Application Specification

VLW LIGHTWEIGHT UNDERLAYMENT, Type III

(with Separately Packaged Primer)

Purpose and Scope

To outline instructions for the application of VLW Lightweight Underlayment, Type III, with a separately packaged primer. A 100% solid, 0 VOC, general-use, epoxy resin base interior deck covering underlayment designed for application under all types of deck covering materials. Qualified to QPL-PRF-3135 Type III, Class 2, Grade B.

Thickness

Minimum: From Featheredge of 0", maximum of 3" per application. Most smoothing applications are a nominal ¼" (6.35 mm) thickness.
Use multiple applications when thicknesses greater then 3" are required.

Approximate Quantity of Materials Required

To Cover ONE HUNDRED SQ. FT (9.3 sq. Meters)

	Thickness 1/4 inch (6.35 mm)
VLW Primer ½ Gal Unit	1 unit
Or One Gal Unit	0.5 unit
VLW Lightweight Underlayment Resins	3.7units
VLW Lightweight Underlayment Aggregate (17 lbs. bag)	3.7 units

NOTE: Coverage for one unit of VLW Lightweight Underlayment Type III is 27 square feet at a strict ¼" thickness. This does not allow for varied application thicknesses, irregularities in the steel deck plate substrate, or waste. When estimating material requirements, we recommend that a minimum additional 15% - 20% material be available to allow for these contingencies, actual material consumption can only be determined after an in depth site survey. When weight consideration is of major importance, use screed bars to determine the existing deck profile and conformity, then apply VLW Lightweight Underlayment to a minimum thickness.

Equipment Required

Mixing Blade mounted in slow speed (275-600 RPM), 3/4" (19 mm) drill
Mixing Container(s) (metal recommended over PVC)
Jiffy Blade, (small size)
Rubber-Edged Plasterer's Squeegees, one 12" (30 cm) and one 6" (15 cm)
Steel Trowel, (3" x 12"), (8 cm x 30 cm)
Plasterer's Steel Trowel, (4" x16"), (10 cm x 40 cm)
High Intensity Lighting, preferably deck level
Approved solvent for cleaning tools
All required Personal Protective Equipment, gloves, safety glasses, hand cream, etc.

Surface Preparation

METAL: Deck surfaces shall be prepared in accordance with SSPC SP 11/NACE 6, to remove all mill scale, rust, paint, etc., to gray steel or as specified. Surface should be dry and free of rust, dirt, oil or grease before VLW Lightweight Underlayment is installed

Decks that have been properly prepared and primed with Navy Formula 150 Primer, MIL-DTL-24441, EURONAVY ES301K Primer, or Pre-Construction Primer (PCP, Zinc Silicate), should be prepared in accordance with SSPC SP 1 and allowed to dry completely before application of VLW Lightweight Underlayment. If any rusting is evident, prepare in accordance with SSPC SP 3 and SP 1; do not proceed with application until approved by supervising authority.

Material Temperature

The temperature of the materials should be between 65ºF to 80ºF (18ºC to 29ºC) for best mixing and application properties.

Ambient Temperature

For best working properties the ambient room temperature should be between 65ºF to 80ºF (18ºC to 24ºC). However, VLW can be installed in ambient temperatures as low as 55°F to as high as 100°F. However, workability will be adversely affected. A minimum temperature of 55°F and maximum

temperature of 100°F must be maintained during and for at least 24 hours after application for proper curing.

Substrate Temperature

Deck surface and room temperature of 65ºF to 80ºF (18ºC to 24ºC) should be maintained for at least 24 hours prior to and after installation for proper curing.

APPLICATION

STEP ONE – Primer

VLW Primer

Mix Ratio: 4A:1B	Pot Life: 25 - 35 min
Cure Time: 4 hrs. – 8 hrs.	Recoat Time: wet – 48 hrs.
Coverage: 250 sq. ft./gal	DFT: 6-7 mils

The VLW Primer A & B Components are supplied as a unit in two separate containers.

After the surface to be covered has been properly prepared and proper environmental conditions have been verified, pour the contents of the can containing VLW Primer Component B into the can containing Component A. Blend thoroughly with a low rpm drill motor (600 rpm) and a "Jiffy" blade or other mechanical means for two (2) minutes. VLW Primer has a pot life of approximately 1/2 hours at an ambient temperature of 70°F to 75°F, (21°C to 24°C). The working time of the material will be lengthened if it is either poured out of the mixing pail onto the surface and then worked from there, or poured into a wide receptacle, (such as a paint roller tray), and then worked from that.

A ½ gallon unit of VLW Primer will cover approximately 100 - 125 sq. ft. (9.29 m^2) a one gallon unit will cover 200- 225 sq. ft. (18.58m^2) on steel decking when applied with squeegee.

VLW Primer may be applied in any one of three techniques, as follows:

A. Apply to small area in a very thin coat with brush, trowel, or squeegee immediately prior to placement and application of VLW III Underlayment, **LEAVING NO PUDDLES.**

B. Apply as above to large area and subsequently install VLW III Underlayment over wet VLW Primer with mechanics working on kneeboards.

C. Apply the Primer to large area and sprinkle a small amount of dry VLW III Underlayment Aggregate on the wet Bondcoat surface. Apply VLW III Underlayment the next day (within a 24 hour period). The aggregate will produce a "tooth" which will keep the VLW III Underlayment from sliding on the dried Bondcoat surface.

STEP TWO – Lightweight Underlayment

VLW III Underlayment

Mix Ratio: 4A:1B: 17 lbs. agg	Pot Life: 20 - 25 min
Cure Time: 6 hrs. – 12 hrs.	Recoat Time: 12 hrs.
Coverage: 27 Sq. Ft. @ ¼"	DFT: 1 - 3000 mils

The VLW resin components are supplied as a unit in two separate containers.

1. After the surface to be covered has been properly prepared, and proper environmental conditions have been verified, pour the contents of the can containing VLW Lightweight Underlayment component B hardener (in a quart can) into the A Component resin (in a gal can) being sure to scrape out all the B Component. Mix the resin with a low rpm drill motor (600 rpm) and a "Jiffy" blade for approximately one minute, or until thoroughly mixed.

2. Pour the blended resins into a suitable size container (5 – 10 gal. pail) and then slowly add the aggregate. Mix with a mortar style mixing blade mounted in a slow-speed (600 RPM) 3/4" drill (Duo Mixers are recommended for fast thorough mixing), or Koll style bucket mixer. Do not over mix. Mix until aggregates are thoroughly wetted out. "Box" the mixed material into clean pails and re-blend to be sure binder

liquid is uniformly coating the aggregate particles.

3. VLW Lightweight Underlayment mix will give a workable composition with a pot life of 20-25 minutes (from when the resins are first mixed) at an ambient temperature of 70ºF to 75ºF (21ºC to 24ºC), capable of being troweled from a featheredge to 3" in thickness in one application.

4. Place the required amount of VLW Lightweight Underlayment matrix onto the area previously coated with the priming resin, and screed out with a screed bar or trowel. Rake the material to the approximate finished thickness. Use a tamping, screeding motion to work material generally into place.

5. Compact the material into a tight surface with a 4" x 16" (10 cm x 40 cm) rectangular trowel. Work the material into a smooth even surface with desired leveling or sloping as required.

The working time of VLW Lightweight Underlayment is approximately 20-25 minutes (from when the resins are first mixed) at an ambient temperature of 70ºF to 75ºF (21ºC to 24ºC). A one-unit mix should cover approximately 27 sq. ft. at 1/4" (6.35 mm) thickness.

Overnight cure is desirable before application of Dex-O-Tex Elastaguard (corrosion containment membrane) or any other deck finish.

Cautions

1. For proper workability it is important the Dex-O-Tex materials be stored and mixed at a temperature of 65ºF-80ºF.
2. The substrate temperature should be between 65ºF-80ºF. A warm substrate will decrease the pot life and make the material sticky. A cooler substrate will retard the cure and may cause a blush of the polymeric resins. Deck surface and room temperature of 65ºF or slightly higher must be maintained for proper curing.
3. When mixing the polymeric resin components, be sure to use all of the provided resins. The resins are pre-measured to the correct ratios. Scrape all of the hardener from the container into the resin.
4. Do not turn mixing vessels upside down to drain on the flooring surface. Unmixed resin from the side may produce soft or uncured spots on the flooring surface.
5. Keep the unfinished flooring surface clean. Do not track dirt, grease, or any other contaminate onto the unfinished flooring.
6. Good ventilation must be provided during application, particularly in confined spaces.
7. Always obtain, read and observe Manufacturers Safety Data Sheets (MSDS) before handling polymeric materials. Become familiar with the products on paper before you open the cans.

General Conditions for Safe Handling of Polymeric Resinous Flooring Systems

1. Read and observe precautionary statements on product labels.
2. Keep containers tightly closed.
3. Keep out of reach of children.
4. For industrial use only. Do not allow application by untrained workers.
5. Remove contaminated clothing and shoes. Wash clothing before re-use.
6. Use of safety goggles and chemical resistant gloves is recommended. Wear only full-length trousers and log-sleeve shirts. Apply protective creams to exposed skin areas.
7. In general, prolonged contact of polymeric resins with skin may cause irritation. Contact with curing agents may cause skin burns. Products may cause skin sensitization or other allergic responses. Avoid all contact with eyes.
8. In case of contact with skin, immediately remove the material with soap and water. Upon completion of work at lunchtime or end of day, carefully check all skin surfaces for any traces of polymeric resins. Wash with soap and water. If wash facilities are not located nearby, establish water-washing station at work site. DO NOT use solvents to remove polymeric resins from skin, as solvents will drive polymeric resins deeper into

skin. If redness or skin rash develop, consult a physician.

9. In the event of eye contact, flush immediately with plenty of water for at lease 15 minutes. Consult a physician immediately.
10. Mix and apply polymeric resin materials only in conditions of good ventilation. Avoid breathing vapors. A fan to circulate fresh air may be needed. Certain polymeric resin products and/or certain working conditions require use of NIOSH/MSA organic vapor respirator. Consult MSDS.
11. First Aid for inhalation: if effects occur, remove patient to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. If breathing is difficult, give oxygen. Get immediate medical attention.

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