ThoRoc™
Concrete Restoration Solutions

Thermal and Moisture Protection

TEGRAPROOF®

Crystalline, capillary waterproofing system for concrete

Features and Benefits

- NSF Certified for use with potable water (ANSI/NSF Standard 61)
- Penetrates concrete, seals capillary tracts and hairline cracks
- Waterproofing remains even if concrete surface is damaged
- Cost effective
- Effective waterproofing treatment against hydrostatic pressure – both positive and negative
- Contains no chlorides
- Easy to apply
- Treated concrete resists chemical attack of sewage and industrial wastes
- Treated concrete resists de-icing salts

Where to Use Tegraproof®

- Foundations
- Repairing hairline cracks
- Filling holes and sealing wall-floor joints
- Sewage and water treatment plants and tanks
- Underground vaults
- Subway tunnels
- Water reservoirs
- Potable water applications requiring NSF approval
- Interior and exterior
- Newly poured concrete as a dry shake
- Existing concrete as a slurry coat
- Walls and floors
- Above or below grade

How to Apply Tegraproof®

Surface Preparation

Old Concrete

Surfaces must be clean and sound. Remove all oil, dirt, laitance, and other contaminants by waterblasting or treating the surface with a 15% solution of muriatic acid. Allow acid to react for approximately 30 minutes, neutralize with an ammonia solution, then wash surface thoroughly with clean water. Waterblasting is preferred for surface preparation because it mechanically cleans and roughens the surface, is environmentally safer, and leaves the surface saturated with water. Surface must be damped for application of Tegraproof®.

New Concrete

After forms are stripped, waterblast or acid etch as above to remove form oils and laitance. Surface must be left damp for application of Tegraproof®. Construction joints, cold joints and nonleaking cracks greater than 1/64" wide must be routed out a minimum 1" (25 mm) wide by 1" (25 mm) deep to sound concrete. Routing should be in a "U" shape. Leaking cracks should be routed out as above to 1" (25 mm) wide 1-1/2" – 2" (37 - 51 mm) deep to sound concrete. Saturate routed area with water and leave damp for application of ThoRoc™ Plug.

Mixing

Tegraproof Slurry Coat

Mix 1 part clean potable water to 2-1/4 to 2-1/2 parts powder by volume or 2.25 gallons (8.9 L) of water to one 55 lb. (25 kg) pail. Mix thoroughly with a slow-speed drill equipped with a paddle. For larger batches, use a mortar mixer. Do not mix more material than can be used in 20 minutes at 75°F (24°C), 50% relative humidity. If mixture thickens, restir to reduce consistency. Do not add extra water.

Tegraproof Mortar

Add sufficient clean, potable water to powder to produce a stiff trowelable mortar. Mix thoroughly with a slow-speed drill equipped with a paddle or use a mortar mixer for large batches. Do not mix more material than can be used in 20 minutes at 75°F (24°C), 50% relative humidity.

Application

Slurry coat

Tegraproof® slurry coat may be applied with a brush (synthetic bristle), broom, or plaster sprayer at a rate of 1.5 lbs./yd.^{2} (0.83 kg/m^2). Work slurry well into openings, rough surfaces, joints, and routed out areas. Apply second coat, when required, after first coat has taken an initial set (usually within one hour). If first coat has dried out, moisten surface before applying second coat.

Mortar

Tegraproof® mortar is applied with a trowel or spatula at a rate of 0.85 lb. per one lineal foot in 1" x 1.5" (25 x 38 mm) configuration. Apply mortar to cracks, holes, reglets, and coving areas. After areas are primed with first coat of Tegraproof® slurry, apply mortar in areas not greater than 1/2" (13 mm). Allow mortar to take initial set before adding additional layers.

Dry shake for newly poured concrete:

Use Tegraproof® as is, directly from container. Wearing rubber gloves, distribute the powder evenly by hand, over freshly poured concrete at 2.25 to 2.5 lb./yd^2 (1.2 to 1.3 kg/m^2) before final floating operation. It is best to distribute the powder at 1/2 the recommended rate in one direction, and the other half at a right angle to the first application. Keep hand as close as possible to the surface to prevent material from blowing away. For large areas, a rotary type spreader may be used. Float slab and trowel to final finish. Two applications are recommended to obtain stated physical properties.

Curing

Curing and Protecting

All Tegraproof® applications must be kept moist for a minimum of 48 hours. After initial set, moist curing, using water spray is recommended. Treated surface shall be fog sprayed 3 to 4 times daily for the 48-hour period. For warmer climates, more frequent spraying may be required. It is important to keep Tegraproof® moist to allow the crystal formation to occur. Freshly applied Tegraproof® must be protected from extreme weather conditions such as rain, strong winds, high temperatures and freezing for a period of not less than 48 hours after application.

For certain applications Tegraproof® can be cured using an ASTM C 309 approved curing agent instead of water curing. Contact ChemRex® Technical Service for recommendations.

Clean Up

Prior to curing, Tegraproof® may be cleaned from tools and other surfaces with water. Cured material must be removed mechanically.

For Best Performance

- Add clean potable water to Tegraproof®.
- Not recommended for application at temperatures below 40°F (4°C).
- Full activation and effectiveness may require 2 - 3 weeks after application.
- Protect surfaces from foot traffic for 48 hours or heavy traffic for 7 days.
- Follow published curing procedures for optimum performance.
- Make certain the most current version of this data guide is being used; call Customer Service (1-800-433-9517) to verify the most current version.
- Proper application is the responsibility of the user. Field visits by ChemRex® personnel are for the purpose of making technical recommendations only and are not for supervising or providing quality control on the jobsite.

Technical Data

Compliances

- ANSI/NSF Standard 61

Physical Properties				
Description of Test Performance	Typical Results 3 days	7 days	28 days	56 days
Chemical resistance, weight change (ASTM C 267)				
Control samples	0.0 gm	0.0 gm	+0.1 gm	+0.3 gm
Acid exposed	+0.1 gm	-0.2 gm	-1.1 gm	-4.8 gm
Salt exposed	+0.3 gm	+0.8 gm	+0.6 gm	+0.7 gm
Compressive strength (ASTM C 109) psi (MPa)				
Control samples	2,110 (14.6)	3,870 (26.7)	5,200 (35.9)	5,780 (39.9)
Acid exposed	2,280 (15.7)	3,540 (24.4)	5,160 (35.6)	5,500 (37.9)
Salt exposed	2,020 (13.9)	3,490 (24.1)	5,540 (38.2)	5,720 (39.4)
Permeability test, CRD C 48				
Negative direction:	Virtually impermeable. No visible degradation. No water flow. Slight dampening after 420 hours @ 200 psi hydrostatic pressure.			
Positive direction:	Virtually impermeable under 125 psi hydrostatic pressure. After 300 hours @ 200 psi flow measured 0.075 CM^3/hr over final 120 hours.			

All application and performance values are typical for the material, but may vary due to variations in the test method, conditions, and configurations.

Order Information

Packaging

Tegraproof®

- 55 lb. (25 kg) pails

Shelf Life

- Store Tegraproof® in protected dry areas. When left in original unopened package, Tegraproof® products will maintain their design performance characteristics for 1 year.

Coverage

- Shake on: 200 $ft.^2$ per 55 lb. pail @ 2.5 lbs. per $yard^2$ (18 m^2 per 25 kg pail @ 1.4 kg/m^2)
- Slurry coat: 330 $ft.^2$ per 55 lb. pail @ 1.5 lbs. per $yard^2$ (30 m^2 per 25 kg pail @ 0.83 kg/m^2)

Caution

Tegraproof® contains crystalline silica, Portland cement, calcium carbonate, sodium carbonate, titanium dioxide

Risks

Product is alkaline on contact with water and may cause injury to skin or eyes. Ingestion or inhalation of dust may cause irritation. Contains free respirable quartz, which has been listed as a suspected human carcinogen by NTP and IARC. Repeated or prolonged overexposure to free respirable quartz may cause silicosis or other serious and delayed lung injury.

Precautions

KEEP OUT OF THE REACH OF CHILDREN. Prevent contact with skin and eyes. Prevent inhalation of dust. DO NOT take internally. Use only with adequate ventilation. Use impervious gloves, eye protection and if the TLV is exceeded or used in a poorly ventilated area, use NIOSH/MSHA approved respiratory protection in accordance with applicable federal, state and local regulations.

First Aid

In case of eye contact, flush thoroughly with water for at least 15 minutes. SEEK IMMEDIATE MEDICAL ATTENTION. In case of skin contact, wash affected areas with soap and water. If irritation persists, SEEK MEDICAL ATTENTION. Remove and wash contaminated clothing. If inhalation causes physical discomfort, remove to fresh air. If discomfort persists or any breathing difficulty occurs or if swallowed, SEEK IMMEDIATE MEDICAL ATTENTION.

For more information see Material Safety Data Sheet (MSDS) for this product.

Proposition 65

This product contains material listed by the state of California as known to cause cancer, birth defects or other reproductive harm.

VOC Content

This product contains 0 g/L or 0 lbs./gallon.

For medical emergencies only, call ChemTrec (1/800/424-9300).

ThoRoc™
Concrete Restoration Solutions

ChemRex®

Corporate Office:
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