PPG NOVAGUARD™ 5031

Formerly known as Milamar ICO Guard Coating

DESCRIPTION

Ultra high solids, epoxy coating primarily for protecting concrete surfaces in corrosive environments

PRINCIPAL CHARACTERISTICS

- Ultra High Solids
- Excellent chemical resistance
- Excellent resistance to acids, caustics, detergents and other corrosive materials
- High resilience to thermal shock and mechanical impact
- Excellent adhesion to dry and damp substrates
- Low odor
- Compliant with USDA Incidental Food Contact Requirements
- Bonds to dry and damp concrete, wood, metal, tile, terrazzo and existing epoxy and urethane coatings
- TYPICAL USES:
- Suitable for application on concrete

Notes:

- Information Sheet available with test and certification data
- This product was previously sold as Milamar ICO Guard Coating.

COLOR AND GLOSS LEVEL

- White, Gray, Dark Gray, Beige, Yellow, Red, Green, Blue, Brown, Black
- High gloss

Note: Listed colors are standard available colors for finished product.

BASIC DATA AT 70°F (21°C)

Data for mixed product	
Number of components	Two
Mass density	13.0 lb/US gal (1.6 kg/l)
Volume solids	97 ± 2%
VOC (Supplied)	max. 0.2 lb/US gal (approx. 29 g/l)
Recommended dry film thickness	10.0 - 20.0 mils (250 - 500 µm) per coat
Theoretical spreading rate	160 ft^2/US gal for 10.0 mils (3.9 m^2/l for 250 µm)
Dry to touch	16 hours
Overcoating Interval	Maximum: 36 hours
Curing time	36 hours

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Data for mixed product	
Dry to walk on	30 hours

Notes:
- The "% solids" data was measured and reported in accordance with EPA Method 24 Test E.
- Recommended dry film thickness dependent on substrate and service conditions
- If overcoat time is exceeded, abrade and clean surface before recoating
- Curing time reflects for vehicle traffic
- See ADDITIONAL DATA - Drying time
- See ADDITIONAL DATA – Curing time
- The shelf life for the unmixed components (Part A and Part B) for this product is 12 months at 77°F (25°C).

RECOMMENDED SUBSTRATE CONDITIONS AND TEMPERATURES

Concrete

- Surface must be clean, uniform, sound, and free from contamination (such as oil, grease, rust, scale, or deposits).
- New concrete must cure a minimum of 28 days prior to application of this product
- Prepare in accordance with SSPC SP-13 guidelines
- Surface must be abraded to a minimum of 60 to 80 grit size depending on coating thickness.

SYSTEM SPECIFICATION

- Primers: No primer required.
- If substrate is particularly porous, PPG Flooring™ 912 LV primer can be applied and allowed to dry tack free before applying first coat.

Chemical Resistance (Splash/Spill)

- 85% phosphoric acid
- 80% lactic acid
- 80% sulfuric acid
- 37% hydrochloric acid
- 10% Acetic Acid
- Concentrated citric acid
- Most CIP cleaners

Notes:
- A more complete list of chemical resistances is available by request from PPG PMC Technical Services.
- To maximize service life, chemical splash and spills should be cleaned promptly.

INSTRUCTIONS FOR USE

Mixing ratio by volume: Part A to Part B 71.4:28.6 (2.5:1)

- Pre-mix Part A prior to combining with Part B, using a low speed jiffy-type mixer for 30 seconds
- Pour Part B into Part A container and thoroughly mix the two components of the kit together for at least 30-60 seconds at low speeds.
- Properly mixed material will be a uniform color without light or dark spots

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Pot life

50 minutes at 70°F (21°C)

Notes:
- See ADDITIONAL DATA – Pot life
- Indicated pot life is for product with standard hardener

Application

- Immediately after mixing, pour the mixture onto the floor in a ribbon pattern and spread with a notched rubber squeegee
- Back roll to ensure proper coverage and absorption
- A suitable aggregate may be broadcast into the first coat and backrolled to provide a more uniform texture
- Allow to dry tack-free
- Apply second coat to lock in aggregate and obtain a minimum of 20 mils (510 µm)
- Do not apply when temperatures are below 50°F (10°C)
- Product working time is 100 minutes at 50°F (10°C)
- Product working time is 75 minutes at 70°F (21°C)
- Product working time is 50 minutes at 90°F (32°C)

Notes:
- If only one thick coat of greater than 15 mils (380 µm) can be applied, a pin roller should be used to facilitate air release
- Indicated working times are for product with standard hardener
- See ADDITIONAL DATA - Working time for product with FC and XFC hardeners

Cleaning procedures

- All application equipment must be cleaned immediately after use

ADDITIONAL DATA

Working time for product with fast cure (FC) hardener

- Working time is 35 minutes at 40°F (4°C).
- Working time is 25 minutes at 50°F (10°C).
- Working time is 20 minutes at 70°F (21°C).

Working time for product with extra fast cure (XFC) hardener

- Working time is 18 minutes at 32°F (0°C).
- Working time is 15 minutes at 40°F (4°C).
- Working time is 8 minutes at 50°F (10°C).

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Drying time with standard hardener	
Substrate temperature	**Dry to touch**
50°F (10°C)	28 hours
70°F (21°C)	16 hours
90°F (32°C)	7 hours

Note: Do not use this product with the standard hardener below 50°F (10°C)

Drying time with fast cure (FC) hardener	
Substrate temperature	**Dry to touch**
40°F (4°C)	16 hours
50°F (10°C)	10 hours
70°F (21°C)	4 hours

Note: Do not use this product with the fast cure (FC) hardener below 40°F (4°C) or above 70°F (21°C)

Drying time with extra fast cure (XFC) hardener	
Substrate temperature	**Dry to touch**
32°F (0°C)	16 hours
40°F (4°C)	10 hours
50°F (10°C)	5 hours

Note: Do not use this product with the extra fast cure (XFC) hardener below 32°F (0°C) or above 50°F (10°C)

Curing time with standard hardener		
Substrate temperature	**Dry to walk on**	**Resistant to vehicular service**
50°F (10°C)	64 hours	3 days
70°F (21°C)	30 hours	36 hours
90°F (32°C)	12 hours	16 hours

Note: Do not use this product with the standard hardener below 50°F (10°C)

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Curing time with fast cure (FC) hardener		
Substrate temperature	**Dry to walk on**	**Resistant to vehicular service**
40°F (4°C)	26 hours	32 hours
50°F (10°C)	20 hours	26 hours
70°F (21°C)	8 hours	12 hours

Note: Do not use this product with the fast cure (FC) hardener below 40°F (4°C) or above 70°F (21°C)

Curing time with extra fast cure (XFC) hardener		
Substrate temperature	**Dry to walk on**	**Resistant to vehicular service**
32°F (0°C)	30 hours	36 hours
40°F (4°C)	21 hours	25 hours
50°F (10°C)	10 hours	17 hours

Note: Do not use this product with the extra fast cure (XFC) hardener below 32°F (0°C) or above 50°F (10°C)

Pot life (at application viscosity)	
Mixed product temperature	**Pot life**
50°F (10°C)	60 minutes
70°F (21°C)	50 minutes
90°F (32°C)	25 minutes

Notes:

- Higher temperatures and relative humidity will shorten pot life and working time
- Listed data is for product with standard hardener.
- Pot life for FC and XFC versions is 15 minutes.

Physical data of cured material	
Characteristic	**Value**
Tensile Strength (ASTM D638)	1,560 psi (10.8 MPa)
Tensile Elongation (ASTM D638)	9.0%
Flexural Strength (ASTM D790)	4,140 psi (28.5 MPa)
Bond Strength (ASTM C482)	>1000 psi (>6.9 MPa)
Hardness, Shore D (ASTM D2240)	80
Taber Abrasion (ASTM D1044, CS-17 Wheel, 1 kg load, 1000 cycles)	105 mg loss
Water Absorption (ASTM D570)	0.2%

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

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Product Qualifications

- Compliant with USDA Incidental Food Contact Requirements

DISCLAIMER

- PPG Protective & Marine Coatings does not accept any responsibility or liability for any odor, taste or contamination imparted to the drinking water from the coatings or products retained in the coating
- For industrial or professional use only

SAFETY PRECAUTIONS

- Read all label and Safety Data Sheet (SDS) information prior to use
- Care should be taken to prevent eye and skin contact

WORLDWIDE AVAILABILITY

It is always the aim of PPG Protective and 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.

REFERENCES

• CONVERSION TABLES	INFORMATION SHEET	1410
• SAFETY INDICATIONS	INFORMATION SHEET	1430
• EXPLANATION TO PRODUCT DATA SHEETS	INFORMATION SHEET	1411
• SURFACE PREPARATION OF CONCRETE (FLOORS)	INFORMATION SHEET	1496

WARRANTY

PPG warrants (i) its title to the product, (ii) that the quality of the product conforms to PPG's specifications for such product in effect at the time of manufacture and (iii) that the product shall be delivered free of the rightful claim of any third person for infringement of any U.S. patent covering the product. THESE ARE THE ONLY WARRANTIES THAT PPG MAKES AND ALL OTHER EXPRESS OR IMPLIED WARRANTIES, UNDER STATUTE OR ARISING OTHERWISE IN LAW, FROM A COURSE OF DEALING OR USAGE OF TRADE, INCLUDING WITHOUT LIMITATION, ANY OTHER WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE OR USE, ARE DISCLAIMED BY PPG. Any claim under this warranty must be made by Buyer to PPG in writing within five (5) days of Buyer's discovery of the claimed defect, but in no event later than the expiration of the applicable shelf life of the product, or one year from the date of the delivery of the product to the Buyer, whichever is earlier. Buyer's failure to notify PPG of such non-conformance as required herein shall bar Buyer from recovery under this warranty.

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