

TECHNICAL DATA SHEET

PE 100 VRM: MOISTURE VAPOR BARRIER EPOXY

DESCRIPTION

PE 100 VRM is a clear 2-component, 100% solids, low odor, low viscosity epoxy that is specifically formulated as a moisture barrier coating to treat new and existing concrete floors with high moisture and high pH. PE-VRM can be used as a one-coat moisture vapor barrier coating suitable for various types of concrete. The low viscosity formula not only promotes deeper concrete penetration for superior substrate adhesion, but also generates higher propensity for sealing and blocking moisture drive than standard epoxy flooring product.

This product is compatible with PurEpoxy pigment concentrates.

ADVANTAGES

- Vapor Control for High Moisture and High pH Slabs
- Excellent Concrete Adhesion
- May apply several layers on itself with excellent adhesion.
- Controlled Vapor Pressure up to 25lbs.
- Contains no solvent with a very low VOC content (VOC = 75.4 g/L), allowing for interior application without harmful odors.
- Excellent adhesive properties, allowing application on other firm and hard coating, as well as a good bond to the substrate.

TECHNICAL DATA

PACKAGING	3 US gal (11.35 L) or 15 US gal (56.7 L)
COLOR	PART A: Clear or pigmented PART B: Clear to yellowish
RECOMMENDED THICKNESS	PRIMER (PE-100)
SOLID COLOR	10 to 16 mils (150 to 100 ft ² /gal)
SHELF LIFE	12 months in original unopened factory sealed containers. Keep away from extreme cold, heat, or moisture. Keep out of direct sunlight and away from fire hazards.
MIX RATIO, BY VOLUME	A:B = 2:1
MIX RATIO, BY WEIGHT	Clear: A:B = 100:41-48 Colors: A:B = 100:39-45 With quartz sand : A:B = 100:50 Mixture = 200
POT LIFE 16 OZ (454 G)	10-15 minutes @ 77°F (25°C)
WORKING TIME	40 minutes
VOC	75.4 g/L

PROPERTIES

@ 73°F (23°C) AND 50% R.H.

SOLIDS CONTENT, BY VOLUME	100%		
SOLIDS CONTENT, BY WEIGHT	100%		
DENSITY (KG/L)	PART A	PART B	MIX
CLEAR	1.10 - 1.18	0.9 - 1.0	-
THINNER RECOMMENDED	Xylene		
WAITING TIME/ OVERCOATABILITY	SUBSTRATE TEMPERATURE	MINIMUM	MAXIMUM
BEFORE APPLYING PE-100 OVER PRIMER	> 50°F (10°C)	24 hours	3 days
	> 68°F (20°C)	12 hours	2 days
	> 86°F (30°C)	6 hours	1 day
BEFORE APPLYING SECOND COAT OF PE-100	> 50°F (10°C)	30 hours	3 days
	> 68°F (20°C)	24 hours	2 days
	> 86°F (30°C)	16 hours	1 day
CURING DETAILS	SUBSTRATE TEMPERATURE	FOOT TRAFFIC	LIGHT TRAFFIC
			FULL CURE
	> 50°F (10°C)	30 hours	5 days
	> 68°F (20°C)	24 hours	3 days
	> 86°F (30°C)	16 hours	2 days
			5 days
SERVICE TEMPERATURE	-4°F to 122°F (-20°C to 50°C)		
VISUAL APPEARANCE	High Gloss		
CURING DETAILS	FOOT TRAFFIC: N/A LIGHT TRAFFIC: N/A FULL CURE: 7-8 days / 1/4 in (6 mm)		
BOND RESISTANCE (PSI), ASTM D4541	> 300 (substrate ruptures)		
PERMEABILITY (%), ASTM D570	0.3%		
HARDNESS (SHORE D), ASTM D2240	85-90		
ABRASIVE RESISTANCE, ASTM D4060 (CS17 / 1000 CYCLES / 1000 G)	0.10 g		
VISCOSITY @ 77°F (25°C)	PART A	PART B	MIX
CLEAR	1500-2500	200-400	1000-1200
TENSILE STRENGTH (PSI), ASTM D638	5500		
COMPRESSIVE STRENGTH (PSI), ASTM D695	14000		
FLAMMABILITY	Class I (Not considered Flammable, Flash Point > 199.4°F (93°C))		
ELONGATION (%), ASTM D638	6.7		
RESISTANCE TO MOLD GROWTH, ASTM D3273	Rated 10 (highest resistance)		
RESISTANCE TO FUNGI GROWTH, ASTM G21	Rated 0 (no growth)		

*Times are approximate and will be affected by changing ambient conditions, especially changes in temperature and relative humidity.

* The indicated mileage is calculated for flat surfaces. A porous or imperfect surface will require more material in order to cover the same mileage. *



SURFACE PREPARATION

CHECK FOR MOISTURE

Concrete must be dry before application of this floor coating material. Concrete moisture testing must occur. Calcium chloride testing or "In-situ" relative humidity testing is recommended. Readings must be below the defined threshold as specified for each Purepoxy system to be installed directly to the concrete substrate.

Floor temperature and materials should be between 65°F (18°C) and 90°F (32°C). Humidity must be less than 95%. DO NOT coat unless floor temperature is more than (5°F) over the dew point.

SURFACE PREPARATION

Concrete surface must be cleaned. BLASTAC, sand blasting, diamond grinder w/30 grit or coarse, or water blasting is highly recommended to remove surface contaminants. Any oils and fats must be removed prior to product application. Acid etching may be required (followed by a thorough rinsing) to open the pores of the concrete to accept a primer. Do not apply to wet substrates. Chloride, moisture, and pH levels should be checked prior to application.

The concrete should be allowed to cure for a minimum of 30 days. Compression resistance of concrete must be at least 25 MPa (3625 lb/inch²) after 28 days and traction resistance must be at least 1,5 MPa (218 lb/in²). BLASTAC, sand blasting, diamond grinder w/30 grit or coarser or acid etching (followed by a thorough rinsing) is required to remove the surface laitance that appeared during the curing process.

APPLICATION EQUIPMENT Tools: 3" Disposable brush, low speed drill (450 rpm) with a 3.5" Jiffler blade, 3/8" nap non-s

MIXING

The temperature of the (A) and (B) portions should be between 70° and 80°F (20°-25°C). Mix them separately to ensure a uniform consistency. For a 3 gallon kit add (Side-B) into (Side-A) in a 3.5 gallon bucket. Mix contents thoroughly until all components are completely incorporated and no streaking is observed. Thinning is not recommended. The portions of each side is accurately measured to ensure optimum product performance. Pouring from one container to the other (boxing) during mixing is very helpful in ensuring complete mixing. Mix for 2 minutes.

APPLICATION AND LIMITATIONS

PE-100 VRM is specially formulated to effectively bond to damp concrete substrates with up to 100% residual humidity, as well as to new concrete slabs installed within 30 days. Excessive humidity levels may indicate a hydrostatic pressure issue, typically caused by drainage failure or water leaks. Prior to installation, ensure that the underlying causes of hydrostatic pressure are addressed first.

The moisture vapor barrier properties are directly linked to the thickness of the coating. We recommend a thickness of 16mils for optimal performance. Vapor barrier protection increases with thicker and uniform thickness across the covered surface.

Using pigment dispersion or flakes directly in or over the PE-100 VRM may reduce the performance of the coating. If a colored coating is necessary, we recommend applying an unpigmented coat at 8 to 10 mils as a primer and wait for it to dry. Then use PE-100 VRM with PurEpoxy Universal pigment dispersion at 10 mils. The same application process can be achieved for a flake system instead of using pigment dispersion.

This product can be applied at various thicknesses, and a thicker film might cure faster than the indicated curing time. Temperature also affects curing; low temperatures will reduce curing speed, while high temperatures will significantly decrease working time and curing time. Leaving mixed material in a pail for too long can cause an exothermic reaction.

HEALTH AND SAFETY

In case of skin contact, wash with water and soap. In case of eye contact, immediately rinse with water for at least 15 minutes. Consult with a doctor. For respiratory problems, transport victim to fresh air. Remove contaminated clothes and clean before reuse.

Components A, B, and C contain toxic ingredients. Prolonged contact of this product with the skin is susceptible to provoke an irritation. Avoid eye contact. Contact with may cause serious burns. Avoid breathing vapors release from this product. This product is a strong sensitizer. Wear safety glasses and chemical resistant gloves. A breathing apparatus filtering organic vapors approved by the NIOSH/MSHA is recommended. Predict suitable ventilation.

** Consult the material safety data sheet for further information.**

IMPORTANT NOTICE

All statements, recommendations and technical information contained in this document are accurate to the best knowledge of PurEpoxy. The data relates only to the specific material designated herein. It may not be valid if used in combination with any other materials. It is the users' responsibility to verify suitability of this information for their own particular use, and to test this product before use. PurEpoxy assumes no legal responsibility for use upon these data. PurEpoxy assumes no legal responsibility for any direct, indirect, consequential, economic, or any other damage except to replace the product or refund the purchase price as set out in the purchase agreement.