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# POLYMER NATION CHEMICAL COMPANY, LLC

*Setting the Standard*

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## TECHNICAL DATA SHEET: F-11 TD CLEAR EPOXY TROWEL MORTAR

### Product Overview

F-11 TD combines our clear, nonylphenol-free, epoxy resin, our blended cycloaliphatic curing agent and our Trowel Aggregate PN 1324 to create the easiest troweling material available anywhere. This combination achieves an easily closed, natural epoxy mortar that can be walked on within a few hours. The cured material has high compressive strength (three times that of concrete), great impact resistance and a broad range of resistance to chemical attack. It is virtually odor-free.

### Uses and Benefits

F-11 TD is primarily used as an economical, natural colored, fast setting epoxy overlay to protect and/or repair concrete. Because it is a mortar, it is the ideal material for sloping floors and creating ramps and transitions. It can also be used to fill deep pits, cracks and voids in concrete floors and walls.

### Limitations

Each mix of F-11 TD will cover 23 sq. ft. at 1/4" theoretical coverage. A waste factor of 10-15% should be estimated. Ideal application temperatures to be between 60-90°F Cooler temperatures will increase cure times. Warmer temperatures will decrease working and cure times. Verify that substrate temperature is above 5 degrees of dewpoint during application and cure of material to avoid a potential amine blush.

### Surface Preparation

The preparation method for each project is determined by a full understanding of the substrate to be coated, the chemistry of the coating system being used, the coating system thickness, and numerous other factors. The coating installer should fully read and understand ICRI Guideline NO.03732 and OSHA 29 CFR 1926.1153 before starting preparatory work. The aim, of preparing a substrate for coating applications, is to roughen the surface, remove weak layers, contaminants, dirt, debris and present a solid, clean, dry substrate for the primer. If unsure as to the level of preparation needed contact Polymer Nation at [Lab@polymerNation.com](mailto:Lab@polymerNation.com).

### Mixing

A mixture consists of 0.5 gal F-11 TD Part A, 0.25 gal F-11 TD Part B and 45 LB. of Part C (PN 1324). Combine part A and B into a single container, large enough to accept the entire mix (1 mix equals 3.7 gallons when Part C is added). Premix liquids at 350 RPM for 1 minutes using an appropriate mixing blade or mixing machine. Pour Part C into the mixed resin and continue mixing until a homogenous mortar is achieved (2-3 minutes usually).

### Application

Pour material on floor and spread to desired thickness using a

screed rake or pour material into a screed box. Follow using good hand or power trowel techniques. Recoat within 24 hours. Clean tools with a solvent similar to Xylene or Acetone.

### Technical Data

The data below was gathered at temperatures of 72-75°F and 30-50% RH

|                         |  |
|-------------------------|--|
| Packaging               | 3 gal kit, 4 x 45 lb. bags of agg (4 mix kits)               |
| Mix Ratio by Kit        | 0.5 gal A, 0.25 gal B, 45 lb. C<br>Each kit provides 4 mixes |
| Mixed Viscosity         | 350-450 cP <sub>25°C/77°F</sub> (A&B)                        |
| Gel Time                | 15 minutes   |
| Dry to Touch            | 1 hours  |
| Through Dry             | 3 hours  |
| Dry to Walk             | 4 hours  |
| Dry to Light Use        | 12 hours   |
| Full Cure               | 7 days   |
| Shore D Hardness        | D65 @ 24 hours   |
| Shore D Hardness        | D78 @ 7 days   |
| Gloss @ 60 Degree Angle | 25-30  |
| VOC's of Mixed Material | <50 g/l EPA Method 24  |
| Color Scale             | 0.5-1.0 per ASTM D1500                                       |
| Solids by Volume Mixed  | 100%   |
| Application in inches   | 1/4" (23 sq.ft./mix)   |
| Available Colors        | Clear & Color Packs  |

## PHYSICAL PROPERTIES F-11 TD CLEAR EPOXY TROWEL MORTAR

| Description   | Standard    | Results   |
|---|-------------|---|
| Tensile Strength  | ASTM C307   | 2,870 psi   |
| Moisture Absorption                                     | ASTM C413   | <.2 weight increase   |
| Coefficient of Thermal Lineal Expansion                 | ASTM C531   | 24.5 x 10 <sup>-6</sup> in/in/°F  |
| Compressive Strength                                    | ASTM C579   | 15,200 psi  |
| Modulus of Elasticity                                   | ASTM C580   | 1,300 psi   |
| Flexural Strength                                       | ASTM C580   | 5,000 psi   |
| Water Vapor Transmission                                | ASTM D1653  | See ASTM D3010  |
| Impact Resistance                                       | ASTM D2794  | >160 inch pounds  |
| Independent Certificate from third party testing agency | ASTM D3010  | N/A   |
| Adhesion  | ASTM D3359  | N/A   |
| Abrasion Resistance CS17 1000 g 1000cycles in g Loss    | ASTM D4060  | 0.083g Loss (when higher abrasion resistance is required the addition of PC 1336 to the coating should be included) |
| Adhesion to Steel                                       | ASTM D4541  | N/A   |
| Hiding Power  | ASTM D5150  | N/A   |
| Flammability When Adhered to Concrete                   | ASTM D635   | Self-Extinguishing  |
| Adhesion to Concrete                                    | ASTM D7234  | >450 Substrate failure  |
| Coefficient of Friction Dry Ave. three tests            | NFSI B101.0 | 0.75  |
| Coefficient of Friction Wet Ave. three tests            | NFSI B101.1 | 0.7   |
| Accelerated Weathering Testing                          | ASTM G154   | N/A   |

\* Dispose of material, containers, solvents, etc., per Federal, State and local guideline, rules and laws

\* Store material between 60-80 degrees F in a protected dry location.

Test data has been gathered from testing conducted by independent, internal and third party testing. The best way to compare coating performance is by head-to-head independent testing as this removes the numerous variables found between testing standards, equipment and testing agencies.

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