

# PPG FLOORING™ 422 ESD Epoxy Coating System

## DESCRIPTION

Two-component, 100% solids epoxy system (ground plane & top coat) designed to create conductive or dissipative systems

## PRINCIPAL CHARACTERISTICS

- Electrostatic coating designed for static dissipative and conductive flooring systems
- Good abrasion and impact resistance
- Excellent color and gloss retention
- Good chemical resistance
- Good flexibility
- Suitable for areas with heavy traffic
- Easy cleaning
- TYPICAL USES:
- Electronic manufacturing facilities
- Factory and warehouse floors
- Computer and server rooms
- Pharmaceutical manufacturing and hospital operating rooms

## COLOR AND GLOSS LEVEL

- Gray Base, Dark Gray Base
- High gloss

## BASIC DATA AT 20°C (68°F)

| Data for mixed product         |                                                                                                             |
|--------------------------------|-------------------------------------------------------------------------------------------------------------|
| Number of components           | Two                                                                                                         |
| Volume solids                  | Ground Plane: 41 ± 2%<br>Top Coat: 100 ± 2%                                                                 |
| VOC (Supplied)                 | Ground Plane: max. 0.4 lb/US gal (approx. 50 g/l)<br>Top Coat: max. 0.4 lb/US gal (approx. 50 g/l)          |
| Recommended dry film thickness | Ground Plane: 3.0 - 5.0 mils (75 - 125 µm)<br>Top Coat: 10.0 - 20.0 mils (250 - 500 µm) depending on system |
| Theoretical spreading rate     | See spreading rate tables                                                                                   |
| Shelf life                     | At least 24 months when stored cool and dry                                                                 |

## RECOMMENDED SUBSTRATE CONDITIONS AND TEMPERATURES

- All surfaces must be sound, clean, free of oil, grease, dirt, mildew, curing compounds, loose and flaking paint, and other foreign substances

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## **Concrete**

- Prepare the surface in accordance with SSPC SP-13 standards
  - New concrete must cure a minimum of 28 days prior to application of this product
  - Test for moisture by conducting a plastic sheet test in accordance with ASTM D4263
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## **Aged coatings**

- Power tool clean in accordance with SSPC SP-3 or hand tool clean to SSPC SP-2 requirements
  - Apply a test patch to confirm compatibility and adhesion
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## **SYSTEM SPECIFICATION**

- Recommended primer for concrete: PPG Flooring 912 LV (formerly known as Milamar ICO Primer LV). Refer to Technical Data Sheet

## **Chemical Resistances**

- Motor Oil
  - Brake & Hydraulic fluid
  - 50% sodium hydroxide
  - Gasoline
  - Toluene and xylene
  - Acetone
  - Ammonium Hydroxide
  - 10% Sulfuric Acid
  - 10% Hydrochloric Acid
  - Ethyl & Butyl Alcohol
  - Ethyl & Butyl Acetate
- 

## **INSTRUCTIONS FOR USE**

### **Mixing ratio by volume: base to hardener 3:1 Ground Plane; 2:1 Top Coat**

- Prepare Ground Plane and Top Coat separately following the mixing procedures for both products
- Mix Part A and Part B separately to ensure uniformity. Scrape sides and bottoms of containers
- Pour all of the contents of the Part A container into the Part B container. Mix together for 5 minutes until homogeneous.
- Mix Part A and Part B together using a low speed Jiffy-type mixer

Note:

- Do not thin with solvents.
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## **Application**

- Full system: PPG FLR 912LV Primer, PPG FLR 422 Ground Plane, PPG FLR 422 Top Coat, and copper grounding tape
- Apply by brush, roller, notched trowel or squeegee
- Ensure good ventilation during application and curing
- Where a slip resistant finished floor is required, an additional coat with the appropriate aggregate can be pre-mixed with the A- and B-components or broadcast into the wet coating

## **Pot life**

See ADDITIONAL DATA – Pot life

## **Cleaning procedure**

- All application equipment must be cleaned immediately after use

## **ADDITIONAL DATA**

### **Resistivity**

- Ground Plane & Top Coat:  $1 \times 10^5$  -  $1 \times 10^6$  ohms
- Top Coat only:  $1 \times 10^6$  -  $1 \times 10^8$  ohms

| Physical data of cured material   |                                                 |
|-----------------------------------|-------------------------------------------------|
| Characteristic                    | Value                                           |
| Hardness, Shore D (ASTM D2240)    | 76                                              |
| Impact Resistance (ASTM D2794)    | 60 in-lb. (direct); 32 in-lb. (reverse)         |
| Abrasion resistance (ASTM D4060)  | <50 mg                                          |
| Mandrel Elongation (ASTM D522)    | 32% (maximum)                                   |
| Adhesion to Concrete (ASTM D4541) | 400 - 800 PSI concrete failure before bond loss |

Note:

- The value ranges stated in this Product Data Sheet are based on system processing under laboratory conditions. Equipment configurations and/or field application conditions may produce variances in final system values.

| Spreading rate and film thickness - 422 Ground Plane |                                                       |
|------------------------------------------------------|-------------------------------------------------------|
| DFT                                                  | Theoretical spreading rate                            |
| 3.0 mils (75 µm)                                     | 213.9 ft <sup>2</sup> /US gal (5.2 m <sup>2</sup> /l) |
| 5.0 mils (125 µm)                                    | 128.3 ft <sup>2</sup> /US gal (3.1 m <sup>2</sup> /l) |

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## Spreading rate and film thickness - 422 Top Coat

| DFT              | Theoretical spreading rate                            |
|------------------|-------------------------------------------------------|
| 10 mils (250 µm) | 160.4 ft <sup>2</sup> /US gal (3.9 m <sup>2</sup> /l) |
| 15 mils (375 µm) | 106.9 ft <sup>2</sup> /US gal (2.6 m <sup>2</sup> /l) |
| 20 mils (500 µm) | 80.2 ft <sup>2</sup> /US gal (2.0 m <sup>2</sup> /l)  |

## Curing time for Ground Plane

| Substrate temperature | Dry to touch | Tack free time | Dry hard | Full cure |
|-----------------------|--------------|----------------|----------|-----------|
| 59°F (15°C)           | 4 hours      | 8 hours        | 12 hours | 14 days   |
| 77°F (25°C)           | 2 hours      | 4 hours        | 6 hours  | 7 days    |
| 95°F (35°C)           | 1 hour       | 2 hours        | 3 hours  | 4 days    |

## Curing time for Top Coat

| Substrate temperature | Dry to touch | Tack free time | Light traffic | Heavy traffic | Full cure |
|-----------------------|--------------|----------------|---------------|---------------|-----------|
| 59°F (15°C)           | 10 hours     | 20 hours       | 36 hours      | 72 hours      | 14 days   |
| 77°F (25°C)           | 4 hours      | 12 hours       | 24 hours      | 48 hours      | 7 days    |
| 95°F (35°C)           | 2 hours      | 7 hours        | 16 hours      | 36 hours      | 4 days    |

## Pot life of Ground Plane

| Mixed product temperature | Pot life   |
|---------------------------|------------|
| 59°F (15°C)               | 60 minutes |
| 77°F (25°C)               | 45 minutes |
| 95°F (35°C)               | 30 minutes |

## Pot life of Top Coat

| Mixed product temperature | Pot life      |
|---------------------------|---------------|
| 59°F (15°C)               | 40-50 minutes |
| 77°F (25°C)               | 20-25 minutes |
| 95°F (35°C)               | 10-15 minutes |

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## SAFETY PRECAUTIONS

- Read all label and Safety Data Sheet (SDS) information prior to use

## WORLDWIDE AVAILABILITY

It is always the aim of PPG Protective & Marine Coatings to supply the same product on a worldwide basis. However, slight modification of the product is sometimes necessary to comply with local or national rules/circumstances. Under these circumstances an alternative product data sheet is used.

## WARRANTY

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## AVAILABILITY OF PACKAGING

### Packaging

- 4-gallon kits

