



Protective & Marine Coatings

GENERAL POLYMERS® 4638 HS POLYURETHANE FLOOR ENAMEL

PART A
PART B

GP4638
GP4638B01

SERIES
STANDARD HARDENER

Revised February 10, 2015

PRODUCT INFORMATION

PRODUCT DESCRIPTION

GENERAL POLYMERS 4638 HS POLYURETHANE FLOOR ENAMEL is a tough, high-gloss, durable finish used as a stand-alone coating system or an optional topcoat over other General Polymers high-build flooring systems. GENERAL POLYMERS 4638 HS POLYURETHANE FLOOR ENAMEL is formulated to meet the tight VOC restrictions imposed by many states. It resists UV degradation, certain aggressive chemicals and possesses superior gloss retention.

ADVANTAGES

- Outstanding resistance to a wide range of chemical, weather and mechanical conditions
- Excellent wear
- High gloss retention
- UV (Ultraviolet) light stable
- Abrasion and impact resistant
- Suitable for use in USDA inspected facilities
- Auto service centers, airport hangars
- Skydrol resistant

TYPICAL USES

GENERAL POLYMERS 4638 HS POLYURETHANE FLOOR ENAMEL is designed as a finish coat on flooring systems used in warehouses, commercial facilities, aircraft hangars, automobile dealerships and pharmaceutical facilities.

LIMITATIONS

- Urethanes are sensitive to environmental conditions.
- Slab on grade requires vapor/moisture barrier.
- Substrate must be structurally sound and free of bond inhibiting contaminants.
- During installation and initial cure cycle, substrate and ambient air temperature must be at a minimum of 60°F (16°C) and 90°F (32°C) maximum. Substrate temperature must be at least 5°F (3°C) above the dew point (for lower temperature installation contact the Technical Service Department).
- When required, adequate ventilation shall be provided and proper clothing and respirators worn.
- Do not premix Part B hardener.
- Humidity must not exceed 80%
- Do not install in open areas during rain.
- **Strictly adhere to published coverage rates.**
- **This coating though resistant, is not a guarantee against tire staining. Vehicular tires from cars and trucks to tractors and boat trailers are varied and have the potential to leave a stain under certain conditions. Place rubber mats or carpet pieces under the tires to avoid the issue.**

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

Color:	Clear, Standard and Custom Colors
Mix Ratio:	2:1
Volume Solids:	71% ± 2%, mixed
Weight Solids:	90% ± 2%, mixed
VOC (EPA Method 24):	Unreduced <250g/L mixed; 2.1 lb/gal Reduced 10% <340g/L; 2.8 lb/gal
Viscosity, mixed:	1,500 cps

Recommended Spreading Rate per coat:

	Minimum	Maximum
Wet mils (microns):	3 (75)	4.5 (112)
~Coverage sq ft/gal (m²/L):	355 (9.0)	533 (13.5)

Drying Schedule @ 4 mils (100 microns) wet:

	@ 73°F (23°C)
To touch:	2 hours
To recoat:	6-24 hours
Light foot traffic:	12 hours
Heavy traffic:	72 hours
Full Cure:	7 days

*If maximum recoat time is exceeded, abrade surface before recoating.
Drying time is temperature, humidity, and film thickness dependent.*

Pot Life:	gallon mass	4 hours	@ 73°F (23°C)
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Shelf Life:	Part A: 36 months, unopened Part B: 24 months, unopened Store indoors at 50°F (10°C) to 90°F (32°C)
Flash Point:	102°F (39°C), ASTM D 93, mixed
Reducer/Clean Up:	Reducer R6K30 or R7K225

PERFORMANCE CHARACTERISTICS

Test Name	Test Method	Results
Abrasion Resistance	ASTM D4060, CS17 wheel, 1000 cycles	63 mg loss
Adhesion	ACI503R	350 psi concrete failure
Coefficient of Friction	ASTM F 1679	0.5 min dry 0.6 dry with Shark Grip Additive
Flammability		Self-extinguishing over concrete
Gloss @ 73°F/23°C, 50%RH	60° Gloss Meter	85 millage units
Impact Resistance	ASTM D 2794	Direct inch-pound greater than 100, passes Reverse, inch-pound greater than 100, passes
Pencil Hardness	ASTM D 3363	2H
Resistance to Elevated Temperature	MIL-D-3134J	No slip or flow at required temperature of 158°F (70°C)

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APPLICATION

APPLICATION INSTRUCTIONS

Recommended Primers: for concrete:
3504, 3579 (epoxy primers)

Recommended Primers: for tile:
5531 Pre-primer with 3504 Epoxy Primer

1. Premix 4638A (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 2 parts 4638A (resin) to 1 part 4638B (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 4638 using a 1/4" nap roller at a spread rate of 355-533 square feet per gallon, evenly, with no puddles making sure of uniform coverage. **Take care not to puddle materials and insure even coverage.**
4. Allow to cure 12 hours minimum before opening to light foot traffic.

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:	10.0 ± 0.2 lb/gal; 1.20 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.