Vulkem® 116

One-Part, High-Performance Polyurethane Sealant

Product Description

Vulkem® 116 is a one-part, moisture-curing, gun-grade polyurethane sealant. It is durable, flexible, and offers excellent performance in dynamic joints.

Features and Benefits

Vulkem 116 has a 30-year history of delivering superior primerless adhesion to porous substrates, which makes it the choice for sealing expansion joints in commercial construction applications. Vulkem 116 is also suitable for certain water immersion applications and is rated for 25% movement capability. The cure of the sealant can be accelerated with the addition of the Vulkem Catalyst 45/116.

Uses

Vulkem 116 is an excellent general-purpose sealant designed for use on poured and precast concrete, masonry work, window and door perimeters, and similar types of construction joints. Vulkem 116 is approved for exterior use only.

Colors

Almond, Aluminum, Black, Bronze, Buff, Gray, Dark Bronze, Ivory, Limestone, Redwood Tan, Beige, Stone, Anodized Aluminum, Aluminum Stone, White, Natural Clay

Packaging

10.1 oz. (300mL) cartridges, 20 oz. (600mL) sausages, 2 and 5 gallon (7.6 and 18.9L) pails, and 55 gallon (208L) drums. All colors are not available in every package size. Contact Tremco Customer Service for more information.

Coverage Rates

308 linear feet of joint per gallon for a 1/4 in. x 1/4 in. (6mm x 6mm) joint. For specific coverage rates that include joint size, and usage efficiencies, visit our website usage calculator at www.tremcosealants.com.

Applicable Standards

Vulkem 116 meets or exceeds the requirements of the following specifications:

- ASTM C920 Type S, Grade NS, Class 25, Use T, NT, M, A, I class II, and O
- U.S. Federal Specification TT-S-00230C, Class A, Type II
- CAN/CGSB-19.13-M87
- USDA regulation for indirect food contact
- Canadian Food Inspection Agency
- City of Los Angeles (COLA) approval standards

Joint Design

Vulkem 116 may be used in any vertical or horizontal joint designed in accordance with accepted architectural/engineering practices. Joint width should be 4 times anticipated movement, but not less than 1/4 in. (6mm).

Joint Backing

Closed cell or reticulated polyethylene backer rod is recommended as joint backing to control sealant depth and to ensure intimate contact of sealant with joint walls when tooling. 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.

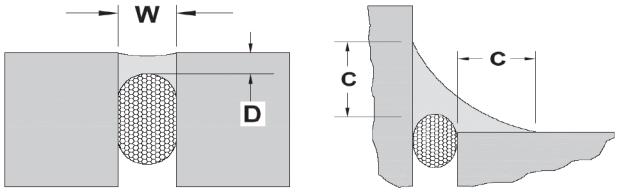
TYPICAL PHYSICAL PROPERTIES

(Results of recent testing at 72˚F (22˚C) after 21 days cure time.)

Property	Test Method	Typical Value
Extrusion Rate	ASTM C1183	40-50 ml/min.
Hardness Properties, scale "A"	ASTM C661	40
Weight Loss	ASTM C1246	Pass
Skin Time (tooling time)		6 hours
Tack Free Time	ASTM C679	30 hours
Stain & Color Change	ASTM C510	No visible color change/No stain
Adhesion-in-Peel	ASTM C794	Aluminum 18–22 pli (80–99 N)
		Concrete 20–25 pli (89–111 N)
		Brick 19–23 pli (85–102 N)
		No Adhesion Loss
Effects of Accelerated Aging	ASTM C793	Pass
Movement Capability	ASTM C719	±25%
Tensile Strength	ASTM D412	200-250 psi
Ultimate Elongation	ASTM D412	200 – 300%
100% Modulus	ASTM D412	150-200 psi

Sealant Dimensions

W = Sealant width, D = Sealant depth, C = Contact area.



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

The depth (D) of sealant may be equal to the width (W) of joints that are less than 1/2 in. (13mm) wide. For joints ranging from 1/2 in. to 1 in. (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 be 1/2 in. (13mm). For joints that are wider than 1 in. (25mm) contact Tremco's Technical Service Department, or your local Tremco Sales Representative.

WINDOW PERIMETERS – For fillet beads, or angle beads around windows and doors, the sealant should exhibit a minimum surface contact area (C) of 1/4 in. (6mm) onto each substrate.

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 substrates and TREMprime Non-Porous Primer for metals and plastics. Vulkem 116 typically adheres to common construction substrates without primers; however, Tremco always recommends that mock-up or field adhesion test be performed on the actual materials being used on the job to verify the need for a primer. The field adhesion test can be found in appendix X1 of ASTM C 1193, Standard Guide for Use of Joint Sealants.

Application

Vulkem 116 is easy to apply with conventional caulking equipment. Ensure that the backer rod is friction fitted properly and any primers have been applied. Fill the joint completely with a proper width-to-depth ratio and tool to ensure intimate contact of sealant with joint walls. Dry tooling is always preferred, although xylene can be used in limited amounts to slick the spatula if needed.

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

Cure Time

Vulkem 116 generally cures at a rate of 1/16 in. (2mm) per day at 75°F (24°C) and 50% relative humidity. It will skin in 5 hours and be tack free in 30 hours. The cure time will increase as temperatures and/or humidity decrease. A good rule of thumb is one additional day 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 116 over damp or contaminated surfaces.
- Vulkem 116 is approved for exterior use only. Do not use this product inside an occupied building even if there are no occupants present during use.
- Always utilize the sealant's MSDS found on our website at www.tremcosealants.com for information on proper ventilation, Personal Protective Equipment (PPE) and other health concerns.
- Do not use in chlorinated, potable, heavy or waste water.

Warranty

Tremco warrants its Products 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 Products. Tremco's sole obligation shall be, at its option, to replace or refund the purchase of the quantity of Tremco Products proven to be defective, and Tremco shall not be liable for any loss or damage.

Please refer to our website at www.tremcosealants.com for the most up-to-date Product Data Sheets.

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