

## Ply-Guard EP

## Technical Bulletin

Ply-Guard EP is a two component, low viscosity, 100% solids epoxy resin system used in a variety of flooring applications including high build coatings, aggregate-filled flooring and decorative epoxy pebble applications. This material cures blush-free and provides an outstanding balance of physical strength, flexibility and chemical resistance. Ply-Guard EP has excellent clarity for use over color quartz aggregate and decorative architectural concrete. The pigmented material features high pigment loading for good substrate hide and color consistency when roller applied.

Ply-Guard EP has considerably lower viscosity than most competitive products providing improved handling at cooler temperatures and exceptional troweling characteristics. The lower viscosity allows for the addition of fine silica fillers for easy application of "slurry" type floors. Use Ply-Guard EP regular cure when concrete substrate is at or above 60°F (15.5°C) A fast cure hardener is available when cold weather cure down to 40°F (4.4°C) or accelerated room temperature cure is required. A special hardener is available when adhesion to damp concrete is needed.

The versatility of Ply-Guard EP makes it ideal as a primer, finish coat or aggregate binder in a wide variety of flooring applications including manufacturing facilities, warehouses, correctional facilities, loading docks and other areas requiring high performance flooring. Ply-Guard EP UVR is fortified with a UV absorber package and designed for exterior use as a re-glaze material over decorative epoxy pebble systems.

Chemical Composition: Modified Bisphenol A epoxy resin crosslinked with aliphatic and cycloaliphatic polyamines.

### Colors & Limitations

- Sixteen (16) Standard Colors, Plus Black, White, and Clear
- Must be Applied to a Clean, Dry Surface
- Exterior Pigmented Applications will Show Chalking
- Should be Applied with Aggregate Fillers in Flooring Applications where Impact or Mechanical Abuse is Anticipated

### Product Data

|  |     |
|--|-----|
| <b>Mix Ratio, by volume:</b>                                   | 2:1 |
| <b>Solids Content, %:</b>                                      | 100 |
| <b>Volatile Organic Compounds (VOC), gr./lt.:</b>              | 0   |
| <b>Viscosity, Ply-Guard EP Clear, cps:</b>                     | 650 |
| <b>Viscosity, Diluted 15% Acetone , cps:</b>                   | 85  |
| (Primer or Re-Glazing Epoxy Pebble System)                     |     |
| <b>Pot Life, Regular Cure, 1 Quart (.95 liters) Mass, min:</b> | 35  |
| <b>Pot Life, Fast Cure, 1 Quart (.95 liters) Mass, min:</b>    | 18  |
| Pot life is reduced by increases in mass and/or temperature    |     |

| Cure Time at 77°F (25°C) |          |               |          |
|--------------------------|----------|---------------|----------|
| Regular Cure             | Time     | Fast Cure     | Time     |
| Dry to Touch             | 6 Hours  | Dry to Touch  | 3 Hours  |
| Light Traffic            | 16 Hours | Light Traffic | 12 Hours |
| Full Cure                | 7 Days   | Full Cure     | 5 Days   |
| Cure Time at 50°F (10°C) |          |               |          |
|                          |          | Fast Cure     | Time     |
|                          |          | Dry to Touch  | 18 Hours |
|                          |          | Light Traffic | 30 Hours |
|                          |          | Full Cure     | 14 Days  |

Cure times are influenced by both ambient air temperature and the concrete substrate temperature.

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| Typical Physical Properties at 70°F (21°C)           |             |                                   |
|--|-------------|-----------------------------------|
| Tensile Strength                                     | ASTM D638   | 6,230 psi                         |
| Tensile Elongation                                   | ASTM D638   | 11%                               |
| Compressive Yield Strength                           | ASTM D695   | 9,850 psi                         |
| Ultimate Compressive Strength                        | ASTM D695   | 19,500 psi                        |
| Ultimate Flexural Strength                           | ASTM D790   | 9.680 psi                         |
| Hardness, Shore D                                    | ASTM D2240  | 75–80                             |
| Adhesion to Concrete                                 | ASTM D7234  | 400 psi                           |
| Water Absorption                                     | ASTM C413   | <0.1%                             |
| Flammability when Bonded to Concrete                 | ASTM D635   | Self-Extinguishing                |
| Moisture Vapor Transmission (Maximum)*               | ASTM F1869  | 3 lbs./24 Hr./1,000 Sq Ft.        |
| Concrete Relative Humidity Moisture % (Maximum)*     | ASTM F2170  | 75% RH                            |
| Microbial (Fungi) Resistance                         | ASTM G21    | Passes #1                         |
| Coefficient of Friction, Static Wet, with Aggregate  | ANSI B101.1 | >0.45 (Inclines)<br>>0.42 (Level) |
| Coefficient of Friction, Dynamic Wet, with Aggregate | ANSI B101.3 | >0.45 (Inclines)<br>>0.42 (Level) |

If the numbers exceed the product's limitations, consult Polyset product offering.