PERMA-CRETE®

4-22 - White
4-30 - Deeptone Base

Architectural Coatings

Perma-Crete High Build 100% Acrylic Topcoat

GENERAL DESCRIPTION

Perma-Crete High Build Acrylic Topcoat 4-22 is specifically designed for interior and exterior, above ground, masonry substrates requiring high performance protection. It is alkali and efflorescence resistant. *Perma-Crete* 4-22 provides resistance against water, UV light, staining and is breathable. It passes TTC-555B and ASTM D6904-3 for wind driven rain. *Perma-Crete* 4-22 provides a durable exterior coating and provides an option between conventional acrylics and elastomeric coatings. This *Perma-Crete* high build topcoat is ideal for high-rise apartments and condominiums, tilt-up warehouses, hospitals, schools, concrete parking garage overheads, hotels, resorts and residential homes.

RECOMMENDED SUBSTRATES

Brick	Fiber Cement	Tilt Up
Concrete	Masonry	
Concrete Block (CMU)	Stucco	

APPLICATION INFORMATION

Stir thoroughly before use. Apply one or two coats as required. Read all label and Material Safety Data Sheet (MSDS) information prior to use. MSDS are available through our web site or by calling 1-800-441-9695.

Application Equipment: Apply by spray, roller, brush.
Airless Spray: Minimum requirements: Pressure 1800 – 2400 psi, tip 0.015" - 0.021", flow rate 1 gal/minute. Spray equipment must be handled with due care and in accordance with manufacturer's recommendations. High pressure injection of coatings into the skin by airless equipment may cause serious injury.
Brush: Polyester/Nylon Brush
Roller: 3/8" - 3/4" nap synthetic roller cover
Thinning: Not recommended.
Permissible temperatures during application:

Material:	35 to 100°F	2 to 38°C
Ambient:	35 to 100°F	2 to 38°C
Substrate:	35 to 100°F	2 to 38°C

PRODUCT DATA

PRODUCT TYPE:	100% Acrylic Topcoat
BASE/COLOR:	4-22 White 4-30 Deeptone Base (must be tinted)
SHEEN:	Flat 0 to 3 (85° Gloss Meter)
CLEANUP:	Soap and Water
VOLUME SOLIDS*:	45% +/- 2%
WEIGHT SOLIDS*:	57% +/- 2%
VISCOSITY*:	100 to 110 KU
VOC*:	98 g/L (.82 lbs./gal.)

COVERAGE*: 125 to 225 sq. ft./gal. (14 to 21 sq. m/3.78L)

Wet Film Thickness:	7.1 mils to 12.8 mils
Wet Microns:	181 to 325
Dry Film Thickness:	3.2 mils to 5.8 mils
Dry Microns:	81 to 147

Coverage figures do not include loss due to surface irregularities and porosity or material loss due to application method or mixing.

Note: If wind driven rain performance is a requirement, the product must be applied at 2 coats @ 5 mils each (10 mils total DFT).

WEIGHT/GALLON*: 11.2 lbs. (5.1 kg) +/- 0.2 lbs. (91 g)

*Product data calculated on product 4-22.

DRYING TIME: Dry time @ 77°F (25°C); 50% relative humidity

To Touch:	1 hour
To Handle:	4 hours
To Recoat:	4 hours

Drying times listed may vary depending on temperature, humidity, film build, color, and air movement.

FLASH POINT: Over 200°F (93°C)

FEATURES AND BENEFITS

Features	Benefits
Resists Wind Driven Rain	Water resistance requires 2 pinhole free coats @ 5 mils each (10 mils total DFT)
Water Vapor Permeance	Breathability
Alkali Resistance	Can apply to fresh concrete at 7 days and pH less than 13
High Build	Provides extra protection in fewer coats (2 coats)
Two (2) Coat System	Turns jobs faster
Efflorescence Resistance	Minimizes white crusty salt deposits
Application to 35°F (2°C)	Longer painting season
Elongation	Increased flexibility over multiple substrates
Seals Concrete	Prevents moisture damage
Excellent Application Properties	Less time for application and resists pinholing
Mildew Resistant Coating	Stays cleaner longer
UV Resistance	Looks like new longer

PERFORMANCE DATA

Property	Test Method	Results
Resistance to Wind Driven Rain	ASTM D6904-3	Passes water resistance 2 pinhole free coats, self-primed 4-22 @ 5 mils each (10 mils total DFT) Passes water resistance pinhole free film one coat each 4-100, 4-2, 4-22 or 4-30 at recommended DFT
Elongation/Tensile Strength	ASTM D2370	240% @ 11 mils DFT / 725 psi
Flexibility	ASTM D1734	Passes cylindrical mandrel bend
Water Vapor Permeance	ASTM D1653	Greater than 15 perms
Mildew Resistance	ASTM D3273/74 & D5590	No growth
Alkali Resistance	TT-P-1511B	Passes: no efflorescence, blistering, saponification

GENERAL SURFACE PREPARATION

Surfaces to be coated must be dry, clean, sound, and free from all contamination including loose and peeling paint, dirt, grease, oil, wax, concrete curing agents and bond breakers, chalk, efflorescence, mildew, rust, product fines, and dust. Remove loose paint, chalk, and efflorescence by wire brushing, scraping, sanding, and/or pressure washing. Putty all nail holes and caulk all cracks and open seams. Treatment of cracks and seams is required to obtain the water-resistant protection of the building and to help prevent further cracking and deterioration. Methods of treatment depend upon the size of the crack. Sand all glossy, rough, and patched surfaces. Feather back all rough edges to sound surface by sanding. Prime all bare and porous substrates with an appropriate primer.

Clean surfaces per ASTM Standard Practice D4258-83: Standard Practice for Surface Cleaning Concrete for Coating. Vacuum cleaning, water cleaning, detergent water wash, power wash cleaning, steam cleaning, hand tool and mechanical cleaning are acceptable cleaning methods. Remove efflorescence by pressure washing or cleaning with dilute muriatic acid (following manufacturer's instruction) or a solution of 1 part white vinegar to 4 parts water. Rinse thoroughly and allow to dry.

Remove mildew by using PPG MILDEW CHECK® Multi-Purpose Wash, 18-1; or 1 part chlorine bleach to 3 parts water. Before use, be sure to read and follow instructions and warnings on label.

Dry substrate thoroughly to a moisture content under 12%. Clean chalky paint in good condition by sweep blasting, power washing, wire brushing, etc. to remove loose material. After cleaning, powdery or chalky, unpainted recommended substrates may be conditioned with a coat of *Perma-Crete* Exterior Acrylic Clear Masonry Surface Sealer 4-808 or Pigmented Masonry Surface Sealer 4-809 or Pigmented Bonding Coat 4-898.

WARNING! If you scrape, sand, or remove old paint, you may release lead dust or fumes. LEAD IS TOXIC. EXPOSURE TO LEAD DUST OR FUMES CAN CAUSE SERIOUS ILLNESS, SUCH AS BRAIN DAMAGE, ESPECIALLY IN CHILDREN. PREGNANT WOMEN SHOULD ALSO AVOID EXPOSURE. Wear a properly fitted NIOSH-approved respirator and prevent skin contact to control lead exposure. Clean up carefully with a HEPA vacuum and a wet mop. Before you start, find out how to protect yourself and your family by contacting the USEPA National Lead Information Hotline at 1-800-424-LEAD or log on to www.epa.gov/lead. In Canada contact a regional Health Canada office. Follow these instructions to control exposure other hazardous substances that may be released during surface preparation.

BRICK: New brick and mortar should cure for at least 7 days and preferably 30 days prior to priming and painting. The pH of the substrate must be less than 13 before priming. Painting glazed brick is not recommended due to potential adhesion problems.

CONCRETE AND MASONRY: New concrete should cure for at least 7 days and preferably 30 days prior to priming and painting. The pH of the substrate must be less than 13 before priming with an alkali resistant primer.

CONCRETE/MASONRY BLOCK: Mortar should cure for at least 7 days and preferably 30 days prior to priming. Fill block with an appropriate block filler if a smoother uniform surface is desired. Surfaces previously coated with water thinned cement-based paint must be prepared with extra care. If the material appears to be adhering tightly, a masonry sealer may be applied to seal the surface. Check adhesion by applying a piece of masking tape. If the sealer peels off and has loose particles, remove all chalking or crumbling material, re-seal and re-check adhesion.

FIBER CEMENT: Fiber cement siding and trim may present potential adhesion, alkali burn, and efflorescence problems. New board should be aged for at least 30 days prior to priming and painting. The pH of the substrate must be less than 13 and the moisture content must be less than 12% prior to priming and topcoating. All cracks and opens seams should be caulked to prevent water penetration. Pre-primed board from the manufacturer may not be uniformly or completely sealed. It is recommended that an alkali resistant primer be applied to ensure complete and uniform sealing prior to topcoating.

STUCCO: New stucco should cure for at least 7 days and preferably 30 days prior to priming and painting. The pH of the substrate must be less than 13 before priming. Surface chalk from the curing or aging process should be removed then sealed with an appropriate sealer to rebind and restore the surface to a sound condition.

TILT-UP or PRE-CAST CONCRETE: New tilt-up or pre-cast should cure for at least 7 days and preferably 30 days prior to priming and painting. The pH of the substrate must be less than 13 before priming with an alkali resistant sealer or primer. Moisture content should be less than 12% prior to priming and topcoating. All bond breakers, release agents, and admix plasticizers must be removed to prevent adhesion problems. Bond breakers and similar surface contaminants should be removed as directed by the tilt-up manufacturer which can include specific cleaners, powerwashing, and/or surface profiling by mechanical methods. Surface chalk from the curing or aging process should be removed then sealed with an appropriate sealer to rebind and restore the surface to a sound condition. Additional surface preparation guidelines can be found by referring to Technical Bulletin AF-2008-8 Guide on Painting Tilt-Up Concrete. Information or a copy of the bulletin can be obtained by calling 1-800-441-9695.

TINTING AND BASE INFORMATION

Refer to color formula book, computer color matching system, or automatic tinting equipment for color formulas and tinting instructions.

4-22	White
4-30	Deeptone Base

RECOMMENDED PRIMERS

Product is self-priming in most applications, but other primers that can be used are:

Brick	4-808, 4-809, 4-898, 4-2, 4-503, 4-603
Concrete and Masonry	4-808, 4-809, 4-898, 4-2, 4-503, 4-603
Concrete Masonry Block	4-100, 4-2, 4-503, 4-603
Fiber Cement	4-503, 4-603, 4-2
Stucco	4-808, 4-809, 4-898, 4-2, 4-503, 4-603
Tilt-Up	4-808, 4-809, 4-898

LIMITATIONS OF USE

Apply when air, surface and product temperatures are above 35ºF (2ºC) and surface temperature is at least 5ºF (3ºC) above the dew point. For optimum application properties, bring material to at least 50ºF (10ºC) prior to application. Air and surface temperature must remain above 35ºF (2ºC) for the next 24 hours. Avoid exterior application late in the day when dew and condensation are likely to form or if rain or snow is expected. Not recommended for use on surfaces demonstrating hydrostatic or high vapor pressure or for immersion service. Do not use on floors.

While this product provides a mildew resistant coating, growth may still occur if the substrate is not properly prepared prior to painting and/or if the substrate is consistently exposed to conditions conducive to mold, mildew, and algae. Examples of these conditions include, but are not limited to, under eaves, behind shrubbery and trees, and in areas that are consistently damp with little to no direct sunlight.

PROTECT FROM FREEZING.

USE WITH ADEQUATE VENTILATION. KEEP OUT OF REACH OF CHILDREN.

PACKAGING

1-Gallon (3.78 L)
5-Gallon (18.9 L)

PPG Industries, Inc.
Architectural Coatings
One PPG Place
Pittsburgh, PA 15272
www.ppgpro.com

Technical Services
1-800-441-9695
1-888-807-5123 fax

Architect/Specifier
1-888-PPG-IDEA

PPG Canada, Inc.
Architectural Coatings
4 Kenview Blvd
Brampton, ON L6T 5E4

B4.8 4/2012
(Supersedes 2/2012)
Made in the USA

GENERAL DESCRIPTION

Perma-Crete Alkali Resistant Primer, 4-603, is specifically designed for interior and exterior, above ground, wood, plaster, wallboard, and masonry surfaces. This primer provides excellent sealing and stain blocking performance. *Perma-Crete* 4-603 is formulated to seal and protect the topcoat from hot alkali found in plaster, masonry, and cement. It blocks out stains such as, water, smoke, ink, markers, and tannins. This *Perma-Crete* Alkali Resistant Primer is ideal for use on a variety of exterior masonry projects including high-rise apartments and condominiums, tilt-up warehouses, hospitals, schools, concrete parking garage overheads, hotels, resorts and residential homes.

RECOMMENDED SUBSTRATES

Brick	Fiber Cement	Tilt Up
Concrete	Masonry	Wood
Concrete Block (CMU)	Plaster	
Gypsum Wallboard-Drywall	Stucco	

CONFORMANCE STANDARDS

- VOC compliant in all regulated areas
- MPI® approval in category #3, Primer, Alkali Resistant, Water Based
- Meets *MPI* Green Performance Standard GPS-1

APPLICATION INFORMATION

Stir thoroughly before use. Read all label and Material Safety Data Sheet (MSDS) information prior to use. MSDS are available through our web site or by calling 1-800-441-9695.

Application Equipment: Apply with a high quality brush, roller, paint pad or by spray equipment.
Airless Spray: Minimum requirements: Pressure 1800 - 2400 psi, tip 0.015" - 0.021", flow rate 1/2 gal/minute.
Spray equipment must be handled with due care and in accordance with manufacturer's recommendations. High pressure injection of coatings into the skin by airless equipment may cause serious injury.

Brush: Polyester/Nylon Brush
Roller: 3/8" - 3/4" nap synthetic roller cover
Thinning: Not recommended. For maximum stain blocking properties, do not thin. May be thinned sparingly with water if needed for other applications.

APPLICATION INFORMATION (continued)

Permissible temperatures during application:

Material:	35 to 100°F	2 to 38°C
Ambient:	35 to 100°F	2 to 38°C
Substrate:	35 to 100°F	2 to 38°C

PRODUCT DATA

PRODUCT TYPE:	100% Acrylic
BASE/COLOR:	4-603 White
SHEEN:	Non Flat >5
CLEANUP:	Soap and Water
VOLUME SOLIDS:	37% +/- 2%
WEIGHT SOLIDS:	47% +/- 2%
VISCOSITY:	95 to 105 KU
VOC:	88 g/L (0.7 lbs./gal.)

COVERAGE: 400 to 500 sq. ft./gal. (37 to 46 sq. m/3.78L)

Wet Film Thickness:	3.2 mils to 4.0 mils
Wet Microns:	81 to 102
Dry Film Thickness:	1.2 mils to 1.5 mils
Dry Microns:	30 to 38

Coverage figures do not include loss due to surface irregularities and porosity or material loss due to application method or mixing.

WEIGHT/GALLON: 9.9 lbs. (4.5 kg) +/- 0.2 lbs. (91 g)

DRYING TIME: Dry time @ 70°F (21°C); 50% relative humidity

To Touch:	30 minutes
To Handle:	1 hour
To Recoat:	1 hour, 24 hours for maximum stain blocking resistance

Drying times listed may vary depending on temperature, humidity, color, film build, and air movement.

FLASH POINT: Over 200°F (93°C)

FEATURES AND BENEFITS

Features	Benefits
Alkali Resistance	Can apply to fresh concrete at 7 days and a pH less than 13
Excellent Stain Blocker	Blocks water, smoke, ink, markers, and tannins
Application to 35°F (2°C)	Longer painting season
Higher Solids	Better coverage
Efflorescence Resistance	Minimizes white crusty salt deposits
Seals and Prepares Recommended Substrates	Prevents moisture damage and prepares the surface for topcoating
Adhesion	Minimizes peeling and cracking
Excellent Application Properties	Less time for application
Mildew Resistant Coating	Mildew and fungal growth resistance on paint film
UV Resistance	Looks like new longer

PERFORMANCE DATA

Property	Test Method	Results
Flexibility	ASTM D522B	Pass
Mildew Resistance	ASTM D3273/74 and D5590	No growth
Alkali Resistance	TTP-1511B	Passes: no efflorescence, blistering, saponification
Adhesion	ASTM D3359	Passes

GENERAL SURFACE PREPARATION

Surfaces to be coated must be dry, clean, sound, and free from all contamination including loose and peeling paint, dirt, grease, oil, wax, concrete curing agents and bond breakers, chalk, efflorescence, mildew, rust, product fines, and dust. Remove loose paint, chalk, and efflorescence by wire brushing, scraping, sanding, and/or pressure washing. Putty all nail holes and caulk all cracks and open seams. Sand all glossy, rough, and patched surfaces. Feather back all rough edges to sound surface by sanding. Prime all bare and porous substrates with an appropriate primer.

Clean surfaces per ASTM Standard Practice D4258-83: Standard Practice for Surface Cleaning Concrete for Coating. Vacuum cleaning, water cleaning, detergent water wash, power wash cleaning, steam cleaning, hand tool and mechanical cleaning are acceptable cleaning methods. Remove efflorescence by pressure washing or cleaning with dilute muriatic acid (following manufacturer's instruction) or a solution of 1 part white vinegar to 4 parts water. Rinse thoroughly and allow to dry.

Remove mildew by using PPG MILDEW CHECK® Multi-Purpose Wash, 18-1; or 1 part chlorine bleach to 3 parts water. Before use, be sure to read and follow instructions and warnings on label. Dry substrate thoroughly to a moisture content under 12%. Clean chalky paint in good condition by sweep blasting, power washing, wire brushing, etc. to remove loose material. After cleaning, powdery or chalky, unpainted recommended substrates may be conditioned with a coat of PERMA-CRETE Exterior Acrylic Clear Masonry Surface Sealer 4-808 or Pigmented Masonry Surface Sealer 4-809.

WARNING! If you scrape, sand, or remove old paint, you may release lead dust or fumes. LEAD IS TOXIC. EXPOSURE TO LEAD DUST OR FUMES CAN CAUSE SERIOUS ILLNESS, SUCH AS BRAIN DAMAGE, ESPECIALLY IN CHILDREN. PREGNANT WOMEN SHOULD ALSO AVOID EXPOSURE. Wear a properly fitted NIOSH-approved respirator and prevent skin contact to control lead exposure. Clean up carefully with a HEPA vacuum and a wet mop. Before you start, find out how to protect yourself and your family by contacting the USEPA National Lead Information Hotline at 1-800-424-LEAD or log on to www.epa.gov/lead. In Canada contact a regional Health Canada office. Follow these instructions to control exposure other hazardous substances that may be released during surface preparation.

BRICK: New brick and mortar should cure for at least 7 days and preferably 30 days prior to priming and painting. The pH of the substrate must be less than 13 before priming with this alkali resistant primer. Painting glazed brick is not recommended due to potential adhesion problems.

CONCRETE and MASONRY: New concrete should cure for at least 7 days and preferably 30 days prior to priming and painting. The pH of the substrate must be less than 13 before priming with this alkali resistant primer.
CONCRETE/MASONRY BLOCK: Mortar should cure for at least 7 days and preferably 30 days prior to priming. Fill block with an appropriate block filler prior to priming if a smoother uniform surface is desired. Surfaces previously coated with water thinned cement-based paint must be prepared with extra care. If the material appears to be adhering tightly, a masonry sealer may be applied to seal the surface. Check adhesion by applying a piece of masking tape. If the sealer peels off and has loose particles, remove all chalking or crumbling material, re-seal and re-check adhesion.

FIBER CEMENT: Fiber cement siding and trim may present potential adhesion, alkali burn, and efflorescence problems. New board should be aged for at least 30 days prior to priming and painting. The pH of the substrate must be less than 13 and the moisture content must be less than 12% prior to priming and topcoating. All cracks and opens seams should be caulked to prevent water penetration. Pre-primed board from the manufacturer may not be uniformly or completely sealed. It is recommended that an alkali resistant primer be applied to ensure complete and uniform sealing prior to topcoating.

GYPSUM WALLBOARD-DRYWALL: Nails or screws should be countersunk, and they along with any indentations should be mudded flush with the surface, sanded smooth and cleaned to remove any dust, then prime prior to painting the substrate.
PLASTER: Plaster, hardcoat, skim coat, or other alkaline surfaces should be allowed to cure for at least 7 days and preferably 30 days prior to priming and painting. The pH of the substrate must be less than 13 before priming with this alkali resistant primer.
STUCCO: New stucco should cure for at least 7 days and preferably 30 days prior to priming and painting. The pH of the substrate must be less than 13 before priming with this alkali resistant primer. Surface chalk from the curing or aging process should be removed then sealed with an appropriate sealer to rebind and restore the surface to a sound condition.

TILT-UP or PRE-CAST CONCRETE: New tilt-up or pre-cast should cure for at least 30 days and preferably 90 days prior to priming and painting. The pH of the substrate must be less than 13 before priming with this alkali resistant primer. Moisture content should be less than 12% prior to priming and topcoating. All bond breakers, release agents, and admix plasticizers must be removed to prevent adhesion problems. Bond breakers and similar surface contaminants should be removed as directed by the tilt-up manufacturer which can include specific cleaners, powerwashing, and/or surface profiling by mechanical methods. Surface chalk from the curing or aging process should be removed then sealed with an appropriate sealer to rebind and restore the surface to a sound condition. Additional surface preparation guidelines can be found by referring to Technical Bulletin AF-2008-8 Guide on Painting Tilt-Up Concrete. Information or a copy of the bulletin can be obtained by calling 1-800-441-9695.

WOOD: Unpainted wood or wood in poor condition should be sanded smooth, wiped clean, then primed. Any knots or resinous areas must be primed before painting. Countersink all nails, putty flush with surface, then prime.

TINTING AND BASE INFORMATION

Refer to color formula book, computer color matching system, or automatic tinting equipment for color formulas and tinting instructions.

4-603 White (Tintable)

RECOMMENDED PRIMERS

None Refer to Surface Preparation Recommendations

LIMITATIONS OF USE

Apply only when air and surface temperatures are above 35°F (2°C) and surface temperature is at least 5°F (3°C) above the dew point. Air and surface temperatures must remain above 35°F (2°C) for the next 24 hours. Avoid exterior application late in the day when dew and condensation are likely to form or when rain or snow is expected. For optimum application properties, bring material to at least 50ºF (10ºC) prior to application. Surface pH limitation is 7-13. For maximum stain resistance, allow 24 hours before applying topcoat. Drying is important to stain-blocking properties; if drying conditions are poor (low temperature, high humidity), longer drying times are required to achieve stain blocking.

PROTECT FROM FREEZING

USE WITH ADEQUATE VENTILATION. KEEP OUT OF REACH OF CHILDREN.

PACKAGING

1-Gallon (3.78L)
5-Gallon (18.9L)

PPG Industries, Inc.
Architectural Coatings
One PPG Place
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www.ppgpro.com

Technical Services
1-800-441-9695
1-888-807-5123 fax

Architect/Specifier
1-888-PPG-IDEA

PPG Canada, Inc.
Architectural Coatings
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Brampton, ON L6T 5E4

B4.2 5/2012
(Supersedes 2/2012)

Made in the USA