

Vulkem® 45

High Performance, Self-Leveling, Polyurethane Sealant

Product Description

Vulkem 45 is a one-component, moisture cure, polyurethane sealant. Vulkem 45 is self-leveling and is traffic-rated for both pedestrian and vehicular traffic.

Basic Uses

Vulkem 45 is an excellent choice for any horizontal traffic applications. It has been formulated for sealing expansion and control joints found in structures such as parking garages, plazas, terraces, highways, bridges, reservoirs, sewage treatment plants, floors, and sidewalks. For accelerated cure, add Vulkem Catalyst 45/116.

Features and Benefits

Vulkem 45 is a pourable (self-leveling) formula that is traffic-rated and offers excellent abrasion and tear resistance with primerless adhesion to concrete, brick, and some large aggregate asphalt pavements.

Packaging

Quart cartridges (850ml), 12 cartridges per case. Also available in 2-gallon (7.6L) and 5-gallon (19L) pails, or 55-gallon (208L) drums.

Colors

Gray, Limestone, and White.

Coverage rates

308 linear feet of joint per gallon for a 1/4" X 1/4" joint. For specific coverage rates that include joint size, and usage efficiencies, visit our website usage calculator at www.tremcosealants.com.

Applicable Standards

Vulkem 45 meets or exceeds the requirements of the following specifications:

- ASTM C 920 Type S, Grade P, Class 25, Use T, M, A, O, and I
- U.S. Federal Specification TT-S-230C, Class A, Type 1
- CAN/CGSB 19GP16a
- Meets USDA Regulation for indirect food contact

Joint design

Vulkem 45 may be used in any horizontal joint designed in accordance with accepted architectural/engineering practices. Joint width should be 4 times anticipated movement, but not less than 1/4" (6.4mm).

Joint backing

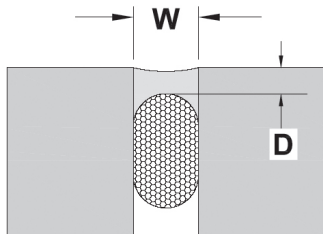
Closed cell or reticulated polyethylene backer rod is recommended as joint backing to control sealant depth. Backer rod needs to be properly friction fitted for use with self-leveling sealants to prevent leak out of sealant during cure. Where depth of joint will prevent the use of backer rod, an adhesive backed polyethylene tape (bond breaker tape) should be used to prevent three-sided adhesion. All backing should be dry at time of sealant application.

TYPICAL PHYSICAL PROPERTIES

Extrusion rate (ASTM C 1183)	189.6 ml/min.
Hardness, durometer scale "A" (ASTM C 661)	32 ±3
Weight Loss (ASTM C 1246)	5%
Skin Time (tooling time)	overnight
Tack Free Time (ASTM C 679)	30 hours
Stain & Color Change (ASTM C 510)	No stain, No color change
Adhesion-in-Peel (ASTM C 794)	Aluminum 30-34 pli (133-151 N) Concrete 16-20 pli (71-88 N) Granite 30-34 pli (133-151 N)
Accelerated Weathering (ASTM C 793)	Pass
Movement Capability (ASTM C 719)	±25%

Sealant dimensions

W = Sealant width, D = Sealant depth



EXPANSION JOINTS - The minimum width and depth of any sealant application should be 1/4" by 1/4" (6mm by 6mm).

The depth (D) of sealant may be equal to the width (W) of joints that are less than 1/2" wide. For joints ranging from 1/2" to 1" (13mm to 25mm) wide, the sealant depth should be approximately one-half of the joint width.

The maximum depth (D) of any sealant application should 1/2" (13mm). For joints that are wider than 1" (50 mm) contact Tremco's Technical Service Department, or your local Tremco field representative.

Surface preparations

Surfaces must be sound, clean, and dry. All release agents, existing waterproofing, dust, loose mortar, laitance, paints, or other finishes must be removed. This can be accomplished with a thorough wire brushing, grinding, sandblasting or solvent washing depending on the contamination.

Tremco recommends that surface temperatures be 40°F (5°C) or above at the time the sealant is applied. If sealant must be applied in temperatures below 40°F, please refer to the Tremco Guide for Applying Sealants in Cold Weather that can be found on our website at www.tremcosealants.com.

Priming

Where deemed necessary, use Vulkem Primer #171 for porous surfaces, and TREMPRIME Non-Porous Primer for metals. Vulkem 45 typically adheres to concrete and stone without primers; however, Tremco always recommends that a mock-up or field adhesion test be performed on the actual materials being used on the job to verify the need for a primer. A description of the field adhesion test can be found in appendix X1 of ASTM C 1193, Standard Guide for Use of Joint Sealants.

Application

Vulkem 45 is easy to apply with conventional caulking equipment. Ensure that the backer rod is friction fitted properly to provide the proper width-to-depth ratio and any primers have been applied. Fill the joint completely and allow the sealant to self-level to a smooth even finish.

For a cleaner finish, mask the sides of the joint with tape prior to filling.

Cure Time

At 75°F (23.9°C), 50% R.H. a skin forms overnight. Curing continues at a rate of approximately 1/16" (.16mm) depth per day. The cure time increases as the temperature and/or humidity decrease. A good rule of thumb is an additional 24 hours for every 10°F decrease in temperature.

Clean up

Excess sealant and smears adjacent to the joint interface can be carefully removed with xylene or mineral spirits before the sealant cures. Any utensils used for tooling can also be cleaned with xylene or mineral spirits.

Limitations

- Do not apply Vulkem 45 to damp or contaminated surfaces.
- Always utilize the accompanying MSDS for information on Personal Protective Equipment (PPE), and health hazards.
- Use with adequate ventilation.
- For no-slope horizontal use only.

Warranty

Tremco warrants its sealants to be free of defects in materials, but makes no warranty as to appearance or color. Since methods of application and on-site conditions are beyond our control and can affect performance, Tremco makes no other warranty, expressed or implied including warranties of MERCHANTABILITY and FITNESS FOR A PARTICULAR PURPOSE, with respect to Tremco sealants. Tremco's sole obligation shall be, at its option, to replace, or refund the purchase of the quantity of Tremco sealant proven to be defective and Tremco shall not be liable for any loss or damage.



Tested system numbers FF-D-1062 and FW-D-1058