KEMPER SYSTEM

Technical Data Sheet

KEMPEROL® 2K-PUR

Work Pack includes:
Component A: Beige Formulation, Component B: Brown Formulation

Product Description

KEMPEROL® 2K-PUR is a two-component, UV-stable, "odor-free," solvent free, Low VOC, high performance cold liquid-applied waterproofing and roofing resin.

KEMPEROL® 2K-PUR reinforced membrane system can be surfaced with traffic coatings, reflective coatings, aggregate surfacing coatings and other granular materials to achieve a desired function and appearance.

Composition & Materials

A monolithic membrane is created in the field by combining the KEMPEROL® 2K-PUR two-part, cold liquid-applied reactive-cure polyurethane resin with KEMPEROL® polyester reinforcing fleece.

Use

KEMPEROL® 2K-PUR membrane is suitable for a wide range of interior and exterior applications including roofs, plazas, balconies, terraces, planters, foundations, mechanical rooms, water features, and other waterproofing applications.

Interior or exterior applications of KEMPEROL® 2K-PUR membrane exposed to UV-light may yellow or discolor. Use of a coating or aggregate surfacing systems are recommended where colorfast applications are required.

Limitations

KEMPEROL® 2K-PUR may be applied when the ambient temperature is 41 °F (5 °C) and rising, and the substrate temperature is a minimum of 5 degrees above the dew point. The maximum application temperature is approximately 90 °F (32 °C).
Note: Viscosity increases with falling temperature. For temperatures below 50 °F (10 °C), KEMPEROL® A 2K-PUR Accelerator should be added to component A to reduce set time.

Yield

KEMPEROL® 165 Fleece: 38 ft² (3.53 m²) per 12.5 kg work pack.
KEMPEROL® 120 Fleece: 45 ft² (4.20 m²) per 12.5 kg work pack.
Note: All yields are approximate and may vary depending upon smoothness and absorbency of substrate.

Storage

Always store in cool and dry location. Do not store in direct sunlight or in temperatures below 50 °F (10 °C) or above 80 °F (27 °C). Approximate shelf life 12 months with proper storage.

For best use, 24 hours before application, the material is to be acclimated at temperatures between 65-70 °F (18-21 °C).

Precautions

Review Safety Data Sheets before handling, available online at www.kempersystem.net.

Surface Preparation

All surfaces must be free from gross irregularities, loose, unsound or foreign material such as dirt, ice, snow, water, grease, oil, release agents, lacquers, or any other condition that would be detrimental to adhesion of the primer and membrane. This requires careful preparation of existing horizontal and vertical substrates; cracks are filled, expansion joints are prepared, flashings are removed or modified, and termination points are determined. Substrates and penetrations are prepared to rigorous industry standards, and may require scarifying, sandblasting or grinding in some cases to achieve a suitable substrate.

Priming

After substrate preparation, temporary watertightness may be achieved with the application of KEMPERTEC® D Primer or EP Primer and Joint Sealant. Alternatively, the use of quick-cure KEMPERTEC® R or EP5 Primer may allow same-day membrane application. Refer to the appropriate KEMPERTEC® primer technical data sheet for application instructions.

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Sustainability Information	
% Biobased Carbon Content ASTM D6866-21	51%
Recycled content % (post / pre)	0/0
Manufacture location	Buffalo, NY

Allow primer to cure completely prior to application of the KEMPEROL® membrane.
Note: Prior to opening the containers of KEMPEROL® 2K-PUR Resin.

Membrane Properties		
Physical Property	**Test Method**	**Value**
Color		Yellow-Gray
Physical State		Cures to Solid
Thickness (165 Fleece)	D5147	80 mils
VOC Content CDPH Standard Method V1.2 TVOC Concentration		6 g/l Pass ≤ 0.5 mg/m³
Peak Load @ 73 ºF, avg.	D5147	>70 lbf/in
Elongation	D5147	Min 30%
Tearing Strength	D5147	90 lbf
Puncture Resistance	D5602	56 lbs.
Dimensional Stability	D1204	0.15%
Water Absorption	D570	< 1%
Impact Resistance	D2240	Shore A:75 +/- 5
Water Vapor Transmission	E96	0.08 Perms
Crack Spanning		2 mm/0.08 inch
Short-Term Temperature Resistance		250 ºC / 482 ºF
Usage Time*		30 minutes
Water Resistant After*		2 hours
Solid To Walk On After*		24 hours
Can Be Driven On After*		48 hours
Apply Coating/Surfacing After*		16-48 hours
Apply Overburden After*		48 hours
Completely Hardened*		3 days

** values obtained at 73°F, 50% relative humidity, may vary depending upon air flow, humidity and temperature.*

Mixing of Resin

Step 1: Mix resin Component A (beige formulation) with a spiral agitator until the liquid is a uniform cream color.

Step 2: If the ambient temperature is below 50°F (10°C), A2K-PUR Accelerator, a cold weather additive, should be mixed into the Component A. The accelerator should be mixed with the spiral agitator for 2 minutes or until both liquids are thoroughly blended.

Step 3: Add hardener Component B (brown formulation) to Component A and mix with a spiral agitator for 2 minutes or until both liquids are thoroughly blended.

NOTE: DO NOT break down workpacks into smaller quantities – mix the entire workpack.

Application (165 Fleece)

Step 1: After the Resin is mixed, using a KEMPEROL® roller nap or brush, apply 1/2 of the resin liberally and evenly onto the surface in even stroke; covering one working area at a time, between 10 - 15 ft².

Step 2: Roll the KEMPEROL® Fleece directly into the resin, making sure the SMOOTH SIDE IS FACING UP (natural unrolling procedure), avoiding folds and wrinkles. Use the roller or brush to work the resin into the fleece, saturating from the bottom up. The appearance of the fleece should be opaque yellow/gray with no white spots. White spots are indications of unsaturated fleece or lack of adhesion. It is important to correct these areas before proceeding.

Step 3: Apply the remaining 1/2 of the resin to the top of fleece to complete the saturation. Rolling the final coat of resin onto the fleece should result in a glossy appearance. The fleece can only hold so much resin and all excess should be rolled forward to the unsaturated portion of the fleece. The correct amount of resin will completely saturate the fleece with no dry fleece visible. Work wet membrane to avoid any blisters, openings, or lifting at corners, junctions, and transitions. Always assure full resin saturation of fleece.

Surfacing

KEMPEROL® 2K-PUR Membrane accepts a wide variety of KEMPERDUR® topcoats and aggregate surfacings for aesthetic or mechanical wear. The KEMPEROL® 2K-PUR membrane must be surfaced within 16-48 hours of membrane application to ensure proper bond between the membrane and surfacing. After the 48 hour window the membrane will require surface abrasion.

Disposal

Cured 2K-PUR resin may be disposed of in standard landfills. This is accomplished by thoroughly mixing all components. Uncured 2K-PUR resin must be handled in accordance with local, state and federal regulations. Do not throw uncured resin away.

Ordering Information

KEMPEROL® 2K-PUR work pack:

Item#:	Size:
327-47-025	0.49 US GAL (1.93L) • 2.5 kg
327-47-055	0.98 US GAL (3.90L) • 5.0 kg
327-47-105	2.46 US GAL (9.12L) • 12.5 kg