



# ENVIRO-GRIP™ 404FC

A Two Component, Fast Curing, Vapor-barrier Primer for Use on Concrete

## 1.01 DESCRIPTION

Enviro-Grip™ 404FC is a one coat, alkali resistant, two component, 100% solids, zero VOC, epoxy primer that effectively stops moisture-related problems with all types of floor coverings. Enviro-Grip™ 404FC will reduce moisture vapor emission rates (MVER) of up to 25 lbs/1000 sqft per 24 hours (11.34 kgs/92.90 sqm) to below the limit of 3 lbs/1000 sqft (1.36 kgs/92.90 sqm) required by most finished flooring manufacturers.

Enviro-Grip™ 404FC is a low odor, low viscosity, fast-cure coating that reduces moisture vapor emission by penetrating into the concrete substrate and eliminating the pathways that allow moisture vapor to surface and condense. In addition to reducing the moisture vapor, Enviro-Grip™ 404FC eliminates the high pH environment that attacks flooring adhesives. Additionally, Enviro-Grip™ 404FC can be applied at temperatures below 40°F (4.5°C) and is moisture tolerant. Please use the correct product grade that complies with VOC regulations as per federal, state, county and city regulations/codes at the place of installation of product.

## 1.02 FEATURES

- Alkaline resistant to prolonged exposure to pH of 14 per ASTM
- Can be applied at low temperatures and is moisture tolerant
- Cost effective treatment for high MVER floors
- Effectively treats concrete substrates with MVER up to 25 lbs/1000 sqft per 24 hours (11.34 kgs/92.90 sqm) per 24 hours to below 3 lbs/1000 sqft (1.36 kgs/92.90 sqm) ASTM F-1869 or up to D-1308 to 100% relative humidity per ASTM F-2170
- LEED MR and IEQ credit qualifying
- Low odor and VOC compliant for interior occupied spaces
- Single coat, fast-cure application for fast turnaround
- Treats new concrete after 7 days

## 1.03 TYPICAL USES

Enviro-Grip™ 404FC is designed to treat new or existing concrete floors with moisture and/or alkaline conditions that have been properly prepared to receive the coating. Enviro-Grip™ 404FC is suitable to be used for long term protection of tile, vinyl composition tile (VCT), sheet vinyl, wood, rubber, polyurethane and solid backed carpet, and other floor finishing products.

Enviro-Grip™ 404FC has been used effectively in offices, hospitals, schools, supermarkets, manufacturing, airplane hangars, housing and many other environments where MVER and Alkalinity need to be controlled. Enviro-Grip™ 404FC is for PROFESSIONAL USE ONLY.

## 1.04 COLOR

Side-A: amber Side-B: amber

## 1.05 PACKAGING

- 1.5-gallon kit: 1 gallon (3.78 liters) can Side-A, 1/2 gallon (1.89 liters) can Side-B
- 3-gallon kit: two 1 gallon (7.57 liters) cans Side-A, one 1 gallon can (3.78 liters) can Side-B

## TECHNICAL DATA (Based on draw down films)

Pot Life 75°F (24°C) @ 50% RH	20 minutes
Cure Time @75°F (24°C) 50% RH	2 hours @ 70°F (21°C)
Total Solids by Weight, ASTM D-2369	100%
Flash Point	>200°F (93.3°C)
Volatile Organic Compounds	0.0 lbs/gal (0 gm/liter)

## 1.06 SURFACE PREPARATION

Concrete substrates to receive Enviro-Grip™ 404FC must be structurally sound, stable, absorptive, and meet concrete standards as defined in the American Concrete Institute (ACI) Committee 201 Report "Guide to Durable Concrete." Surfaces must be free of adhesives, coatings, curing compounds, sealers, efflorescence, dust, grease, oils and any other material or compound that may interfere with adhesion or cure of the coating. Building envelope should be enclosed and environmentally controlled prior to coating application.

All patching, leveling materials, adhesives, and prior coatings must be removed prior to installing Enviro-Grip™ 404FC.

Shotblast or mechanically prepare the concrete substrate to an International Concrete Repair Institute (ICRI) Concrete Surface Profile (CSP) of 3 to 4. Grinding should be performed only in areas inaccessible to shotblasting. Some forms of grinding maybe allowed after consulting Poly-Tuff International (PSI) Technical services. ACID ETCHING IS NOT PERMITTED.

After the concrete has been profiled to a ISRI CSP #3 to #4 the slab must be vacuumed free of all dust, dirt, and debris prior to the application of Enviro-Grip™ 404FC. Sweeping compounds should not be used.

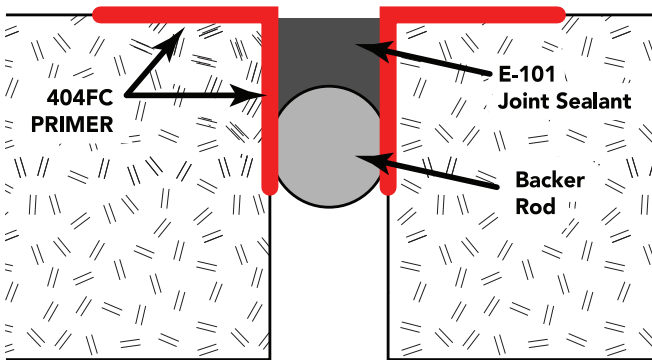
The concrete surface to receive the coating must be at least 5°F (3°C) above the dew point and surface temperature is between 60-85°F (15.5-30°C). Do not apply the coating when the relative humidity (RH) is above 95% or a dew point atmosphere condition exists.

On concrete slabs that have had prior flooring failures, it is strongly recommended that core samples be taken to identify the cause of failure.

### 1.07 JOINTS

Non-moving joints and cracks should be cleaned and/or routed out prior to application of Enviro-Grip™ 404FC. These types of joints and cracks can be filled with Enviro-Grip™ 404FC mixed with an appropriate epoxy thickening material.

Detail of the expansion joint is below. Allow coating to cure before applying sealant.



## APPLICATION

### 2.01 APPLICATION BASICS

The Enviro-Grip™ 404FC is supplied in a two component system. The components are mixed at a ratio of 2:1 by volume (2A:1B). It is not recommended to mix partial containers of the system.

Pre-mix the Side-A material if any separation of the product noted. Then pour the Side-B component into the Side-A container (the Side-A container is short filled to receive the Side-B). Mix the combined materials with a Jiffy-type mixer for 3 minutes at low speed (360 rpm). After mixing, pour the entire contents of the can onto the substrate.

Enviro-Grip™ 404FC is applied in one coat. Using a notched squeegee spread to the coverage rates determined by the moisture vapor test results (see chart). Coverage rates can vary due to the surface profile, surface absorption, and density of the concrete. If no testing was performed, spread a rate of 1 gallon per 100 sqft or 100 sqft/gallon (0.41 liters/sqm). Enviro-Grip™ 404FC is then back rolled at right angles to the squeegee application.

Enviro-Grip™ 404FC may be applied to substrate and ambient temperatures between 30°F (-1.1°C) and 90°F (32°C), as long as no ice or frost is present. Ventilation should be provided during application and curing of the product.

### 2.02 COVERAGE RATES

Spread rates and wet film thickness (WFT) measurements are approximate and will vary on porosity, density, absorption rate, and surface profile of the concrete substrate being treated. Measure the moisture inside the substrate. The spread rate is determined by the test protocol used.

If more than one protocol is performed, the highest reading or measurement should be used to determine the spread rate.

Coverage rates and cure times will vary depending on temperature, relative humidity, surface roughness and porosity, aggregate selection and embedment, and application technique. The coverage rates provided are optimal and are not guaranteed.

There is no correlation between the ASTM F 1869 (CaCl) and ASTM F 2170/F 2420 Relative Humidity (RH) test protocols. The CaCl test measures the moisture at the surface of the substrate while the RH

## MOISTURE VAPOR TEST RESULTS Using ASTM F 1869

VAPOR RATE	SPREAD RATE
3 to 10 Lbs/100 sqft/24 hrs	150 sqft/gal (10 mils WFT-254 microns)
10 to 15 lbs/1000 sqft/24 hrs	125 sqft/gal (13 mils WFT 355 microns)
15 to 25 lbs/1000 sqft/24 hrs	100 sqft/gal (16 mils WFT 406 microns)

## Relative Humidity Test Results Using ASTM F 2170 or F 2420

RELATIVE HUMIDITY	SPREAD RATE
Up to 85%	150 sqft/gal (10 mils WFT)
85 to 90%	125sqft/gal (13 mils WFT)
90 to 100%	100 sqft/gal (16 mils WFT)

test.

### 2.03 POST INSTALLATION

Prior to the installation of any flooring system on top of the Enviro-Grip™ 404FC, the surface must be clean and free of any dust, dirt, and debris. If recoating is not done in 48 hours, the surface needs to be reprimed and if recoating is not done within 14 days then sanding or light grinding is required before re-priming the surface. The maximum recoat time is 48 hours after the cure of Enviro-Grip™ 404FC. If the Enviro-Grip™ 404FC is going to remain uncovered for an extended period of time, contact the PSI technical service department prior to installing any type of floor covering system.

Cementitious underlayments or leveling compounds are not required over the Enviro-Grip™ 404FC but are commonly used to level the surface in preparation for the final flooring system. Enviro-Grip™ 404FC is not intended to be a floor leveling product but can be used as a final floor finish. All underlayments must be applied on top of the cured Enviro-Grip™ 404FC.

For proper adhesion of underlayments to the Enviro-Grip™ 404FC, always use a suitable primer. Always test the adhesion of the underlayment to the cured Enviro-Grip™ 404FC prior to installing any adhesive or final flooring system. If using another manufacturer's primer, consult with a PSI technical services for suitability.

Most flooring systems and adhesives may be directly applied to the cured Enviro-Grip™ 404FC. All adhesive systems must be formulated for use on non-porous substrates. There will be no absorption of solvents or water into the Enviro-Grip™ 404FC. Adhesives that are not designed to "flash off" prior to installing the finish flooring may require



at least a 1/8 inch (0.36 cm) cementitious underlayment. Check with the adhesive manufacturer as to the requirements for their products.

**2.04 EQUIPMENT CLEANUP**

Equipment should be cleaned with an environmentally-safe solvent, as permitted under local regulations, immediately after use.

**2.05 SHELF LIFE AND STORAGE**

Enviro-Grip™ 404FC has a shelf life of 12 months from date of manufacture in original, factory-sealed containers when stored indoors at a temperature between 60-95°F (15-35°C).

**2.06 LIMITATIONS**

- Consult the Enviro-Grip™ 404FC Technical Data Sheet for more complete information on product health, safety, and handling.
- Avoid skin and eye contact.
- Eye Contact: Flush immediately with water and consult a physician.
- Skin Contact: Wash immediately with soap and water.
- Avoid prolonged exposure to vapors. Ventilation should be provided during installation and curing.

**Enviro-Grip™ Primer  
Selection Chart**

N/R = Not Recommended

FEATURES & USES	EP#1	EP #2	PUR #555	EP-WBs	EP #121	EP 404FC
Low Odor	YES	NO	YES	YES	YES	YES
Solvent Free	YES	NO	YES	YES	YES	YES
Low Viscosity	YES	NO	YES	YES	YES	YES
Fast Curing	NO	NO	YES	YES	YES	YES
Meets SCAQMD	YES	(SC) YES	YES	YES	YES	YES
Pedestrian & Vehicular Traffic	YES	YES	YES	YES	YES	YES
Recoat Window (Hours)	12	16	6	12	4	12
SUBSTRATE ADHESION	EP#1	EP #2	PUR #555	EP-WB	EP #121	EP 404FC
Concrete & Masonry	YES	YES	YES	YES	YES	YES
Asphaltic Concrete	TEST	N/R	N/R	TEST	TEST	TEST
Glass Reinforced Plastic	TEST	TEST	TEST	TEST	TEST	TEST
Plywood	YES	YES	N/R	N/R	YES	YES
Abraded Metals	YES	YES	YES	YES	YES	YES
Bonderized Metal	YES	YES	YES	YES	YES	YES

Please read all information in the General & Safety Guidelines, Technical Data Sheets, Guide Specifications and Safety Data Sheets (SDS) before applying material. PSI Products are for "Professional Use Only" and preferably applied by professionals who have prior experience with PSI Products or have undergone training in application of PSI Products. Published technical data and instructions are subject to change without notice. Contact your local PSI representative or visit our website for current technical data, instructions, and project specific recommendations.

**LIMITED WARRANTY**

PSI warrants its products to be free of manufacturing defects and that they will meet PSI current published physical and chemical properties. Seller's sole responsibility shall be to replace that portion of the product which proves to be defective. There are no other warranties by PSI of any nature whatsoever expressed or implied, including any warranty of merchantability or fitness for a particular purpose in connection with this product. PSI shall not be liable for damages of any sort, including remote or consequential damages resulting from any claimed breach of any warranty whether expressed or implied. PSI shall not be responsible for use of this product in a manner to infringe on any patent held by others. In addition, no warranty or guarantee is being issued with respect to appearance, color, fading, chalking, staining, shrinkage, peeling, normal wear and tear or improper application by the applicator. Damage caused by abuse, neglect and lack of proper maintenance, acts of nature and/or physical movement of the substrate or structural defects are also excluded from the limited warranty. PSI reserves the right to conduct performance tests on any material claimed to be defective prior to any repairs by owner, general contractor, or applicator.

**DISCLAIMER**

All guidelines, recommendations, statements, and technical data contained herein are based on information and tests we believe to be reliable and correct, but accuracy and completeness of said tests are not guaranteed and are not to be construed as a warranty, either expressed or implied. It is the user's responsibility to satisfy himself, by his own information and test, to determine suitability of the product for his own intended use, application and job situation and user assumes all risk and liability resulting from his use of the product. We do not suggest or guarantee that any hazard listed herein are the only ones which may exist. Neither seller nor manufacturer shall be liable to the buyer or any third person for any injury, loss or damage directly or indirectly resulting from use of, or inability to use, the product. Recommendations or statements, whether in writing or oral, other than those contained herein shall not be binding upon the manufacturer, unless in writing and signed by a corporate officer of the manufacturer. Technical and application information is provided for the purpose of establishing a general profile of the material and proper application procedures. Test performance results were obtained in a controlled environment and PSI makes no claim that these tests or any other tests, accurately represent all environments.

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