Product Data Sheet
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Sikalastic 621 TC

Construction

Sikalastic®621 TC (US)

Durable and versatile base and top coat for Sikalastic RoofPro roofing and waterproofing systems

Description	Sikalastic 621 TC (US) is a cold applied, highly elastic, aliphatic, single component, moisture-triggered polyurethane base and top coat designed for easy application as part of Sikalastic RoofPro roofing and waterproofing systems.
Where to Use	Sikalastic RoofPro 10, 15, 20 and 25 year systems, including Sikalastic RoofPro Direct, Recover, Inverted, Green and Built Up systems for both new construction and refurbishment ■ Ideal for roofs displaying complex details and geometry or when accessibility is limited. ■ Effective and cost efficient life cycle extension of existing roofs. ■ Highly reflective Sikalastic 621 TC (US) in White (RAL 9016) suitable for cool roofs and solar roof assemblies.
Advantages	■ Proven technology with over 25 year track record ■ Single component - no mixing and ready to use ■ Fully reinforced with highly conformable Sika Reemat ■ Moisture triggered chemistry that is rapidly weatherproof after application ■ Highly elastic and crack bridging ■ Seamless and fully adhered ■ Vapor permeable ■ Resistant to UV and common atmospheric chemicals
Approvals	■ FM Approval Standard 4470 for Class 1 Roof Covers ■ ASTM E-108-00 Spread of Flame meets Class A at a slope of 1 in 12 ■ Simulated wind Uplift pull testing meets Class 1-990 ■ Simulated hail damage testing meets rating of SH ■ Miami-Dade County NOA for Roof Maintenance Coating Systems and Roof Systems over Concrete and Steel Decks ■ USGBC LEED rating: Conforms to LEED SS Credit 7.2 for Heat Island Effect - Roof with SRI >/=78 ■ Energy Star approval for Sikalastic 621 TC (US) White (RAL 9016) ■ Meets ASTM D7311-07: Standard Specification for Liquid-Applied, Single-Pack, Moisture-Triggered, Aliphatic Polyurethane Roofing Membrane.
Areas of Application	Sound concrete and cementitious screed, metals, wood, modified bitumen, mineralized felt, EPDM, hypalon, TPO, sprayed polyurethane foam, brick and stone, slate and tile, and existing liquid applied membranes.
Packaging	5 gal. pails

Typical 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.

Shelf Life	9 months from date of production if stored in original, unopened and undamaged sealed packaging in dry conditions at temperatures between 40 and 85 degrees F (4-30 degrees C).
Storage	Store dry at 40-85 degrees F (4-30 degrees C).
Product Conditioning	Condition material to 65-85 degrees F (18-30 degrees C) before using.
Chemical Base	Single component, moisture-triggered, aliphatic polyurethane
VOC	183 g/l
Density	12.0 lbs/gal (1.44 kg/l) (all values at +23 degrees C)
Solids Content	81.3% by volume / 87.4% by weight
Flash Point	144 degrees F (62 degrees C)
Service Temperature	-22 to 176 degrees F (-30 to 80 degrees C) intermittent

621 TC (US) White (RAL 9016)

Solar Reflectance (Initial)	0.88 (ASTM C1549)
SRI (Solar Reflectance Index - Initial)	110 (ASTM E1980)

	RoofPro Metal	RoofPro 10	RoofPro 15	RoofPro 20	RoofPro 25
Tensile Strength (ASTM D2370)	1400 psi	1300 psi	1350 psi	1750 psi	1500 psi
Tear Strength		3750 psi	4750 psi	6800 psi	7500 psi
Elongation (ASTM D2370)	250%	35%	45%	50%	75%
Vapor Permeability	1.18 perms	0.56 perms	0.55 perms	0.49 perms	0.32 perms

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Colors

White (RAL 9016), Pearl Gray, Steel Gray, Mushroom, Copper Green; custom colors available with minimum order

Chemical Resistance

Strong resistance to a wide range of reagents, including paraffin, petrol, fuel oil, white spirit, acid rain, detergents and moderate solutions of acids and alkalis. Some low molecular weight alcohols can soften the material. Contact Technical Service for specific recommendations.

- Salt spray to ASTM B117 (1000 hours continuous exposure) and prohesion testing to ASTM G85-94: Annex A5 (1000 hours cyclic exposure.

Application Substrate Evaluation

Cementitious substrates (e. g. Concrete)
New concrete should be allowed a minimum of 14 days before priming – ideally 28 days and should have a minimum tensile bond stength of 1.4 mpa (200 psi). Inspect the concrete, including upstands and all areas should be hammer tested. Concrete must be suitably finished,preferably by wood float or steel pan. A power float finish is acceptable where the surface is prepared to avoid laitance (a tamped finish is not acceptable). The surface finish must be uniform and free from defects such as laitance, voids or honeycombing.

Gypsum based roof boards
Roof boards should be clean, dry and dust free. Damaged or contaminated boards should be removed and replaced.

Brick and stone
Mortar joints must be sound and preferably flush pointed.

Ceramic tiles
Ensure all tiles are sound and securely fastened, replacing obviously broken or missing sections.

Asphalt
Asphalt contains volatiles which can cause bleeding and slight non-detrimental staining. The asphalt must be carefully assessed for moisture and/or air entrapment, grade and surface finish prior to any coating works being carried out.

Bituminous felt
Ensure that Bituminous felt is firmly adhered or mechanically fixed to the substrate. Bituminous felt should not contain badly degraded areas.

Bituminous coatings
Bituminous coatings should not have sticky or mobile surfaces, volatile mastic coatings, or old coal tar coatings.

Metals
Metals must be in sound condition.

Wooden substrates
Plywood and timber based panel roof decks must be in good condition, firmly adhered and mechanically fixed. All plywood should be identified as conforming to PS 1 for construction and industrial plywood by grade, APA (American Plywood Association) trademark, or equivalent. For maximum smoothness, EXT Type APA, Grade A-C should be used, and the “A” side should be positioned to receive the coating.

Plywood decks to receive coating directly should be at least 1/2 inch thick and attached and supported according to APA guidelines, using only non-rusting screw, spiral or coated nail type fasteners. A good practice would be to recess or counter sink fasteners 1/8 to 1/4 inch and fill with Sikaflex sealant. Suitable edge support to prevent differential deflection between panels should be provided. Panel edges should be tongue and groove or supported on solid blocking. Space panels 1/8 to 3/16 inch at panel ends, and fill joints flush with Sikaflex sealant.

Paints and coatings
Ensure the existing material is sound and firmly adhered.

Existing Sikalastic RoofPro System
The existing Sikalastic RoofPro System should still be soundly adhered to the substrate.

Surface Preparation

Concrete and cementitious
Cementitious or mineral based substrates must be prepared mechanically using abrasive blast cleaning or scarifying equipment to remove cement laitance and to achieve an open textured surface (CSP 3-5 per ICRI guidelines). Loose friable material and weak concrete must be completely removed and surface defects such as blowholes and voids must be fully exposed. The amount of embedment coat required may increase over rough or highly porous surfaces.

Repairs to the substrate, filling of joints, blowholes/voids and surface levelling must be carried out. Consult Sika for product recommendations based on project requirements. High spots must be removed by grinding or similar method.

Outgassing is a naturally occurring phenomenon of concrete that can produce pinholes in applied coatings. The concrete must be carefully assessed for moisture content, air entrapment, and surface finish prior to any coating work. Particular requirements for priming must also be considered. Installing the membrane either when the concrete temperature is falling or stable can reduce outgassing. It is generally beneficial, therefore, to apply the embedment coat in the late afternoon or evening.

Gypsum based roof boards
Roof boards should be clean, dry and dust free. Damaged or contaminated boards should be removed and replaced.

Brick and stone
Power wash and use biodegradeable non-sudsing detergent with clean water rinse as required.

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Ceramic tiles
Tiles must be well adhered to the substrate. Otherwise they need to be removed. Power wash and use biodegradeable non-sudsing detergent with clean water rinse as required.

Asphalt
Power wash and use biodegradeable non-sudsing detergent with clean water rinse as required. All major cracks should be sealed to allow continuity of the Sikalastic RoofPro system. Asphalt must be carefully assessed for moisture and/ or air entrapment, grade and surface finish prior to any coating works being carried out.

Bituminous felt
Power wash and use biodegradeable non-sudsing detergent with clean water rinse as required. Treat blisters by star cutting and removing any underlying water. Allow to dry and re-adhere using suitable adhesive.

Bituminous coatings
Remove any loose or degraded coatings.

Metals
Ferrous metals should be thoroughly cleaned by grinding or blast cleaning prior to priming. Where blasting is not permitted, clean metal preparation by pin hammer or other suitable means is acceptable.

Non-ferrous metals are prepared as follows. Remove any deposits of dust and oxidation and abrade to bright metal. Wire brushing can be used for soft metal such as lead. The surface must be clean and free from grease which, if present, must be removed with a proprietary solution. Wash with detergent, rinse and dry.

Wooden substrates
Timber and timber based panel roof decks may require a complete layer of Sikalastic Baseply bonded using suitable adhesive prior to the application of the chosen system. The substrate should then be treated as a felt roof. Small timber protrusions and suitable decks may be treated directly, provided that the timber is of exterior quality, e.g. plywood, oil tempered hardboard, etc.

Paints/Coatings
Remove any loose or degraded coatings. Ensure the surface is clean and free from grease.

Sikaplan®/Sarnafil® membranes
Clean membranes with non-sudsing detergent and clean water rinse. Consult Sika regarding primer.

Existing Sikalastic RoofPro Systems

Clean the membrane using a water jet at approximately 140bar (2000 psi) and biodegradeable non-sudsing detergent with clean water rinse. Allow to dry.

Application

Priming
Refer to Priming Guide to select primer for properly evaluated and prepared substrate. Refer to separate Product Data Sheet for selected primer for application methods, coverage rates, cure times and recoat windows. Always allow primer to cure thoroughly before applying detail or base coat.

Sikalastic RoofPro Priming Guide

Substrate	Remark	CONCRETE PRIMER	DTE EPOXY Primer	Bonding Primer	EP PRIMER/ SEALER	Consult Sika
CONCRETE	(1)	▲	▲	▲	▲	
LIGHTWEIGHT STRUCTURAL CONCRETE	(1)		▲			▲
GYPSUM BASED ROOF BOARDS		▲		▲		
BRICK, STONE	(3)			▲		▲
BITUMINOUS SUBSTRATE						
-asphalt, bituminous felts, bituminous coatings, granulated or smooth SBS & APP cap sheets	(2,3)				▲	
SINGLE PLY ROOFING MEMBRANES						
-HYPALON, TPO, EPDM, PVC	(3)					▲
ROOF TILES (UNGLAZED)	(3,4)			▲		▲
POLYESTER (GLASS FIBER REINFORCED)	(3)			▲		▲
POLYURETHANE FOAM- sprayed or slab stock				▲	▲	
METALS						
-aluminum, galvanized, cast iron, copper, lead, brass, stainless steel, steel, zinc	(3)				▲	
PRE-COATED METAL	(3)					▲
PAINTS						
- paints & coatings	(3)			▲		
- aluminized solar reflective coatings	(3)				▲	
WOOD - TIMBER & PLYWOOD	(5)			▲	▲	▲

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(1) New cementitious substrates must be Portland base and be cured min. 14 days.
(2) The presence of volatiles may cause discoloration of Sikalastic if not properly primed.
(3) Surface evaulation and field adhesion testing.
(4) Glazed tile consult Sika.
(5) Pressure treated lumber consult Sika

Detailing

Non-structural cracks up to 1/16 inch - Detail application not necessary. Apply embedment/base coat per below.

Non-structural cracks between 1/16 inch and 1/4 inch - Rout and seal with Sikaflex sealant. Apply 40-45 mil detail coat embedded with 3 inch Sika Flexitape Heavy centered over crack. Apply embedment/base coat per below.

Cracks and joints between 1/4 inch and 1 inch - Rout and seal with Sikaflex sealant. Apply bond breaker tape sufficient to span width of crack or joint followed by 40-45 mil detail coat embedded with 6 inch Sika Flexitape Heavy centered over crack or joint. Apply embedment/base coat by terminating Sika Reemat at edges of crack or joint overlapping Sika Flexitape Heavy a minimum of 2 inch on both sides.

Joints greater than 1 inch - Treat as expansion joint. Consult Sika for recommendations.

Metal, plywood and existing butiminous or single-ply seams - Apply 40-45 mil detail coat embedded with 3 or 6 inch Sika Flexitape Heavy centered over seam. Apply embedment coat per below.

Transitions between dissimilar materials - Apply 40-45 mil detail coat embedded with Sika Flexitape Heavy centered over edge. Apply embedment coat per below.

Embedment/Base Coat

Mixing not required. Apply either Sikalastic 601 BC or Sikalastic 621 TC per RoofPro System Guide at 45 mils with a 1/2 inch nap phenolic resin core roller. Material can also be squeegee or spray applied, in which case it should be backrolled prior to embedding Sika Reemat. Place Sika Reemat in wet base coat overlapping seams a minimum of 2 inches (place frayed edge over cut edge of roll) and apply wet roller to topside to saturate completely. After approximately 5 minutes the binder will begin to dissolve allowing the fiber strands to conform to irregular surfaces. Do not over work once the fibers have conformed to the substrate. Allow to cure 12 hours at 70 degrees F and 50 % RH or until tack free before top coating. Keep clean and dry and apply top coat within 7 days. If window exceeded clean with non-sudsing detergent and clean water rinse and allow to dry prior to application of Sika Reactivation Primer.

Top Coats

Mixing not required. Apply Sikalastic 621 TC at the coverage rate in the RoofPro Systems Guide with a 1/2 inch nap phenolic resin core roller. Material can also be squeegee or spray applied, in which case it should also be backrolled. In the case of RoofPro 25 allow the first top coat to cure 12 hours at 70 degrees F and 50% RH or until tack free before applying second top coat. On top of the complete RoofPro system additional top coats may be applied with aggregate for slip resistance - consult Sika for recommendations. Keep clean and dry and apply top coat within 7 days. If window exceeded clean with non-sudsing detergent and clean water rinse and allow to dry prior to application of Sika Reactivation Primer.

Sikalastic RoofPro System Guide					
	RoofPro Metal	**RoofPro 10**	**RoofPro 15**	**RoofPro 20**	**RoofPro 25**
Substrates	Qualifying Metals	Concrete or cementitious, metals, wood, single-ply or bituminous, spray foam, stone or tile			
Primer	Required - see Substrate Priming Guide				
Detailing	Sika Flexitape Heavy centered over seams, transitions and properly treated cracks and joints				
Reinforcement	Local with Sika Flexitape	Sika Reemat Standard	Sika Reemat Premium embedded in base over entire surface		
601 BC (US)		35 mils wet - 45 sf/gal.	45 mils wet - 35 sf/gal.		
621 TC (US)	20 mils wet - 80 sf/gal.	30 mils wet - 53 sf/gal.	30 mils wet - 53 sf/gal.	45 mils wet - 35 sf/gal.	45 mils wet - 35 sf/gal.
621 TC (US)	20 mils wet - 80 sf/gal.			30 mils wet - 53 sf/gal.	30 mils wet - 53 sf/gal.
621 TC (US)					30 mils wet - 53 sf/gal.
Total Film Thickness	32 mils dry	52 mils dry	59 mils dry	61 mils dry	85 mils dry

Limitations

- To avoid dew point conditions during application, relative humidity must be no more than 95% and substrate temperature must be at least 5 degrees F (3 degrees C) above measured dew point temperatures.
- Minimum ambient and substrate temperature during application and curing of material is 40 degrees F (5 degrees C); maximum is 95 degrees F (35 degrees C). 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.
- Do not apply on substrates with moisture content greater than 4% by weight.
- Minimum age of concrete must be 14 days depending on curing and drying conditions.
- Do not thin with solvents.
- Do not store materials outdoors exposed to sunlight and moisture for prolonged periods.
- Do not apply to 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. Allow sufficient time for the substrate to dry after rain or inclement weather, as there is the potential for bonding problems.

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- On substrates likely to exhibit outgassing apply during falling ambient and substrate temperature. If applied during rising temperature pinholing may occur.
- Use sunglasses with UV filter when applying highly reflective Sikalastic 621 TC White (RAL 9016).
- Do not use for indoor applications.
- Turn off and seal air intake vents during application and cure.
- Not recommended for direct exposure to heavy or frequent foot traffic.
- Do not apply cementitious products, such as tile mortar directly onto Sikalastic 621 TC See Sikalastic 624 AR Product Data Sheet.
- Areas with high movement or irregular substrates require a complete layer of Sikalastic Baseply.
- 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.
- When applying over existing coatings or membranes compatibility and adhesion testing is recommended.
- Opening to traffic prior to cure may result in loss of aggregate or permanent staining and subsequent premature failure.
- On grade, unvented metal pan, split/sandwich slab and buried membrane conditions as well as light weight concrete should not be coated with Sikalastic RoofPro systems.
- Do not subject to continuous immersion.
- Precautions should be taken to prevent odors and/or vapors from entering the building/structure, including but not limited to turning off and sealing air intake vents or other means of ingress for odors and/or vapors into the building/structure during product application and cure.

Caution	**WARNING: COMBUSTIBLE, IRRITANT, SENSITIZER:** Contains titanium dioxide (CAS: 13463-67-7), 2-methoxy-1-methylethyl acetate (CAS: 108-65-6), triphenyl-phosphate (CAS: 115-86-6), propyl acetate (CAS: 109-60-4), and 3-isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate (CAS: 4098-71-9). Keep away from heat, sparks, electrical equipment, and open flame. **DO NOT SMOKE**. Use only in well ventilated areas. Harmful in inhaled. May cause eye irritation. May cause allergic skin/respiratory reaction after prolonged contact. May cause gastrointestinal disturbance. Reports have associated repeated and prolonged exposure to some of the chemicals in this product with permanent brain, liver, kidney and nervous system damage. **Intentional misuse by deliberate concentration and inhalation of vapors may be harmful or fatal. WARNING!** This product contains a chemical known in the State of California to cause cancer.
Handling & Storage	**Keep away from heat, sparks, sunlight, electrical equipment or flame. VAPORS MAY IGNITE AND EXPLODE. DO NOT SMOKE.** Open doors and windows during use. Use adequate local and mechanical ventilation. Wear protective equipment (chemically resistant gloves/goggles/clothing) to prevent direct contact with skin and eyes. Use properly fitted NIOSH vapor cartridge respirator if ventilation is poor. Wash thoroughly with soap and water after use. Remove contaminated clothing after use. Store product in tightly sealed containers in a cool, dry well ventilated area at temperatures between 40° F and 85°F away from ignition sources. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material.
Clean Up	In case of spill, eliminate all ignition and heat sources, if safe to do so. Ventilate area. Open doors and windows. Wear chemical resistant gloves/goggles/clothing. In absence of proper ventilation use properly fitted NIOSH respirator. Confine spill, collect using noncombustible absorbent material and place in properly sealed container. Dispose of excess product in accordance with applicable local, state and federal regulations.
First Aid	**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.**

Visit our website at www.sikausa.com **1-800-933-SIKA NATIONWIDE**

Regional Information and Sales Centers. For the location of your nearest Sika sales office, contact your regional center.

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