



# Protective & Marine Coatings

## GENERAL POLYMERS® 4685 POLY-COTE™ URETHANE

PART A GP4685 SERIES  
PART B GP4685B01 STANDARD HARDENER

Revised September 24, 2014

### PRODUCT INFORMATION

#### PRODUCT DESCRIPTION

**GENERAL POLYMERS 4685 POLY-COTE** is a high solids, aliphatic polyurethane enamel. It is non-yellowing, high gloss and provides excellent chemical resistance. GENERAL POLYMERS 4685 POLY-COTE allows urethane protection of coated surfaces in occupied facilities, and is easily installed over most systems.

#### ADVANTAGES

- UV Stable
- High solids
- Acceptable for use in USDA inspected facilities
- Excellent chemical resistance
- Abrasion resistant
- High gloss
- Resistant to Betadine staining
- Scuff resistant
- Available with an antimicrobial agent

#### TYPICAL USES

**GENERAL POLYMERS 4685 POLY-COTE** is ideally suited for coating industrial and decorative systems in commercial, retail and high traffic areas. Suitable for use in the Mining & Minerals Industry

#### LIMITATIONS

- Slab on grade requires vapor/moisture barrier.
- Substrate must be structurally sound, dry and free of bond inhibiting contaminants.
- **Urethane floor coatings, specifically POLY-COTE, will show staining of tire marks from some brands of tires.**
- During installation and initial cure cycle substrate and ambient air temperature must be at a minimum of 60°F (16°C) and a maximum of 90°F (32°C). Substrate temperature must be at least 5°F (3°C) above the dew point.
- Humidity must not exceed 80%.
- When required, adequate ventilation shall be provided and proper clothing and respirators worn.
- DO NOT PREMIX PART B HARDENER.
- Must be applied over primed and/or coated surface.
- If an additional coat of this product is required, it is recommended the surface be sanded with a fine grit medium, (150 grit or finer), and then solvent wiped prior to recoating even if within the recoat window.
- **Strictly adhere to published coverage rates.**

#### SURFACE PREPARATION

Proper inspection and preparation of the substrate to receive resinous material is critical. Read and follow the "Instructions for Concrete Surface Preparation" (Form G-1) for complete details.

#### PRODUCT CHARACTERISTICS

<b>Color:</b>	Clear, Standard and Custom Colors
<b>Mix Ratio:</b>	1:1
<b>Volume Solids:</b>	99% ± 2%, mixed
<b>Weight Solids:</b>	99% ± 2%, mixed
<b>VOC (EPA Method 24):</b>	<50 g/L mixed; 0.41 lb/gal
<b>Viscosity, mixed:</b>	525 cps

#### Recommended Spreading Rate per coat:

	Minimum	Maximum
<b>Wet mils (microns):</b>	4 (75)	5 (125)
<b>~Coverage sq ft/gal (m<sup>2</sup>/L):</b>	300 (7.6)	400 (10.2)

#### Drying Schedule @ 4 mils (100 microns) wet:

	<b>@ 73°F (23°C)</b>
<b>To touch:</b>	8-10 hours
<b>To recoat:</b>	24 hours
<b>Full Cure:</b>	3 days
<i>If maximum recoat time is exceeded, abrade surface before recoating.</i>	
<i>Drying time is temperature, humidity, and film thickness dependent.</i>	
<b>Pot Life:</b>	gallon mass 30minutes @ 73°F (23°C)

**Shelf Life:** Part A: 12 months, unopened  
Part B (Standard): 12 months, unopened  
Store indoors at 50°F (10°C) to 90°F (32°C)

**Flash Point:** >212°F (>100°C), ASTM D 93, mixed

#### PERFORMANCE CHARACTERISTICS

Test Name	Test Method	Results
<b>Abrasion Resistance</b>	ASTM D4060, CS17 wheel, 1000 cycles	20-30 mg loss
<b>Adhesion</b>	ASMT D 3359	Pass
<b>Flammability</b>		Self-extinguishing over concrete
<b>Gloss @ 73°F/23°C, 50%RH</b>	60° Gloss Meter	85 millage points
<b>Impact Resistance</b>	ASTM D 2794	Direct inch-pound greater than 160, passes Reverse, inch-pound greater than 160, passes
<b>Pencil Hardness</b>	ASTM D 3363	2H
<b>Resistance to Elevated Temperature</b>	MIL-D-3134J	No slip or flow at required temperature of 215°F (102°C)
<b>Tensile Strength</b>	ASTM D 638	2,000 psi



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#### APPLICATION

- APPLICATION INSTRUCTIONS**

DO NOT PREMIX PART B HARDENER.

1. Premix 4685A (resin) using a low speed drill and Jiffy blade. Mix for one minute and until uniform, exercising caution not to introduce air into the material.
2. Add 1 part 4685A (resin) to 1 part 4685B (hardener) by volume. Mix with low speed drill and Jiffy blade for three minutes and until uniform. To insure proper system cure and performance, strictly follow mix ratio recommendations.
3. Apply 4685 using a 1/4" nap roller at a spread rate of 300-400 square feet per gallon, evenly, with no puddles making sure of uniform coverage. **Take care not to puddle materials and insure even coverage.** If a second coat is required, the surface must be abraded with 80-120 grit paper or screen and tack wiped prior to second application.
4. Allow to cure 24 hours minimum before opening to traffic. In cool and/or high humidity conditions, a surface film may form which can be washed with soap and water.

#### ORDERING INFORMATION

Packaging:	
Part A:	1 gallon (3.8L) and 5 gallon (18.9L) containers
Part B:	1 gallon (3.8L) containers 5 gallons (18.9L) containers
Weight:	10.7 ± 0.2 lb/gal; 1.28 Kg/L mixed, may vary by color

#### CHEMICAL RESISTANCE

For comprehensive chemical resistance information, consult the Chemical Resistant Guide and contact the Technical Service Department.

#### CLEANUP

Clean up mixing and application equipment immediately after use. Use toluene or xylene. Observe all fire and health precautions when handling or storing solvents.

#### SAFETY

Refer to the MSDS sheet before use.

Published technical data and instructions are subject to change without notice. Contact your Sherwin-Williams representative for additional technical data and instructions.

#### MAINTENANCE

Occasional inspection of the installed material and spot repair can prolong system life. For specific information, contact the Technical Service Department.

#### SHIPPING

- Destinations East of the Rocky Mountains are shipped F.O.B. Cincinnati, Ohio.
- Destinations West of the Rocky Mountains are shipped F.O.B. Victorville, California.

For specific information relating to international shipments, contact your local sales representative.

#### DISCLAIMER

The information and recommendations set forth in this Product Data Sheet are based upon tests conducted by or on behalf of The Sherwin-Williams Company. Such information and recommendations set forth herein are subject to change and pertain to the product offered at the time of publication. Consult your Sherwin-Williams representative to obtain the most recent Product Data Information and Application Bulletin.

#### WARRANTY

The Sherwin-Williams Company warrants our products to be free of manufacturing defects in accord with applicable Sherwin-Williams quality control procedures. Liability for products proven defective, if any, is limited to replacement of the defective product or the refund of the purchase price paid for the defective product as determined by Sherwin-Williams. NO OTHER WARRANTY OR GUARANTEE OF ANY KIND IS MADE BY SHERWIN-WILLIAMS, EXPRESSED OR IMPLIED, STATUTORY, BY OPERATION OF LAW OR OTHERWISE, INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.