

BIO-CEM™ HF

TROWEL APPLIED POLYURETHANE CONCRETE

TECHNICAL DATA SHEET



BIO-CEM™ HF is a trowel-applied, heavy-duty polyurethane concrete system engineered for the most demanding industrial environments. Installed at a thickness of 1/4" to 1/2", Bio-Cem™ HF is specifically formulated to withstand extreme thermal shock, heavy impact, and aggressive chemical exposure.

This ultra-durable system is applied as a single, self-sealing layer and troweled to desired thickness. Highly resistant to thermal shock, Bio-Cem™ HF is fungi-resistant in accordance with ASTM G-21, low-odor, and fully VOC-compliant for use in facilities nationwide.

USES:

- » Commercial kitchens
- » Breweries
- » Industrial manufacturing
- » Pharmaceutical facilities
- » Food/Beverage manufacturing
- » Anti-Slip flooring (meets ADA recommendations)

ADVANTAGES:

- » Thermal shock resistant
- » High impact & abrasion resistance
- » Fast return to service
- » Seamless, hygienic finish
- » MVER resistant
- » Low-VOC, low odor

PACKAGING & SHELF-LIFE

44 sq. ft. kit @ 1/4"

- » 1-gal part A
- » 1-gal part B
- » 2 x 52 lb filler bags
- » Powder pigment

Shelf-Life::

- » 6-months factory sealed and stored at room temperature.

SUGGESTED APPLICATION:

- » Trowel apply at thickness of 1/4" to 3/8"
- » See page two for detailed application instructions

ANCILLARY PRODUCTS:

- » Bio-Cem™ HF may be top-coated with either Bio-Cem TC or other Resinwerks™ top-coat system. Top-coating is not required.

MATERIAL COVERAGE		
WET FILM THICKNESS	DRY FILM THICKNESS	APPROXIMATE COVERAGE
1/4"	1/4"	44 ft ² / Kit

GENERAL PRODUCT INFORMATION

- Colors:** tan, green, red, med grey, drk grey, black
- V.O.C.:** 5 g/L
- Pot-life:** 15-20 Minutes @ 72° F
- Mix-Ratio:** Mix Full Kit
- Cure Schedule:** 72° F @ 50% R.H.
To re-coat: 4-6 Hours Minimum
24-Hours Maximum
- Light Traffic: 12-Hours
Heavy Traffic: 24-Hours
- Clean-up:** Acetone / MEK
- Application Temp:** 40°F(4.4°C) - 85°F(29.4°C)
- Environment:** For Interior Use Only

GENERAL PRODUCT PERFORMANCE

TEST TYPE	TEST METHOD	RESULT
Service Temperature		-50°F - 200°F
Tensile Strength	ASTM C-307	3,100 psi
Flammability	ASTM D 635	Self extinguishing
Impact Resistance	ASTM D 4226	> 160 lb
Compressive Strength	ASTMC-579	7,800 PSI
Flexural Strength	ASTM C-580	2700 PSI
Adhesion	ASTMD-4541	500+ PSI concrete fracture
Coefficient of Friction	ASTM-D 2047	>0.6 / pass
Resistance to Fungi Growth	ASTM G-21	1-pass



SURFACE PREPARATION

Ensure substrate to be coated is clean, dry, and in sound condition. All laitance, curing compounds, concrete hardeners, and other surface contaminants must be removed. Concrete must have a minimum surface tensile strength of 300 PSI per ASTM D-4541. Prepare concrete in accordance with ASTM D 4259-83. Mechanical shot blasting or grinding is recommended to achieve a surface profile of ICRI CSP 3-5. Surface to be coated must be completely porous and free of excessive dust & contaminants.

NEW CONCRETE

BioCem™ HF can be installed on new concrete greater than 7-days old provided it has reached a minimum of 3,500 PSI to allow for proper surface preparation. Shrinkage or cracking in new slabs may telegraph through final finish.

DE-GREASING OF CONTAMINATED SUBSTRATES

Bio-Cem™ polyurethane concrete should not be applied over contaminated surfaces. All dust and remaining contaminants should be completely removed prior to coating.

TREATMENT OF JOINTS & CRACKS

Prior to installation of Bio-Cem urethane concrete, all joints, cracks and other substrate irregularities must be addressed and prepared prior to application. Keyways must be cut at all terminations, joints and drains to a minimum width and depth of 5/16". This is critical to prevent future delaminations. For more information, please consult resinwerks technical construction drawings.

MIXING INSTRUCTIONS: PROFESSIONAL USE ONLY

- » Prior to mixing, all products should be properly acclimated to the local ambient room temperature of 40°F(4.4°C) - 85°F(29.4°C)
- » It is very important to use a corded industrial drill and mortar mixer with a large mixing bucket. Avoid the incorporation of excessive air into the mix.
- » Pour 1-gal A into a forced circulation mixing pail and add pigment. Mix for 15-seconds.
- » Add 1-gallon Part B and mix for an additional 15-seconds
- » Slowly add entire contents of TWO 52 lb bags of HF bag filler to mix. Mix for approximately 45-60 seconds until materials are properly wetted out.

APPLICATION INSTRUCTIONS

- » Immediately following mixing, lightly spread material with a steel trowel or screed box at minimum 1/4" thickness, taking care not to overwork the mortar. It is a good idea for all finish trowel strokes to be in the same direction.
- » For thicker applications, add dry 3/8" pea gravel to the mixture

to help reduce heat generated with the mix.

- » Immediately back-roll the surface with a 3/8" nap roller to eliminate trowel marks and bring the resin to the surface.
- » Lay all abutting edges within 10-minutes to ensure uniform transition.
- » May be broadcast with kiln-dried sand or aluminum oxide to improve slip resistance in wet areas.

LIMITATIONS

- » Do not apply over existing coatings / sealers
- » Do not apply to concrete < 3500 PSI compression strength
- » This product is not recommended for immersion service.
- » Product is not color stable and should be top-coated
- » Do not install on wet concrete
- » Do not apply this product at ambient or floor temperatures below 40°F or over 85°F or if the relative ambient humidity is above 90%.

MAINTENANCE

The long-term performance, appearance, and life expectancy of wear surface products are dependent on an adequate routine maintenance program designed specifically for the installed wear surface. Resinous floor coating systems are nonporous, causing dirt and contaminants to remain on the surface. Recommended maintenance programs consist of frequent and thorough cleaning utilizing a neutral PH cleaner. The frequency of washing will vary depending on floor usage type, traffic and age. Please contact your local Resinwerks technical representative for more information.

NOTES

Thoroughly read all Material Safety Data Sheets prior to use and maintain copies on job-site at all times.

Mock-ups and field test areas are strongly recommended in order to validate performance and appearance related characteristics (including but not limited to color, inherent surface variations, wear, anti dusting, abrasion resistance, chemical resistance, stain resistance, coefficient of friction, etc.) to ensure system performance as specified for the intended use, and to determine approval of the coating system.

Variability in job site conditions (including but not limited to surface preparation, sunlight, humidity, dew point, temperature, etc.) during application of Urethane products may lead to fish-eyes, blistering, pinholes, wrinkling, or out-gassing of air in the concrete and are not product defects.

TECHNICAL ASSISTANCE

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WEB: www.resinwerks.com