

# POLYARMOR® EP ESD 31-250

## Solvent Borne Epoxy

### APPLICATION CHARACTERISTICS

**STORAGE:** Materials should be stored in original un-opened containers indoors between 65°F (18°C) and 90°F (32°C) and at or below 50% RH.

**SHELF LIFE:** Un-opened containers 1 year from date of manufacture.

**PACKAGING KITS/ PART NUMBERS:**  
Volume Mix Ratio: 3A: 1B: .25C  
POLYARMOR® EP ESD 31-250 Clear Gloss 4.00 gallons  
POLYARMOR® EP ESD 31-250-A/5SF, POLYARMOR® EP ESD 31-250-B/1  
POLYARMOR® EP ESD 31-250 Pigmented Gloss 4.25 gallons  
POLYARMOR® EP ESD 31-250-A/5SF, POLYARMOR® EP ESD 31-250-B/1, CP-U#####Q  
POLYARMOR® EP ESD 31-250T Pigmented Gloss 4.25 gallons  
POLYARMOR® EP ESD 31-250T-A/5SF, POLYARMOR® EP ESD 31-250-B/1, CP-U#####Q

#### OPTIONS:

**Color Pack:** 0 VOC Color packs designated as CP-U##### can be used with POLYARMOR® EP ESD 31-250. Many standard and custom colors are available; please refer to the price list for available colors. It is important to have a color consistent floor in a similar color before application of POLYARMOR® EP ESD 31-250 or multiple coats may be required. Some deep base colors may require multiple coats or double color pack to obtain full hide.

**Traction:** GB-10 glass beads or other suitable angular aggregate can be incorporated with POLYARMOR® EP ESD 31-250 to impart improved traction in slip hazard areas.

#### LIMITATIONS:

Contamination and surface defects (fisheyes): If contaminates of oils, silicones, mold release agents and/or others are present, POLYARMOR® EP ESD 31-250 may fisheye or crawl away from the surface. Surface contaminates should be removed with a suitable detergent prior to application. Solvent cleaning of silicone contaminates may make the situation worse; please contact the lab for additional recommendations.

**POLYARMOR® EP ESD 31-250 and POLYARMOR® EP ESD 31-250T** are two component chemical resistant "Solvent Borne" epoxy clear and pigmented coatings. **POLYARMOR® EP ESD 31-250** is to be applied as an epoxy primer and **POLYARMOR® EP ESD 31-250T** (tint base) is to be applied as a fresh epoxy top coat or used to recoat an existing epoxy floor. This product produces a Gloss finish.



### APPLICATION

**MIXING:** Premix all components at slow speed prior to mixing together. Use a Jiffy® ES mix blade attach to a slow speed drill (using a paint stick to mix is not adequate). Mix only enough material at one time not to exceed the pot life. *Note:* Once this material is opened and mixed it can't be resealed for later use.

**COLORS:** Premix designated color pack (if used) CP-U#####. The color pack should be added last to the mixed coating POLYARMOR® EP ESD 31-250.

**MIX:** Mix all components together for 2-3 minutes. DO NOT THIN!

**APPLY POLYARMOR® EP ESD 31-250:** at a rate of 5 mils (320 sq. ft. per gallon) to the floor surface using a notched squeegee or application tray. Back roll the wet coating using a ¼ inch nap mohair roller. Care should be taken to overlap and cross lap, but not over roll the coating introducing air to the surface.

**SPREADING RATE:** When POLYARMOR® EP ESD 31-250 is applied as a primer, surface irregularities and porosity in the concrete may affect coverage rate. Be sure to plan accordingly as there may be a need for extra material to provide proper coverage. Material applied too heavy may blister or can be soft during curing. Too little material may produce a non-uniform look. The best practice is to measure and grid the floor to be sure of proper application rate.

**CURING (DRYING):** Allow the coating to cure (dry) for a minimum 24 hours after application at 75°F (24°C) and 50% RH before opening the floor to light traffic, allow more time for low temperatures and higher humidity or for heavier traffic. Full coating properties may take up to 7 days to develop.

### TECHNICAL SUPPORT

For application questions, please contact your VISURON TECHNOLOGIES, INC. salesman or technical service.

### DISPOSAL

Dispose in accordance with federal, state, and local regulations.

#### USES

Suited for direct to metal and concrete applications where a chemical resistant epoxy pre-solvent coating is desired for use and installation in industrial work areas. POLYARMOR® EP ESD 31-250 does have a strong solvent odor.

### ADVANTAGES

- Fast Dry lacquer type cure with a long working time
- Excellent impact and abrasion resistance
- Seals concrete, protecting against dirt and spills
- Resists staining and major chemical spills of cleaning and industrial chemicals
- No induction time
- Complies with VOC regulations for Industrial Maintenance Coatings in the OTC and CA\*

(\*excluding SCAQMD)

### MATERIAL PROPERTIES\*:

| Properties                     | Test Method | Results   |
|--------------------------------|-------------|---|
| Flash Point                    | ASTM D3278  | 84 °F (29°C)                                      |
| Volume Solids (mixed)          | ASTM D2369  | 60 %  |
| Mixed Viscosity                | ASTM D2196  | 300-500 cPs                                       |
| Dry Time                       | ASTM D5895  | Tack Free 3 hr<br>Dry 6-10 hr<br>Full Cure 7 days |
| VOC*-Volatile Organic Compound | ASTM D3960  | ≤250 g/l clear & pigmented                        |

### CURED PROPERTIES\*:

| Properties  | Test Method   | Results                    |
|---|---------------|----------------------------|
| Abrasion Resistance Tabor CS-17, mg loss/1000 cycles/1000g mass | ASTM D4060    | 65 mg                      |
| Coefficient of Friction-COF James Test                          | ASTM D2047    | 0.55<br>0.65(w/NS-36)      |
| Tensile Strength  | ASTM D2370    | 12,000 psi                 |
| Adhesion to Concrete  | ASTM D4541    | 350 psi concrete failure   |
| Impact  | ASTM D2794    | 80 in.lbs Direct & Reverse |
| Hardness (Pencil)   | ASTM D3363    | 2B                         |
| Dry Film Thickness  | at 5 mils WFT | 3 mils                     |

\*Properties and results are based on laboratory testing at 72°F (22°C) %50 RH, theoretical calculations and estimates. Typical properties, as stated, are to be considered as representative of current production and should not be treated as specifications.



**VISURON**  
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## Solvent Borne Epoxy

### RECOMMENDED APPLICATION

5-8 mils – 2 coats recommended.  
320 sq. ft. per gallon at 5 mils WFT.

7.8 sq. m. per liter at 127 microns.  
One kit (4.00 gallons) of mixed POLYARMOR® EP ESD 31-250 (clear) will cover 1280 sq. ft. (118.9 sq. m) at 5 mils WFT (127 microns).

One kit (4.25 gallons) of mixed POLYARMOR® EP ESD 31-250T (pigmented) will cover 1360 sq. ft. (126.3 sq. m) at 5 mils WFT (127 microns).

### CHEMICAL RESISTANCE\*:

| POLYARMOR® EP ESD 31-250 Clear | 1 Day | 7 Days |
|--------------------------------|-------|--------|
| <b>ACIDS, INORGANIC</b>        |       |        |
| 10% Hydrochloric               | E     | G      |
| 30% Hydrochloric               | F     | P      |
| 10% Nitric                     | E     | E      |
| 50% Phosphoric                 | E     | G      |
| 37% Sulfuric                   | E     | G      |
| <b>ACIDS, ORGANIC</b>          |       |        |
| 10% Acetic                     | G     | F      |
| 10 % Citric                    | E     | G      |
| Oleic                          | E     | E      |
| <b>ALKALIES</b>                |       |        |
| 10% Ammonium Hydroxide         | E     | E      |
| 50% Sodium Hydroxide           | E     | E      |
| <b>SOLVENTS</b>                |       |        |
| Ethylene Glycol                | G     | G      |
| Isopropanol                    | E     | E      |
| Methanol                       | P     | P      |
| d-Limonene                     | E     | E      |
| Jet Fuel                       | E     | E      |
| Gasoline                       | G     | F      |
| Mineral Spirits                | E     | E      |
| Xylene                         | G     | F      |
| Methylene Chloride             | P     | P      |
| MEK                            | P     | P      |
| PMA                            | G     | G      |
| <b>MISCELLANEOUS</b>           |       |        |
| 20% Ammonium Nitrate           | E     | E      |
| Brake Fluid                    | E     | E      |
| Bleach                         | E     | E      |
| Motor Oil                      | E     | E      |
| Skydrol®500B                   | E     | E      |
| Skydrol®LD4                    | E     | E      |
| 20% Sodium Chloride            | E     | E      |
| 10% TSP                        | E     | E      |

\*Based on spot testing of the clear coating after 14 days of cure. Pigmented versions may see reduced chemical resistance and staining.

Legend: E - Excellent (Not Effected) - Recommended  
G - Good (Limited Negative Effect) - Short Term Exposure  
F - Fair (Moderate Negative Effect) - Not recommended  
P - Poor (Unsatisfactory) - No Resistance to Exposure

### INSPECTION AND APPLICATION:

Caution! Follow all precautions and instructions prior to installation.

**CHECK THE SUBSTRATE CONCRETE:** Substrate concrete must be free of curing membrane, silicate surface hardener, paint, or sealer and be structurally sound. If you suspect the concrete has been treated or sealed, prepare substrate for complete removal of treatment.

**CHECK FOR MOISTURE:** Concrete must be dry before applications of this floor coating. Test concrete for moisture vapor transmission (MVT) using calcium chloride testing ASTM F1869 or in-situ RH testing ASTM F2170. Do not exceed a maximum result of 3 pounds per 1000 sq. ft. over 24 hours or a value below 70% RH (internal concrete humidity).

**EXCLUSION:** Testing for MVT is critical, however it does not guarantee against future problems. If there is no vapor barrier or the vapor barrier is damaged, this can contribute to floor failure. Contamination to concrete from oils, chemicals, excessive salts or Alkali Silica Reaction (ASR) may also contribute to floor failure.

**CHECK THE TEMPERATURE AND HUMIDITY:** During the application and cure of the coating, the substrate temperature, material temperature and room conditions should be maintained between 65°F (18°C) and 90°F (32°C). Relative Humidity (RH) should be limited to 30-80%. DO NOT apply coatings unless the floor temperature is more than five degree over the dew point.

### APPLICATION EQUIPMENT:

- Protective equipment and clothing as called for in the MSDS.
- Jiffy® Mixer Blade model ES.
- Clean container to mix materials in.
- Low speed high torque drill motor.
- High quality short nap roller covers ¼ inch mohair.
- Application Squeegee or application trays.
- Disc sanding equipment with 80-100 mesh sanding screens.
- Vacuum equipment.

### PREPARATION:

Surface dirt, grease, oil and contaminants must be removed by detergent scrubbing and rinsing with clean (clear) water.

**Acid Etch (bare concrete):** Successive acid etch treatments may be required to obtain proper adhesion to concrete. Rinse with clean water and neutralize with TSP solution.

**Shot Blasting (bare concrete):** Is a preferred method of surface preparation. POLYARMOR® EP ESD 31-250 is a thin film coating and will not cover a deep blast profile. Modify blaster to minimize too heavy of a surface profile and over-lap marks.

**Diamond Grind (bare concrete):** Results of grinding may vary depending on technique and the hardness of the concrete.

**JOINTS:** All non moving joints (control joints) can be filled with a semi-rigid joint compound such as POLYARMOR® SEALANT 25-000 or POLYARMOR® SEALANT 45-000. Construction joints may need to be re-built and re-cut and then filled with semi-rigid joint filler. Isolation or expansion joints must be filled with a flexible material designed for expansion and should not be coated over.

**RECOAT:** POLYARMOR® EP ESD 31-250 can be coated with other VISURON TECHNOLOGIES, INC. urethanes or may be used as a topcoat over existing (sound) VISURON TECHNOLOGIES, INC. epoxy coatings. The prior cured coating surface must be sanded with 100 grit sand paper or sanding screen installed on a swing-type floor buffer. Sand to a uniform dulled surface. Remove all sanding debris with a vacuum and damp mop. Scrub with detergent and rinse with clean water. Surface must be dry before coating.

**BARE CONCRETE APPLICATION:** POLYARMOR® EP ESD 31-250/ POLYARMOR® EP ESD 31-250T MUST BE APPLIED OVER AN EPOXY PRIMER (OR SURFACE). Use either POLYARMOR® EP ESD 31-250, POLYARMOR® EPOXY 30-340 or POLYARMOR® EPOXY 10-000-A/ POLYARMOR® EPOXY 10-000CR-B as the epoxy primer (See appropriate product data sheet for application instructions).

READ MATERIAL SAFETY DATA SHEET (MSDS) FOR SAFETY AND PRECAUTIONS. USE PRODUCT AS DIRECTED. FOR INDUSTRIAL USE ONLY. KEEP OUT OF REACH OF CHILDREN.

### MAINTENANCE GUIDELINES:

Allow floor coating to cure at least one week before cleaning by mechanical means (IE: sweeper, scrubber, disc buffer).

**CARE:** Increased life of the floor will be seen with proper maintenance and will help maintain a fresh appearance of your new VISURON TECHNOLOGIES, INC. floor. Regularly sweep your new floor as ground in dirt and grit can quickly dull the finish thus decreasing the life of the coating. Spills should be removed quickly as certain chemicals may stain and can permanently damage the finish.

Only soft nylon brushes or white pads should be used on your new floor coating. Premature loss of gloss can be caused by hard abrasive bristle Polypropylene (Tynex®) bushes.

Use only neutral non butyl cleaning detergents on your floor coating. Test any new cleaning product on a non-conspicuous area prior to using to avoid damage to the floor.

**CAUTION:** Heavy objects dragged across the surface will scratch all floor coatings. Avoid gouging or scratching the surface.

Pointed items or heavy items dropped on the floor may cause chipping or concrete pop out damage. Plasticizer migration from rubber tires can permanently stain the floor coating. If a rubber tire is planned to set on the floor for a long period of time, place a piece of acrylic sheet between the tire and the floor to prevent tire staining. Rubber burns from quick stops and starts from lift trucks can heat the coating to its softening point causing permanent damage and marking.

**REPAIR:** Repair gouges, chip outs, and scratches as soon as possible to prevent moisture and chemical under cutting and permanent damage to the floor coating.



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