

SYSTEM DATA SHEET

Sikalastic®-390/391/395 System

TWO-COMPONENT, SOLVENT-FREE, ELASTOMERIC, CRACK-BRIDGING, WATERPROOFING TRAFFIC SYSTEM

PRODUCT DESCRIPTION

Sikalastic®-390/391/395 System is a two-component, chemically cured, elastomeric polyurethane coating system designed for use as a waterproofing membrane for pedestrian and vehicular traffic bearing surfaces.

System components are:

Sikalastic® Primer (see separate data sheet)

Sikalastic® FTP Primer (see separate data sheet)

Sikalastic® FTP LoVOC Primer (see separate data sheet)

Sikalastic® MT Primer - moisture tolerant primer (see separate Sikalastic MT Primer data sheet)

Sikalastic® 390 two-component, high solids, aromatic polyurethane base coat

Sikalastic® 391 two-component, high solids, aromatic polyurethane intermediate and interior top coat

Sikalastic® 395 two-component, high solids, aliphatic polyurethane exterior top coat

USES

Sikalastic®-390/391/395 System may only be used by experienced professionals.

Sikalastic®-390/391/395 System is suitable for use on structurally sound concrete, cementitious or plywood surfaces exposed to vehicular or pedestrian traffic.

- Multi-story parking garages
- Parking decks and ramps
- Foot bridges and walkways
- Mechanical rooms
- Stadiums and arenas
- Plaza and rooftop decks
- Balconies

CHARACTERISTICS / ADVANTAGES

- Low odor and fast turnaround
- Excellent crack-bridging properties and flexibility, even at low temperatures
- Outstanding resistance to abrasion and wear
- Impervious to water, ice and snow
- Resistant to deicing salts
- Range of standard colors
- Class A fire resistant (ASTM E108)

PRODUCT INFORMATION

Packaging	Sikalastic® 390: 5 gal. two component kit, 3.33 gal. comp. A, 1.67 gal. comp. B Sikalastic® 391: 5 gal. two component kit, 3.89 gal. comp. A, 1.11 gal. comp. B Sikalastic® 395: 10 gal. kit - two 5 gal. pails (net 4.5 gal each comp. A and two 0.5 gal. cans comp. B)			
Shelf Life	1 year in original, unopened containers			
Storage Conditions	Store dry at 41–95 °F (5–35 °C). Condition material to 65–85 °F (18–30 °C) before using.			
Solid content by volume	390 100 %	391 100 %	395 100 %	(ASTM D-2697) 75 °F (24 °C) 50% RH

SYSTEM INFORMATION

System Structure	System Guide	Pedestrian Traffic	Heavy Pedestrian/ Light Vehicular (Stalls) - Seed and Backroll	Heavy Vehicular Traffic - Seed and Backroll	Heavy Vehicular Traffic - Seed and Lock
Primer	Sikalastic® Primer 300 sf/gal.*	Sikalastic® Primer 300 sf/gal.*	Sikalastic® Primer 300 sf/gal.*	Sikalastic® Primer 300 sf/gal.*	Sikalastic® Primer 300 sf/gal.*
390 Detail Coat	30 mils wet	30 mils wet	30 mils wet	30 mils wet	30 mils wet
390 Base Coat	20 mils wet (20 mils dry) 80 sf/gal.	20 mils wet (20 mils dry) 80 sf/gal.	20 mils wet (20 mils dry) 80 sf/gal.	20 mils wet (20 mils dry) 80 sf/gal.	20 mils wet (20 mils dry) 80 sf/gal.
391/395 Top Coat I	15 mils wet (15 mils dry) 107 sf/gal	20 mils wet (20 mils dry) 80 sf/gal	20 mils wet (20 mils dry) 80 sf/gal	16 mils wet (16 mils dry) 100 sf/gal	16 mils wet (16 mils dry) 100 sf/gal
Aggregate	10-20 lbs/100 sf seeded/back-rolled	10-20 lbs/100 sf seeded/ back-rolled	10-20 lbs/100 sf seeded/ back-rolled	10-20 lbs/100 sf seeded (backroll optional)	40-60 lbs/100 sf seeded to re-fusal
391/395 Top Coat II				16 mils wet (16 mils dry) 90 sf/gal	16 mils wet (16 mils dry) 90 sf/gal
Aggregate				10-20 lbs/100 sf seeded/ back-rolled	
Total Thickness	35 mils dry (excluding aggregate)	40 mils dry (excluding aggregate)	40 mils dry (excluding aggregate)	52 mils dry (excluding aggregate)	52 mils dry (excluding aggregate)

*Consult Sika for other primer options for recover and high moisture content substrates.

Sikalastic® 391 is not long term UV resistant. Use Sikalastic® 395 for all top coats directly exposed to UV.

NOTE: Coverage rates provided are optimal and are not guaranteed - coverage rates will vary depending on temperature, surface roughness and porosity, aggregate selection and embedment, and application technique.

Colour

Sikalastic® 390 Base: Brown
Sikalastic® 391: Gray, Charcoal and Tan
Sikalastic® 395: Gray, Dark Gray, Charcoal and Tan

Volatile organic compound (VOC) content	390 <10 g/l	391 <10 g/l	395 <10 g/l	(ASTM D-2369-81) 75 °F (24 °C) 50% RH
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TECHNICAL INFORMATION

Shore A Hardness	390 80 ± 5	391 80 ± 5	395 85 ± 5	(ASTM D-2240) 75 °F (24 °C) 50% RH
Abrasion Resistance	390 6mg of loss	391 13mg of loss	395 15mg of loss	(ASTM D-4060) Test 1000 cycles, 1000g and CS-17 wheel
Tensile Strength	390 1,320 psi	391 595 psi	395 2500 psi ± 300 psi	(ASTM D-412) 75 °F (24 °C) 50% RH
Tear Strength	390 218 pli	391 396 pli	395 79 pli	(Die C, ASTM D-624) 75 °F (24 °C) 50% RH
Elongation at Break	390 435 %	391 205 %	395 400 % ± 50 %	(ASTM D-412) 75 °F (24 °C) 50% RH

APPLICATION INFORMATION

Coverage	Coverage rates provided are intended to achieve required wet film thickness under optimal conditions. Additional material may be required depending on substrate surface roughness and porosity, material and substrate temperatures, and other site-dependent factors. This will result in a lower coverage rate.		
Pot Life	390 15-20 minutes	391 25-45 minutes	395 35-45 minutes

APPLICATION INSTRUCTIONS

SUBSTRATE PREPARATION

Surface must be clean, dry and sound with an open texture. Remove dust, laitance, grease, curing compounds, bond inhibiting impregnations, waxes, and any other contaminants. All projections, rough spots, etc. should be dressed off to achieve a level surface prior to application.

Concrete - Should be cleaned and prepared to achieve a laitance and contaminant free, open textured surface by blast cleaning or equivalent mechanical means (CSP 3-4 per ICRI guidelines). Route out all cracks and joints as part of surface preparation.

Plywood - Should be clean and smooth, APA and exterior grade, not less than 1/2" thick, and spaced and supported according to APA guidelines. Seams should be sealed with Sikaflex® 2c or 1a and detailed and may need embedded fabric reinforcement.

Metal - Should be thoroughly cleaned by grinding or blast cleaning.

APPLICATION

Priming

Primer Selection - Determine maximum moisture content of concrete substrate by weight with a Tramex CME or CMExpert type concrete moisture meter. NOTE: For new plywood decks, a primer is not required.

Sikalastic® Primer – For concrete decks with a maximum moisture content of 4 % by weight, apply Sikalastic® Primer with a flat squeegee or phenolic resin core roller at approximately 250 - 300 sf/gal. and work well into the substrate to ensure adequate penetration and sealing, and puddles are avoided. Sikalastic® Primer is not suitable for metal substrates. Refer to separate primer data sheet for additional information.

Sikalastic® FTP Primer – For concrete decks with a maximum moisture content of 4 % by weight, and for

weathered plywood decks, apply Sikalastic® FTP Primer with a flat squeegee or phenolic resin core roller at approximately 300 sf/gal. and work well into the substrate to ensure adequate penetration and sealing, and puddles are avoided. Sikalastic® FTP Primer is not suitable for metal substrates. Refer to separate primer data sheet for additional information.

Sikalastic® PF Lo-VOC Primer - For concrete and plywood decks with a porous or rough surface, and for metal flanges and penetrations, use Sikalastic® PF Lo-VOC Primer. For exterior exposed concrete decks with a maximum moisture content of 4 % by weight, interior protected concrete decks with a maximum moisture content of 5 % by weight, and plywood decks, apply Sikalastic® PF Lo-VOC Primer with a flat squeegee or phenolic resin core roller at approximately 200 sf/gal. and work well into the substrate to ensure adequate penetration and sealing, and puddles are avoided. For exterior exposed concrete decks with a maximum moisture content of 5 % by weight, two applications of Sikalastic® PF Lo-VOC Primer are required. Refer to separate primer data sheet for additional information.

Sikalastic® MT Primer - For concrete with a maximum moisture content of 5 % by weight, and for metal flanges and penetrations, apply Sikalastic® MT Primer with a flat squeegee or roller at approximately 175 sf/gal. For concrete decks with a maximum moisture content of 6% by weight, apply two applications of Sikalastic® MT Primer with a flat squeegee or phenolic resin roller at approximately 175 sf/gal per application. Work primer well into the substrate to ensure adequate penetration and sealing, and puddles are avoided. Refer to separate primer data sheet for additional information.

Sikalastic® FTP LoVOC Primer - For concrete with a maximum moisture content of 5 % by weight, and for metal flanges and penetrations, apply Sikalastic® FTP LoVOC Primer with a flat squeegee or roller at approximately 175 sf/gal. For concrete decks with a maximum moisture content of 6% by weight, apply two applications of Sikalastic® FTP LoVOC Primer with a flat squeegee or phenolic resin roller at approximately 175 - 220 sf/gal per application. Work primer well into the substrate to ensure adequate penetration and sealing, and puddles are avoided. Refer to separate primer data sheet for additional information.

Sikalastic® Recoat Primer – For existing polyurethane coatings, incidental exposed concrete deck areas, and as an interlaminar primer, apply Sikalastic® Recoat Primer with a flat squeegee or phenolic resin core roller at approximately 300 sf/gal. and work will into the substrate to ensure adequate penetration and sealing, and puddles are avoided. Sikalastic® Recoat Primer is not suitable for metal substrates. Refer to separate primer data sheet for additional information.

Detailing

Non-structural cracks up to 1/16 inch - Apply a detail coat of Sikalastic® 390 Base at 30 wet mils, 4" wide,

centered over the crack. Allow to become tack free before overcoating.

Cracks and joints over 1/16 up to 1 inch – Seal First – Seal previously routed cracks and joints with Sikaflex sealant, and allow to skin over and cure for 24 hours min. Apply Sikalastic® Primer over the entire deck, including sealed cracks and joints, and allow to become tack free. Apply a detail coat of Sikalastic® 390 Base at 30 wet mils, 4” wide, centered over the crack. Allow to become tack free before overcoating.

Cracks and joints over 1/16 up to 1 inch – Prime First – Apply Sikalastic® Primer over the entire deck, including previously routed cracks and joints, and allow to become tack free. Seal cracks and joints with Sikaflex sealant and allow to skin over and cure for 24 hours min. Apply a detail coat of Sikalastic® 390 Base at 30 wet mils, 4” wide, centered over the crack. Allow to become tack free before overcoating.

Fabric Reinforcement – An optional 3” or 6” wide Sikalastic® Flexitape Heavy fabric strip may be embedded within the base coat. Flexitape width shall be chosen such that a minimum of 1” tape is embedded on either side of the crack/joint. Apply additional coating as required to fully embed the Flexitape in the coating.

Joints over 1 inch - Should be treated as expansion joints and brought up through the Sikalastic® Traffic System and sealed with Sikalastic sealant.

Panelized Joints - Panelized joints that are restrained across the joint and without differential movement may be sealed and the deck coating, including detail coat, applied over the joint.

NOTE: movement within panelized joints may cause deterioration of the aggregated wear coat, in which case the joints should be treated as expansion joints and brought up through the Sikalastic® Traffic System and sealed with Sika sealant (see Sealant Guide).

Base Coat

Premix mix Sikalastic® 390 Base Part A and Part B components using a low speed (400–600 rpm) drill with mechanical mixer (Jiffy) at slow speed to obtain uniform color, making sure to scrape the solids from the bottom and sides of the pail. Pour Part B into Part A slowly and while mixing scrape the sides of the container. Mix the combined material thoroughly until a homogenous mixture and uniform color is obtained (typically 3 minutes). Use care not to allow the entrapment of air into the mixture. Apply at the recommended coverage rate (see System Guide) using a 3/16” notched squeegee or trowel and backroll using a phenolic resin core roller. Extend base coat over entire area including previously detailed cracks and joints. Allow coating to cure a minimum of 5–6 hours at 70 degrees F and 50 % RH; base coat must be tack free before overcoating.

Top Coats

Premix Sikalastic® 391 or 395 Part A and Part B components using a low speed (400–600 rpm) drill with mechanical mixer (Jiffy) at slow speed to obtain uniform color, making sure to scrape the solids from the bottom and sides of the pail. Add Part B into Part A slowly and continue mixing until a homogenous mixture and uniform color is obtained (typically 3 minutes). Use care not to allow the entrapment of air into the mixture.

Apply at the recommended coverage rate (see System Guide) using a 3/16” notched squeegee or trowel, and backroll using a phenolic resin core roller. Apply aggregate evenly distributed at the appropriate rate immediately into the wet coating and backroll if required (see System Guide). Allow coating to cure a minimum of 10 hours (Sikalastic® 391) or 4 hours (Sikalastic® 395) at 70 degrees F and 50 % RH or until tack free between coats, and a minimum of 48 hours (Sikalastic® 391) or 36 hours (Sikalastic® 395) before opening to vehicular traffic.

Aggregate

Use clean, rounded or semi-angular oven dried quartz sand with a size gradation of 16–30 for vehicular traffic and 20–40 mesh for pedestrian traffic, and a minimum hardness of 6.5 per the Moh’s scale. It should be supplied in pre-packaged bags and free of metallic or other impurities. Seeding of aggregate means an even, light broadcast short of refusal. A full broadcast of aggregate means a heavy application to refusal. Any loose aggregate must be removed prior to recoating. Backroll aggregate where indicated.

Recoat Windows

In the event of an unforeseen rain event or delays beyond the stated recoat window referenced in each product’s current PDS, observe the following.

Product	Recoat Window	Required Surface Preparation After Recoat Window is Exceeded
Sikalastic® Primer	Tack-free to 72 hours	Heavily abrade and reprime
Sikalastic® FTP LoVOC	Tack-free to 24 hours	Heavily abrade and reprime
Sikalastic® FTP	Tack-free to 48 hours	Heavily abrade and reprime
Sikalastic® MT	Tack-free to 48 hours	Heavily abrade and reprime
Sikalastic® Re-coat	Tack-free to 12 hours	Heavily abrade and reprime
Sikalastic® Re-coat with 700 ACL Accelerator	Tack-free to 6 hours	Heavily abrade and reprime
Sikalastic® 390	Tack-free to 48 hours	Abrade, clean and solvent wipe+Sikalastic® Primer

Sikalastic® 391	Tack-free to 48 hours	Abrade, clean and solvent wipe+Sikalastic® Primer
Sikalastic® 395	Tack-free to 48 hours	Abrade, clean and solvent wipe+Sikalastic® Primer

Notes:

1. Heavy abrasion of epoxy-based materials is intended to achieve an open, porous surface and to remove any amine blush that may interfere with bonding.
2. Abrasion of polyurethane-based materials is intended to achieve an open, porous surface.
3. Cleaning is intended to remove dirt, debris, contaminants, and residue from mechanical surface preparation methods.
4. Recommended solvents include high quality xylene and acetone. Handling and use of all solvents must be done in accordance with the manufacturer’s warnings and instructions for use.

Removal

Remove liquid resin immediately with dry cloth. Once cured, resin can only be removed by mechanical means.

MAINTENANCE

Clean with non-sudsing detergent and water and inspect regularly for mechanical damage. Snow removal equipment must have shoes, rubber tips or small skis to prevent ruptures. The use of metal blades without protection is not recommended. Damaged areas should be repaired promptly. Remove delaminated coating back to well adhered material and reinstall patch according to procedures described above. Do not use asphalt or tar modified products. Consult a Sika representative for recommendations on top coat or wearing surface restoration.

LIMITATIONS

- To avoid dew point conditions during application relative humidity must be no more than 95 % and substrate temperature must be at least 5 °F (3 °C) above measured dew point temperature.
- Maximum moisture content of concrete substrate by weight when measured with a Tramex CME or CMExpert type concrete moisture meter: Maximum moisture content of substrate: 4 % by weight with Sikalastic® Primer , Sikalastic® FTP primer, Sikalastic® PF LoVOC Primer and 6 % by weight with Sikalastic® FTP LoVOC Primer , Sikalastic® MT primer. (see separate Primer product data sheets).
- Minimum ambient and substrate temperature during application and curing of material is 41 °F (5 °C); maximum is 95 °F. Frequent monitoring of ambient and substrate temperature should always be done when

applying polyurethane coatings. Note that low temperatures and low humidity will slow down the cure, and high temperatures and high humidity will accelerate it.

- Coating materials will become more viscous at lower application temperatures and be more difficult to spread, which may affect yield.
- Do not store materials outdoors directly exposed to sunlight and moisture. Cover and protect materials with breathable type covers such as canvas tarpaulins to allow venting and protection from weather and moisture. Observe temperature storage and conditioning requirements.
- Do not thin with solvents.
- Use properly graded, oven dried aggregates only.
- Minimum age of concrete must be 21–28 days, depending on curing and drying conditions.
- Any repairs required to achieve a level surface must be performed prior to application (consult a Sika representative for guidance on various product solutions). Surface irregularities may reflect through the cured system.
- Do not apply to a porous or damp surface where moisture vapor transmission will occur during application and cure.
- Substrate must be dry prior to application. Do not apply to a frosted, wet or damp surface. Do not proceed if rain is imminent within 8–12 hours of application. Allow sufficient time for the substrate to dry after rain or inclement weather as there is the potential for bonding problems.
- When applying over existing coatings compatibility and adhesion testing is recommended.
- Opening prior to final cure may result in loss of aggregate, or permanent staining and subsequent premature failure.
- Vehicle fluids and some high performance tires can stain the coating. Fluid spills should be removed promptly as the coating can in some cases be damaged from prolonged exposure.
- On grade, lightweight concrete, asphalt pavement, or insulated split slab applications, or applications where chained or studded tires may be used, must not be coated with Sikalastic Traffic Systems without Sika technical review. Contact Sika Technical Services or Product Engineering.
- Unvented metal pan decks or decks containing between-slab membranes require further technical evaluation and priming with a moisture-tolerant primer - contact Sika regarding recommendations.
- Do not subject to continuous immersion.
- Sikalastic® 390 base coat is not UV stable and must be top coated.
- Sikalastic® 391 is not UV stable and must be top coated for exterior applications.
- Primer, base and intermediate coats must be kept clean and recoated within 48 hours. If this recoat window is exceeded, contact Sika for recommendations.
- Mockups to verify application methods and substrate



conditions as well as desired skid resistance and aesthetics are highly recommended.

BASIS OF PRODUCT DATA

Results may differ based upon statistical variations depending upon mixing methods and equipment, temperature, application methods, test methods, actual site conditions and curing conditions.

OTHER RESTRICTIONS

See Legal Disclaimer.

ENVIRONMENTAL, HEALTH AND SAFETY

For further information and advice regarding transportation, handling, storage and disposal of chemical products, user should refer to the actual Safety Data Sheets containing physical, environmental, toxicological and other safety related data. User must read the current actual Safety Data Sheets before using any products. In case of an emergency, call CHEMTREC at 1-800-424-9300, International 703-527-3887.

LEGAL DISCLAIMER

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

Prior to each use of any product of Sika Corporation, its subsidiaries or affiliates ("SIKA"), the user must always read and follow the warnings and instructions on the product's most current product label, Product Data Sheet and Safety Data Sheet which are available at usa.sika.com or by calling SIKA's Technical Service Department at 1-800-933-7452. Nothing contained in any SIKA literature or materials relieves the user of the obligation to read and follow the warnings and instructions for each SIKA product as set forth in the current product label, Product Data Sheet and Safety Data Sheet prior to use of the SIKA product.

SIKA warrants this product for one year from date of installation to be free from manufacturing defects and to meet the technical properties on the current Product Data Sheet if used as directed within the product's shelf life. User determines suitability of product for intended use and assumes all risks. User's and/or buyer's sole remedy shall be limited to the purchase price or replacement of this product exclusive of any labor costs. **NO OTHER WARRANTIES EXPRESS OR IMPLIED SHALL APPLY INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. SIKA SHALL NOT BE LIABLE UNDER ANY LEGAL THEORY FOR SPECIAL OR CONSEQUENTIAL DAMAGES. SIKA SHALL NOT BE RESPONSIBLE FOR THE USE OF THIS PRODUCT IN A MANNER TO INFRINGE ON ANY PATENT OR ANY OTHER INTELLECTUAL PROPERTY RIGHTS HELD BY OTHERS.**

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