Sikaflex®-1a
One part polyurethane, elastomeric sealant/adhesive

Description

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.
- NSF Registered, meets 1998 USDA guidelines.
- 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.)

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shelf Life</td>
<td>12 months</td>
</tr>
<tr>
<td>Storage Conditions</td>
<td>Store at 40°-95°F (4°-35°C). Condition material to 65°-75°F before using.</td>
</tr>
<tr>
<td>Colors</td>
<td>White, colonial white, aluminum gray, limestone, black, dark bronze, capitol tan. Special architectural colors on request.</td>
</tr>
<tr>
<td>Application Temperature</td>
<td>40° to 100°F. Sealant should be installed when joint is at mid-range of its anticipated movement.</td>
</tr>
<tr>
<td>Service Range</td>
<td>-40° to 170°F</td>
</tr>
<tr>
<td>Curing Rate</td>
<td>Tack-free time 4 hours</td>
</tr>
<tr>
<td></td>
<td>Tack-free to touch 3 hours</td>
</tr>
<tr>
<td></td>
<td>Final cure 4 to 7 days</td>
</tr>
<tr>
<td>Tear Strength (ASTM D-624)</td>
<td>55 lb./in.</td>
</tr>
<tr>
<td>Shore A Hardness (ASTM D-2240)</td>
<td>21 day 40±5</td>
</tr>
<tr>
<td>Tensile Properties (ASTM D-412)</td>
<td>21 day</td>
</tr>
<tr>
<td></td>
<td>Tensile Stress 175 psi (1.21 MPa)</td>
</tr>
<tr>
<td></td>
<td>Modulus of Elasticity 25% 35 psi (0.24 MPa)</td>
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<tr>
<td></td>
<td>50% 60 psi (0.41 MPa)</td>
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<tr>
<td></td>
<td>100% 85 psi (0.59 MPa)</td>
</tr>
<tr>
<td>Adhesion in Peel (TT-S-00230C, ASTM C 794)</td>
<td>Substrate Peel Strength Adhesion Loss</td>
</tr>
<tr>
<td>Concrete</td>
<td>20 lb. 0%</td>
</tr>
<tr>
<td>Aluminum</td>
<td>20 lb. 0%</td>
</tr>
<tr>
<td>Glass</td>
<td>20 lb. 0%</td>
</tr>
<tr>
<td>Weathering Resistance</td>
<td>Excellent</td>
</tr>
<tr>
<td>Chemical Resistance</td>
<td>Good resistance to water, diluted acids, and diluted alkalines. Consult Technical Service for specific data.</td>
</tr>
</tbody>
</table>
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. Install bond breaker tape or backer rod to prevent bond at base of joint.

Linear Feet of Sealant per Gallon

<table>
<thead>
<tr>
<th>Depth</th>
<th>Width</th>
<th>1/4</th>
<th>1/3</th>
<th>1/2</th>
<th>1</th>
<th>11/4</th>
<th>11/2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4</td>
<td>308.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1/3</td>
<td>154.0</td>
<td>77.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1/2</td>
<td>102.7</td>
<td>51.3</td>
<td>34.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>77.0</td>
<td>38.5</td>
<td>25.7</td>
<td>19.3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11/4</td>
<td>61.6</td>
<td>30.8</td>
<td>20.5</td>
<td>15.4</td>
<td>12.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11/2</td>
<td>51.3</td>
<td>25.7</td>
<td>17.1</td>
<td>12.8</td>
<td>10.3</td>
<td>8.6</td>
<td></td>
</tr>
</tbody>
</table>

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 chloride. (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.
- While light colors can yellow slightly when exposed to ultraviolet rays.
- 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.

Recommendations
- Overlapping of sealant to eliminate entrapment of air. Tool sealant to ensure full contact with joint walls.
- Place nozzle of gun into bottom of the joint and fill entire joint. Keep the nozzle in the sealant, continue on.
- For best performance, Sikaflex-1a should be gunned into joint when joint slot is at mid-point of its designed expansion and contraction.
- 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.

Place
- 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.
- Avoid overlapping of sealant to eliminate entrapment of air. Tool sealant to ensure full contact with joint walls.
- Place nozzle of gun into bottom of the joint and fill entire joint. Keep the nozzle in the sealant, continue on.
- For best performance, Sikaflex-1a should be gunned into joint when joint slot is at mid-point of its designed expansion and contraction.
- 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.

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

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.

Caution
- Irritant: Keep away from open flames and high heat. Contains xylene; avoid breathing vapors. Use with adequate ventilation.
- Combustible: Avoid skin and eye contact. Use of NIOSH approved organic vapor respirator, safe and chemical-resistant gloves recommended. Remove contaminated clothing and shoes.
- First Aid: In case of skin contact, wash thoroughly with soap and water. For eye contact, flush immediately with plenty of water for at least 15 minutes; contact physician. Wash clothing before re-use. Discard contaminated shoes.
- Clean Up: Uncured material can be removed with approved solvent. Cured material can only be removed mechanically. For spillage, collect, absorb, and dispose of in accordance with current, applicable local, state, and federal regulations.