelf life, or one year from the ship date, whichever is earlier. Buyer's failure to notify Wolverine Coatings of such nonconformance as required herein shall bar Buyer from recovery under this warranty.

Wolverine Coatings makes no other warranties about the product. No other warranties, whether expressed, implied, or statutory, such as warranties of merchantability or fitness for a particular purpose, shall apply.

Any recommendation or suggestion relating to the use of the products made by Wolverine Coatings, whether in its technical literature, or in response to specific inquiry or otherwise, is based on data believed to be reliable; however, the products and information are intended for use by Buyers having requisite skill and know-how in the industry, and therefore it is for the Buyer to satisfy itself of the suitability of the products for its own particular use and it shall be deemed that Buyer has done so, at its sole discretion and risk. Variation in environment, changes in procedure of use, or extrapolation of data may cause unsatisfactory results.

### LIMITATION OF LIABILITY

Wolverine Coatings Corporation's liability on any claims based upon Wolverine Coatings Corporation's negligence or strict liability, for any loss or damage arising out of, connected with, or resulting from the use of the products, shall in no case exceed the purchase price allocable to the products or parts thereof which give rise to the claim. In no event shall Wolverine Coatings Corporation be liable for consequential or incidental damages.

### LITERATURE REVISION - TDS: ChemShield 1689 - Rev. 200312

Published literature is subject to change without notice. Wolverine Coatings Corporation is constantly engaged in the testing of existing formulations, the development of new innovative technologies, and the evaluation of the latest practices. The latest literature should always be consulted at [www.wolverinecoatings.com](http://www.wolverinecoatings.com).



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airless spray systems (45:1, 56:1, 64:1, etc.). Heated Plural component spray rigs are recommended. Product should be heated to 95-120°F. Consult Wolverine Coatings for detailed instructions and WCC TIB Guide for Applying Resinous Coatings

### RE-COAT

Consult WCC TIB: Guide for Over-Coating Existing Coatings. Mechanical abrading may be required if coating exceeds recoat window to accept another coat. Consult "Re-coat Time" in "Liquid Phase Physical Data" for guidelines. Be advised that project conditions (including air temperature, substrate temperature, and relative humidity) will influence the "Re-coat Time".

### CLEANING AND MAINTENANCE

Consult WCC TIB: Cleaning and Maintenance

