SCHULTZ

August 18, 2015

State of Vermont Agency of Transportation
Southwest Regional Construction Office
61 Valley View
Mendon, VT 05701

Attn: Chris Williams, R.E.

Re: ***Town of Castleton, VT Route 30***
BRF 015-2(10) – BR 93
Curb Repair Procedure

Dear Mr. Williams:

During Guide Rail Installation a crack was created on the North West Curb that was cast in place off of the bridge. To repair the curb W. M. Schultz Construction, Inc. (WMSCI) proposes to make a saw cut to create neat clean vertical edges. The joint will then be filled and sealed with **Sikaflex 1a** polyurethane. The Sikaflex will be applied in a manner to completely fill the newly created joint up to the face and top of curb. WMSCI will use limestone colored Sikaflex to match the concrete color.

Attached are material cut sheets for the Sikaflex 1a and a picture of the existing crack to repair. Should VTRANS have any questions or other suggested repairs please advise.

Sincerely,
WM Schultz Construction, Inc.

Michael D. Garn
Asst. Project Manager

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Product Data Sheet
Edition 9.13.2012
Sikaflex-1a

Sikaflex®-1a

One part polyurethane, elastomeric sealant/adhesive

SEALANT • WATERPROOFING & RESTORATION INSTITUTE
Issued to: Sika Corporation
Product: Sikaflex®-1A
C719: Pass ✓ Ext:+35% Comp:-35%
Substrate: Mortar, Aluminum, Glass
[mortar substrate primed with Sika Primer 429]
C661: Rating 40
Validation Date: 8/3/12 – 8/2/17
No. 0812-S11211 Copyright © 2012
SEALANT VALIDATION
www.swrionline.org

Construction

Description

Sikaflex-1a is a premium-grade, high-performance, moisture-cured, 1-component, polyurethane-based, non-sag elastomeric sealant. Meets Federal specification TT-S-00230C, Type II, Class A. Meets ASTM C-920, Type S, Grade NS, Class 35, use T, NT, O, M, G, I; Canadian standard CAN/CGSB 19.13-M87.

Where to Use

- Designed for all types of joints where maximum depth of sealant will not exceed 1/2 in.
- Excellent for small joints and fillets, windows, door frames, reglets, flashing, common roofing detail applications, and many construction adhesive applications.
- Suitable for vertical and horizontal joints; readily placeable at 40°F.
- Has many applications as an elastic adhesive between materials with dissimilar coefficients of expansion.
- Submerged conditions, such as canal and reservoir joints.

Advantages

- Eliminates time, effort, and equipment for mixing, filling cartridges, pre-heating or thawing, and cleaning of equipment.
- Fast tack-free and final cure times.
- High elasticity - cures to a tough, durable, flexible consistency with exceptional cut and tear-resistance.
- Stress relaxation.
- Excellent adhesion - bonds to most construction materials without a primer.
- Excellent resistance to aging, weathering.
- Proven in tough climates around the world.
- Odorless, non-staining.
- Jet fuel resistant.
- Certified to the NSF/ANSI Standard 61 for potable water.
- Urethane-based; suggested by EPA for radon reduction.
- Paintable with water-, oil- and rubber-based paints.
- Capable of ±35% joint movement.

Coverage

10.1 fl. oz. cartridge seals 12.4 lineal ft. of 1/2 x 1/4 in. joint. 20 fl. oz. uni-pac sausage seals 24 lineal ft. of 1/2 x 1/4 in. joint.

Packaging

Disposable 10.1 fl. oz., moisture-proof composite cartridges, 24/case; and uni-pac sausages, 20 fl. oz., 20/carton.

Typical Data *(Material and curing conditions @ 73°F (23°C) and 50% R.H.)*

RESULTS MAY DIFFER BASED UPON STATISTICAL VARIATIONS DEPENDING UPON MIXING METHODS AND EQUIPMENT, TEMPERATURE, APPLICATION METHODS, TEST METHODS, ACTUAL SITE CONDITIONS AND CURING CONDITIONS.

Shelf Life

10.1 fl. oz. cartridges	12 months
20 fl. oz. uni-pac sausages	12 months
5 gallon pail	6 months
55 gallon drum	6 months

Storage Conditions Store at 40°-95°F (4°-35°C). Condition material to 65°-75°F before using.

VOC Content 40 g/L

Colors White, colonial white, aluminum gray, limestone, black, dark bronze, capitol tan, stone and medium bronze. Special architectural colors on request.

Application Temperature 40° to 100°F. Sealant should be installed when joint is at mid-range of its anticipated movement.

Service Range -40° to 170°F

Curing Rate

Tack-free time	3 to 6 hours
Tack-free to touch	3 hours
Final cure	4 to 7 days

Tear Strength (ASTM D-624) 55 lb./in.

Shore A Hardness (ASTM C-661) 21 day 40±5

Movement Capability (ASTM C-719) +/- 35%

Tensile Properties (ASTM D-412)

21 day	Tensile Stress		175 psi (1.21 MPa)
	Elongation at Break		550%
	Modulus of Elasticity	25%	35 psi (0.24 MPa)
		50%	60 psi (0.41 MPa)
		100%	85 psi (0.59 MPa)

Adhesion in Peel (TT-S-00230C, ASTM C 794)

Substrate	Peel Strength	Adhesion Loss
Concrete	20 lb.	0%
Aluminum	20 lb.	0%
Glass	20 lb.	0%

Weathering Resistance Excellent

Chemical Resistance Good resistance to water, diluted acids, and diluted alkalines. Consult Technical Service for specific data.

Construction

How to Use

Surface Preparation

Clean all surfaces. Joint walls must be sound, clean, dry, frost-free, and free of oil and grease. Curing compound residues and any other foreign matter must be thoroughly removed. A roughened surface will also enhance bond. Install bond breaker tape or backer rod to prevent bond at base of joint.

Priming

Priming is not usually necessary. Most substrates only require priming if testing indicates a need or where sealant will be subjected to water immersion after cure.

Consult Sikaflex Primer Technical Data Sheet or Technical Service for additional information on priming.

Application

Recommended application temperatures: 40°-100°F. For cold weather application, condition units at approximately 70°F; remove prior to using.

For best performance, Sikaflex-1a should be gunned into joint when joint slot is at mid-point of its designed expansion and contraction.

Place nozzle of gun into bottom of the joint and fill entire joint. Keep the nozzle in the sealant, continue on with a steady flow of sealant preceding the nozzle to avoid air entrapment.

Avoid overlapping of sealant to eliminate entrapment of air. Tool sealant to ensure full contact with joint walls and remove air entrapment. Joint dimension should allow for 1/4 inch minimum and 1/2 inch maximum thickness for sealant. Proper design is 2:1 width to depth ratio,

For use in horizontal joints in traffic areas, the absolute minimum depth of the sealant is 1/2 in. and closed cell backer rod is recommended.

Linear Feet of Sealant per Gallon

Width \ Depth: Inches	¼	½
¼	308.0	
½	154.0	77.0
¾	102.7	51.3
1	77.0	38.5
1 ½	61.6	30.8
1 ¾	51.3	25.7

Limitations

- Allow 1-week cure at standard conditions when using Sikaflex-1a in total water immersion situations and prior to painting.
- When overcoating with water, oil and rubber based paints, compatibility and adhesion testing is essential.
- Avoid exposure to high levels of chlorine. (Maximum continuous level is 5 ppm of chlorine.)
- Maximum depth of sealant must not exceed 1/2 in.; minimum depth is 1/4 in.
- Maximum expansion and contraction should not exceed 25% of average joint width.
- Do not cure in the presence of curing silicone sealants.
- Avoid contact with alcohol and other solvent cleaners during cure.
- Do not apply when moisture-vapor-transmission condition exists from the substrate as this can cause bubbling within the sealant.
- Use opened cartridges and uni-pac sausages the same day.
- When applying sealant, avoid air-entrapment.
- Since system is moisture-cured, permit sufficient exposure to air.
- White color tends to yellow slightly when exposed to ultraviolet rays.
- Light colors can yellow if exposed to direct gas fired heating element.
- The ultimate performance of Sikaflex-1a depends on good joint design and proper application with joint surfaces properly prepared.
- The depth of sealant in horizontal joints subject to traffic is 1/2 in.
- Do not tool with detergent or soap solutions.
- Do not use in contact with bituminous/asphaltic materials.

Caution

WARNING: IRRITANT, SENSITIZER. Contains Polyisocyanate Prepolymer (Mixture), Xylene (CAS 1330-20-7). Causes eye irritation. May cause skin/respiratory irritation. May cause skin and/or respiratory sensitization after prolonged contact. May be harmful if swallowed. Reports have associated repeated and prolonged exposure to some of the chemicals in this product with permanent brain, liver, kidney and nervous system damage. Headaches and dizziness may result. **Deliberate misuse by inhalation of vapors may be harmful or fatal. Strictly follow all usage, handling and storage instructions.**

Handling & Storage

Avoid direct contact. Wear personal protective equipment (chemical resistant goggles/gloves/clothing) to prevent direct contact with skin and eyes. Use only in well ventilated areas. Open doors and windows during use. Use a properly fitted NIOSH respirator if ventilation is poor. Wash thoroughly with soap and water after use. Remove contaminated clothing and launder before reuse. Store in cool dry well ventilated area.

Cleanup

Use personal protective equipment (chemical resistant gloves/goggles/clothing). Without direct contact, remove spilled or excess product and placed in suitable sealed container. Dispose of excess product and container in accordance with applicable environmental regulations.

First Aid Measures

Eyes: Hold eyelids apart and flush thoroughly with water for 15 minutes. **Skin:** Remove contaminated clothing. Wash skin thoroughly for 15 minutes with soap and water. **Inhalation:** Remove to fresh air. **Ingestion:** Do not induce vomiting. Dilute with water. Contact physician. **In all cases contact a physician immediately if symptoms persist.**

KEEP CONTAINER TIGHTLY CLOSED • KEEP OUT OF REACH OF CHILDREN • NOT FOR INTERNAL CONSUMPTION • FOR INDUSTRIAL USE ONLY

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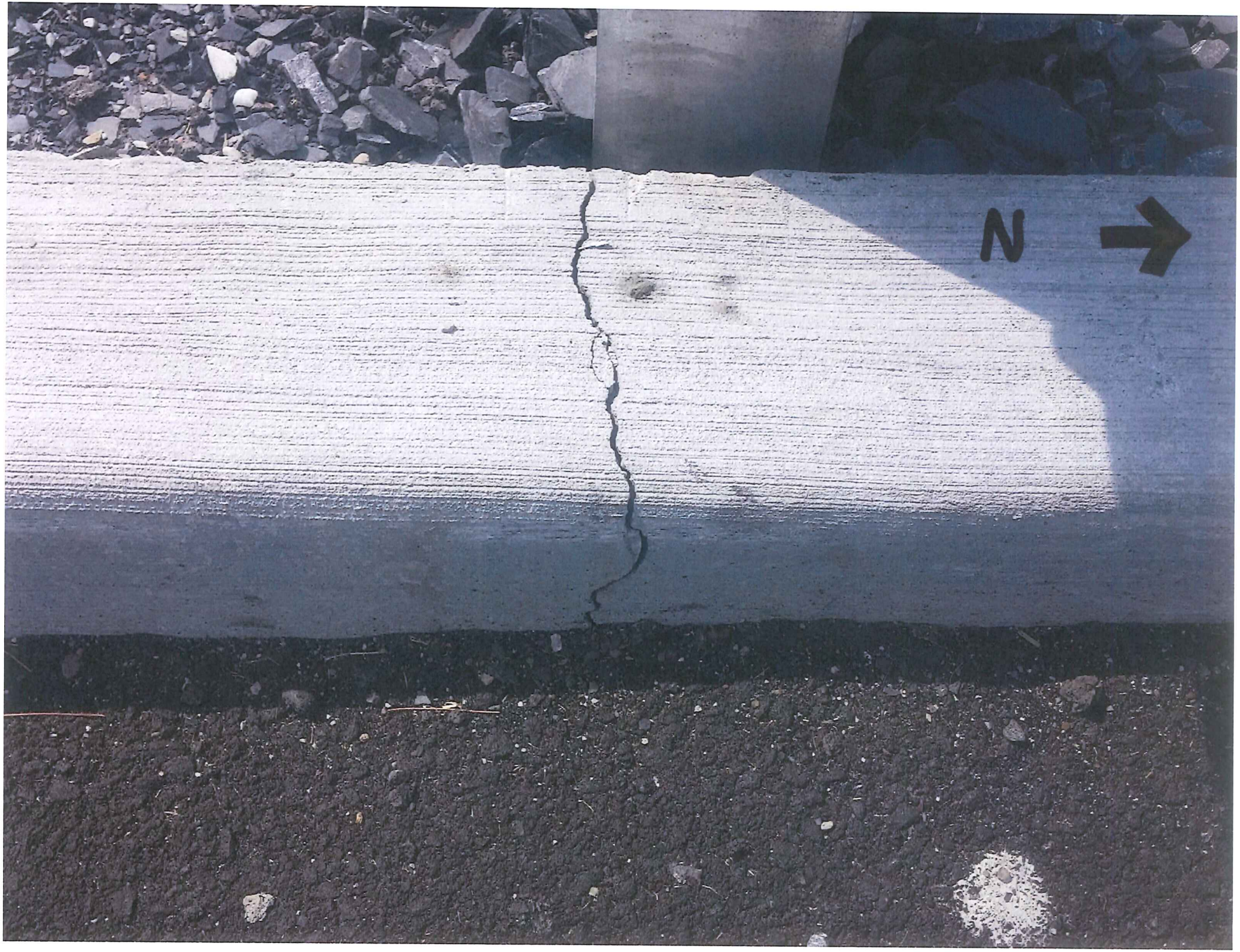
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