



SPECIALTY CONSTRUCTION PRODUCTS

Guidelines for installation of Duraguard 401 / Duraguard 401-30E High Molecular Weight Methacrylate Penetrating Sealer

Materials Needed

- Personal protection safety glasses or goggles, gloves, solvent resistant shoes, long sleeves and pants.
- Shot blaster or sand blaster, brooms, shovels.
- Measuring containers several of each, 16 oz-500 ml and 32 oz-1000 ml these would be appropriate for 5-gallon mix others may be necessary depending on mix size.
- Mixing containers if working from bulk.
- Thermometer for checking surface temperature.
- ½" variable speed drill with Jiffiler type mixing prop, mixing container, equipment to move and place mixed material.
- Squeegees, Brooms, long handled paint rollers with several solvent resistant pads.
- **Clean dry sand** for skid resistance.

Surface Preparation; Remove dirt and debris from the area of the deck to be treated. Sandblast or shot blast, then with the use of a manual or power broom sweep and blow with compressed air so that the surfaces to which the sealer is to be applied is dry and free of dust, dirt, paint asphalt and other contaminants. Use high pressure compressed air to blow all loose material from visible cracks.

Installation; Store materials at 65-80 °F (18-27 °C). The temperature of the surfaces to be treated may range from 50 °F (10 °C) to 120 °F (49 °C). **Do not allow the promoter, part B and catalyst part C to contact each other directly. Do not store containers of promoter or catalyst together in a manner that will allow leakage or spillage from one to contact the containers or materials of the other.** Prior to resin application the surface to be treated shall be visibly dry and its temperature between 50° F (10° C) and 120° F (49° C). Do not apply the resin within 24 hours after a rain or when rain is forecast within 12 hours or when the ambient air temperature is below 50° F (10° C). Pre-mark the deck to control mixed material usage and to provide a rate of application of approximately 100-125 square feet per gallon (2.45m²/L). Refer to the chart for proper mix ratio of part A resin with part B promoter and part C catalyst based on surface temperature. Mix the appropriate amount of part B promoter with part A resin with drill mixer for 1 minute, continue mixing and add the proper amount of part C catalyst and mix for another full minute. **Immediately disburse the mixed resin container onto the deck surface, immediately, within 1-2 minutes of mixing,** dispersing the mix on the deck reduces mass heat generation slowing catalyzation. Flood the deck surfaces with mixed resin, allowing penetration into the concrete and filling of all cracks. **Limit the initiated mix of catalyzed resin to 5 gallons (19 L) at a time for manual application until a level a comfort is reached.**

A significant increase in viscosity shall be cause for rejection. Apply the treatment within 3 minutes after complete mixing. Redistribute excess material by squeegee or brooms within 10 minutes after application.

Broadcast sand over the entire treated area of the deck to affect a uniform coverage of 0.80 to 1.2 pounds per square yard (0.43 kg/m² to 0.65 kg/m²). Best 1020 sand from Fairmont minerals meets this grading.

SIEVE SIZE	% PASSING MAX.
No. 4 (4.5mm)	100
No. 8 (2.36mm)	90 - 100
No. 20 (850µm)	5 -15
No. 50 (300µm)	0 - 5

The sand shall be uniformly graded clean and dry aggregate. Place sand between 10 to 15 minutes behind the resin spreading front and before any jelling of the resin occurs. The sand must be back rolled with a paint roller to encapsulate it on the deck prior to resin thickening. If the surface contains large deep cracks, the low-viscosity liquid could run completely through the concrete slab. Apply a second coat in these areas after the first coat has started to cure. Before the monomer hardens, fill imperfections or spalls with standing liquid with sand, and finished to a uniform surface. Do not permit traffic and equipment on the treated deck until it is tack free and a minimum of 6 hours have elapsed since treatment and the sand cover adheres sufficiently to resist brushing by hand.

Alternative bulk mixing; Do not cross contaminate mixers or containers. Divide part A resin into two equal portions in separate containers. Add part B promoter to one container of part A resin and mix one minute. Add part C catalyst to the second container of part A resin and mix one minute. Combining the two part A portions, one mixed with part B promoter and the other mixed with part C catalyst, will begin the polymerization reaction.

After properly blending as described above, combine the two portions (one containing part A resin and part B promoter, the other containing part A resin and part C catalyst) and mix for 1 minute. For spray bar application, mix the part A/part B blend and the part A/part C blend through a static mixer in the feed line. Calibrate the valves to the static mixer to ensure a one to one mixing ratio of the two blends.

Limit the initiated mix of catalyzed resin to 5 gallons (19L) at a time for manual application until a level a comfort is reached. Completely empty the mix container prior to starting the next mix.

If a container is reacted part B and part C added to Part A) and not distributed promptly the reaction can become uncontrolled and develop extraordinary heat. If possible to do so safely place container away from flammables and stay out of fumes. The material itself is not likely to burn however the paper labels and paint on the container may. The safest action is to allow the material to react and cool naturally berm of a closed lane is ideal away from flammables and people.

FLUID OUNCES OF PARTS B & C FOR 1 GALLON OR FOR 5 GALLONS OF PART A RESIN

Substrate Temp	Promotor (Pt B)		Catalyst (Pt C)		Cure Time	
	per gal	per 5 gal	per gal	per 5 gal	in Minutes	
					Touch	Traffic
50°F	3.0	15.0	6.0	30.0	380-580	580-860
60°F	2.5	12.5	5.0	25.0	290-430	480-720
70°F	2.0	10.0	4.0	20.0	190-290	380-580
80°F	1.5	7.5	3.0	15.0	140-220	340-500
90°F	1.0	5.0	2.0	10.0	100-140	290-430

These times are estimates and will vary with temperatures, ambient and surface, humidity, and sunlight conditions

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