Product Data Sheet
Edition 02.14
Identification no: 02 0915 2 0500 0 00013
Version no. UK06

Sikalastic®-618

Single component, polyurethane, liquid waterproofing membrane

Roofing

Product Description

Sikalastic®-618 is a single component, cold-applied, moisture-triggered polyurethane membrane. It cures to form a seamless, durable and weather-resistant waterproofing solution for exposed roof areas.

Uses

- Water-proofing of flat and pitched roof structures
- Treatment of new construction and refurbishment of existing structures
- Applicable to existing concrete, roofing felt, brickwork

Characteristics / Advantages

- Single component, ready to use
- Easy and quick application of reinforced roofing systems with Sika Reemat
- Economic – provides a cost efficient life cycle extension of failing roofs
- Seamless membrane based upon moisture-triggered chemistry
- Vapour permeable
- Retains flexibility at low temperatures

Tests

Approvals / Standards

- European Technical Approval No. ETA – 12/0316
- External fire performance: BRoof (t4) & classification under BS476 Part 3:2004 EXT.F.AA

Product Data

Form

Appearance	Pigmented liquid RAL 7045, RAL 7009, RAL 7011
Packaging	15 litres
Storage Conditions / Shelf Life	Store in original, unopened and undamaged sealed packaging in dry conditions at temperatures between 0 and 25°C. Protect from frost. A shelf-life of 9 months is achieved when stored in accordance with the above recommendations at an average temperature of 20°C. Exposure to higher temperatures will reduce shelf life. Reference should also be made to the storage recommendations within the material safety datasheet.
Chemical Base	One component moisture-triggered aromatic polyurethane
Density	~1.38 kg/L (+23 °C) (EN ISO 2811-1) All Density values at +20°C

Solid Content	~ 78% by weight (+23°C / 50% r.h.) ~ 69% by volume (+23°C / 50% r.h.)
Flash Point	44°C (Closed Cup)
Service Temperature	-20°C to +90°C (intermittent)

Resistance

Chemical Resistance	Sikalastic®-618 waterproofing membrane is seen to resist attack from a broad range of dilute acids, alkalis, salt solutions, and organic solvents. In service, this protection is seen to cover exposure to most aggressive environments that may be encountered such as acid rain, traffic pollutants (such as vehicle fumes, petrol, oil, ethylene glycol), sea water, decaying vegetation and industrial atmospheres where higher levels of ground level ozone may be encountered. However, stronger acidic solutions and lower molecular weight alcohols are seen to damage the coating. Accordingly, for applications combining long term roof protection with increased resistance to specific reagents.

System Information

Minimum Coverage Rates

Waterproofing Only

Standard 1.3mm System

Preparation	Prior to priming all substrates must be clean dry and sound free from any oxidisation, mold and any other deleterious materials. For further information please contact technical customer services	
Embedment Layer	Sikalastic®-618	1.0 L/m^2
	Sika Reemat Premium	
Top Coat	Sikalastic®-618	0.75 L/m^2
Gutter system	Apply an initial embedment coat of **Sikalastic® 618** to the prepared, sound gutter surfaces, using a minimum quantity of **1** litre per square metre (equivalent to a maximum spread rate of **1** square metre per litre) and whilst wet, strengthen by inserting **Sika Reemat Premium** glass fibre matting, **Top Coat:** Apply a coat of **Sikalastic® 618** to these reinforced areas by **roller** (brushes may be used for detail work) using a minimum quantity of **1** litre per square metre (equivalent to a maximum spread rate of **1** square metre per litre).	

Advanced 1.5mm System

Preparation	Prior to priming all substrates must be clean dry and sound free from any oxidisation, mold and any other deleterious materials. For further information please contact technical customer services	
Embedment Layer	Sikalastic®-618	1.0 L/m^2
	Sika Reemat Premium	
Top Coat	Sikalastic®-618	1.0 L/m^2

Note: The application of the system must be approached as one operation. Always plan for reasonable progress of each coat. Work only so far in advance that the existing surface can be overcoated as the next operation. Finish the coating system completely before progressing to the next area. The ideal time between coats is within 48 hours.

It is not good practice to plan breaks between coats of more than 4 days. For periods longer than this and less than 14 days the surface must be reactivated with Sika Reactivation Primer. Periods between coats longer than 14 days may affect the normal life term of the system –If this happens consult Sika Liquid Plastics for advice. Ensure each application/coat is clean and dry prior to overcoating

At no stage should the Sika Liquid Plastics system or waterproof coating in its finished or intermediate stage be used as a workspace or access floor without adequate protection.

Please note: the above rates are for smooth substrates only.

Typical Test Data - System

	Standard System	Advanced System
Dry Film Thickness (mm)	~ 1.3 mm	~ 1.5 mm
Tensile Strength (N/mm^2)	14.5	18.7
Tensile Load (N/30mm)	660	750
Tear Force (N)	15.2	19.5
Tear Strength (N/mm)	~14	~25
Tensile Elongation (%)	~20	~20

Application Details

Substrate Quality

Cementitious substrates

New concrete should be cured for at least 28 days* and should have a pull off strength ≥1.5 N/mm^2. Inspect the concrete, including upstands, 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. The substrate must be of a suitable quality and condition to receive the system. Please refer to specification for further details.

*unless using DTE primer – see DTE Primer Technical Datasheet for further details

Brick and stone

Bricks, blocks and mortar joints must be sound and preferably flush pointed.

Slates, tiles, etc.

Ensure all slates/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 any badly degraded areas.

Single ply

Single ply membranes must be correctly laid and securely fixed/adhered. Badly cracked or brittle membranes should be removed.

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

Timber substrates

Timber and timber based panel roof decks are to be well constructed, in good condition, firmly adhered, and with sufficient fixings for the nature and location of the site

Paints/Coatings

Ensure the existing material is sound and firmly adhered.

Existing Sikalastic®-618 Systems

The existing Sikalastic®-618 System should still be soundly adhered to the substrate.

Substrate Preparation

Cementitious substrates

Laitance, other loose friable material and weak concrete must be completely removed and surface defects such as blowholes and voids must be fully exposed. In severe cases use abrasive blast cleaning, grinding or scarifying equipment to achieve a sound surface.

Repairs to the substrate, filling of joints, blowholes/voids and surface levelling must be carried out using appropriate products.

High spots must be removed e.g. by grinding.

Outgassing is a naturally occurring phenomenon of concrete that can produce pinholes in subsequently applied coatings. The concrete must be carefully assessed for moisture content, air entrapment, and surface finish prior to any coating work. Any requirement 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

Brick and stone

Thoroughly clean by power wash and allow to dry. Where there is a risk of algal re-growth on absorbent surfaces use Sika® Biowash. Please refer to the Sika® Biowash Technical Datasheet for further information. Repair any spalling, flaking or other damage and replace any missing jointing.

Asphalt

Thoroughly clean using by power wash and allow to dry. All major cracks should be sealed to allow continuity of the Sikalastic 618 System. Asphalt must be carefully assessed for moisture and/ or air entrapment, grade and surface finish prior to any coating works being carried out. Any priming requirement must also be considered

Bituminous felt

Thoroughly clean using by power wash and allow to dry. Treat blisters by star cutting and removing any underlying water. Allow to dry and re-adhere using Decostik®. Badly degraded areas should be replaced with Carrier Membrane bonded in Decostik®.

Single ply

Various types of single ply sheeting can be coated. For further information please consult Liquid Plastics Technical Customer services team.

Roofing

Bituminous coatings

Remove loose, degraded, tacky or mobile coatings. Apply the Sikalastic 618 System directly.

Metals

Steelwork is ideally prepared to Sa2½ (Swedish Standard SIS 05: 5900 = 2nd quality BS4232 = S.S.P.C. grade SP10) OR as indicated by the blasting specification which may be of a higher standard. Where blasting to Sa2½ (Swedish Standard SIS 05: 5900 = 2nd quality BS4232 = S.S.P.C. grade SP10) is not permitted alternative blast media or clean metal preparation by pin hammer, etc. is acceptable. Less effective methods of preparation that leave corrosion in-situ may reduce expected life term.

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

Timber substrates

Timber and timber based panel roof decks require a complete layer of Carrier Membrane bonded using Decostik® prior to the application of the chosen system. The substrate should then be treated as a felt roof. Small timber protrusions may be treated directly, provided that the timber is of exterior quality, e.g. marine plywood, (see Substrate Priming for further information).

Paints/Coatings

Remove loose or degraded coatings returning to a firm, feathered firm edge. Remaining coatings are only be overcoated if soundly adhered. Ensure the surface is clean and free from grease.

Existing Sikalastic®-618 Systems

Clean the membrane using a water jet at approximately 14N/mm^2 (2000 p.s.i) using detergent and rinse thoroughly. Thoroughly clean by power wash and allow to dry.

Note: For the Waiting Time/Overcoating please refer to the technical datasheet of the appropriate cleaner/primer. Other substrates must be tested for their compatibility. If in doubt, apply a test area first.

Substrate Priming

Substrate	**Primer**
Cementitious Substrates	Quick Cure Primer or Sika® Bonding Primer
Brick and Stone	Not required
Slate, tiles etc	Not required
Asphalt	Not required, subject to surface assessment tests
Bituminous Felt	Not required
Single Ply	Adhesion to single ply may vary depending on type, age, etc. Consult Liquid Plastics for further advice on priming requirements.
Bituminous Coatings	Not required
Metals	Sikalastic® Metal Primer

Timber Substrates	Timber based roof decks require a layer of Carrier Membrane. For small areas of exposed timber (i.e. upstands) use Sika® Bonding Primer or Quick Cure Primer, (exposed timber should be Marine ply to BS 1088 or equivalent).
Paints	Subject to adhesion tests, Sika Bonding Primer or Metal Primer for aluminium based solar reflective coatings
Existing Sikalastic-618	Sika® Reactivation Primer

Application Conditions / Limitations

Air Temperature	+2°C min. / +40°C max.
Substrate Temperature	+2°C min. / +60°C max.
Substrate Moisture Content	< 4% pbw moisture content. Test method: Sika®-Tramex meter, CM - measurement or Oven-dry-method. No rising moisture according to ASTM (Polyethylene-sheet).
Relative Air Humidity	85% r. h. max.
Dew Point	Beware of condensation! The substrate and uncured membrane must be at least 3°C above the dew point to reduce the risk of condensation or blooming on the membrane finish.

Application Instructions

Mixing

No mixing required

Application Method

Prior to the application of Sikalastic®-618 the substrate must be prepared and the priming coat must have cured tack-free. For the waiting time/overcoating please refer to the technical datasheet of the appropriate primer.

Apply first coat of Sikalastic®-618 and roll in the Sika Reemat Premium whilst wet. Ensure there are no bubbles or creases and that the Sika Reemat Premium overlaps by a minimum of 5cm. Prior to the application of a second and third coat of Sikalastic 618 the indicated waiting time in the table below should be achieved.

Please note: Always begin with details prior to waterproofing the horizontal surface.

Please refer to the table on the previous page for coverage rates.

Application Tools

For best results apply Sikalastic®-618 by brush (for details and penetrations) or roller. Rollers should be disposable medium/long pile simulated sheepskin.

Cleaning of Tools

Clean all tools and application equipment with Thinner C immediately after use. Hardened and/or cured material can only be removed mechanically.

Pot Life

Sikalastic®-618 is designed for fast drying. Therefore the material will cure particularly quickly in high temperatures combined with high air humidity. Skin formation starts after approx. 1 hour (+20°C / 50% r.h.).

Waiting Time/Overcoating

Before applying Sikalastic®-618 on Sikalastic®-618 allow:

Ambient Conditions	Minimum	Maximum
+5°C/50% r.h.	Allow overnight curing	After 4 days the surface must be cleaned and primed with Sika® Reactivation Primer before continuing
+10°C/50% r.h	8 hours	
+20°C/50% r.h	6 hours	
+30°C/50% r.h	4 hours	

Note. Times are approximate and will be affected by changing ambient conditions particularly temperature and relative humidity

Curing Details

Applied Product ready for use

Temperature	Relative humidity	Rain resistant	Touch dry	Full cure
+5°C	50%	~6 hours	~14 hours	~ 3 days
+10°C	50%	~4 hours	~8 hours	~ 2 days
+20°C	50%	~2 hours	~6 hours	~ 1 days
+30°C	50%	~1 hours	~4 hours	~12 hours

Note: Times are approximate and will be affected by changing ambient conditions particularly temperature and relative humidity.

Notes on Application / Limitations

Do not apply Sikalastic®-618 on substrates with rising moisture..

Sikalastic®-618 is not suitable for permanent water immersion.

Do not dilute Sikalastic®-618 with any solvent.

On substrates likely to exhibit outgassing, apply during falling ambient and substrate temperatures. If applied during rising temperatures “pin holing” may occur from rising air.

Product should be used in conjunction with a safe system of work. Ensure an adequate assessment of all site risks has been conducted prior to work commencing. Refer to the product safety datasheet for further guidance.

Do not use Sikalastic®-618 for indoor applications

Do not apply close to the air intake vent of running air conditioning unit.

The product can be applied by brush or roller. Work well with a brush in difficult areas. Apply subsequent layers after the first layer has cured tack free.

The product can be overcoated with itself – refer to the ‘Overcoating’ section of this Product Data Sheet.

This product is unsuitable for use in Inverted Roofs.

Use strips of e.g. Sika® Reemat Premium, in order to cover joints, connections or overlaps of bituminous sheets. Please ask our technical service department for detailed recommendations.

The suitability of each system to receive foot traffic varies. For specific recommendations, please contact our technical service department.

Do not apply adhesives or cementitious products (e.g. tile mortar) directly onto Sikalastic®-618

Do not use grit salt and/or other de-icing agents between coats of Sikalastic®-618 as this may affect the cure and inter-coat adhesion of the product.

Whilst Sikalastic®-618 is resistant to most commonly encountered atmospheric pollutants, proprietry cleaning solutions and environmental spoilage, the suitability of the product for use in applications with increased chemical resistance requirements should first be established in consultation with our technical service department.

Do not use grit salt and/or other de-icing agents between coats of Sikalastic 618 as this may interfere with the cure and inter-coat adhesion of the product.

The application of the system must be approached as one operation. Always plan for reasonable progress of each coat. Work only so far in advance that the existing surface can be overcoated as the next operation. Finish the coating system completely before progressing to the next area. The ideal time between coats is within 48 hours.

It is not good practice to plan breaks between coats of more than 4 days. For periods longer than this and less than 14 days the surface must be reactivated with Sika Reactivation Primer. Periods between coats longer than 14 days may affect the normal life term of the system –If this happens consult Sika Liquid Plastics for advice. Ensure each application/coat is clean and dry prior to overcoating

At no stage should the Sika Liquid Plastics system or waterproof coating in its finished or intermediate stage be used as a workspace or access floor without adequate protection.

Please note: the above rates are for smooth substrates only.

Value Base	All technical data stated in this Product Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.
Health and Safety Information	A Safety Data Sheet following EC-Regulation 1907/2006, Article 31 is not needed to bring the product to the market, to transport or to use it. The product does not damage the environment when used as specified.
Disclaimer	The information, and, in particular, the recommendations relating to the application and end- use of Sika products, are given in good faith based on Sika's current knowledge and experience of the products when properly stored, handled and applied under normal conditions in accordance with Sika's recommendations. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any written recommendations, or from any other advice offered. The user of the product must test the product's suitability for the intended application and purpose. Sika reserves the right to change the properties of its products. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users must always refer to the most recent issue of the local Product Data Sheet for the product concerned, copies of which will be supplied on request.
Specification assistance	NBS is the industry standard specification system, which allows architects, specifiers and engineers to insert clauses into specifications by manufacturer and product, making the process quicker and more efficient. We are members of NBS Plus and therefore detailed up-to-date product information is readily available to create accurate specifications.
Contact Details	For further information please contact: Sika Liquid Plastics Sika House Miller Street Preston Lancashire PR1 1EA Enquiry Line: 01772 259781 Fax: +44 (0)1772 255670 E-mail: liquidplastics@uk.sika.com

Registered office: Sika Ltd, Watchmead, Welwyn Garden City, Hertfordshire, AL7 1BQ
Registered in England: 226822