

PRODUCT DATA SHEET

Sikalastic® M 689 AE

(formerly MSeal M 689)

A highly elastic, ultra-fast curing, spray applied pure polyurea membrane, for use in waterproofing applications.

DESCRIPTION

Sikalastic® M 689 AE is a 2- part, solvent-free, pure polyurea, hot spray applied, elastic, very fast curing, waterproofing and protection membrane. The fast curing allows an immediate return-to-service time and the spray application allows fast coverage of the substrate.

Suitable for use in hot and tropical climatic conditions.

USES

Sikalastic® M 689 AE may only be used by experienced professionals.

It is used in a variety of waterproofing applications, especially where a high degree of chemical and mechanical resistance is required.

This includes:

- Waste water treatment plants (urban and industrial), both in the inflow and outflow areas.
- Sewage effluent pipelines.
- Steel and concrete pipes.
- Secondary containment bunds in chemical and petro-chemical industries

Additionally, Sikalastic® M 689 AE can be applied on:

- Horizontal and vertical substrates.
- Internal and external areas.
- Concrete, cementitious mortar or steel substrates.
- Reinforced concrete to protect it against carbonation, chloride induced corrosion or chemical attack in industrial environments.
- Where color stability is required, polyurea membrane can be overcoated with UV protective top coat.

Contact your local Sika representative regarding any other application which is not advised above.

FEATURES

- Low viscosity
- Excellent bond to substrate
- Easy application to complicated details
- Rapid curing
- Continuous membrane, monolithic – no laps, welds or seams
- Resistant to standing water
- Fully bonded to substrate, can be applied to a wide range of substrates with the appropriate primer
- High impact resistance
- High elasticity and crack bridging capability
- Thermoset – does not soften at high temperature
- Approved for potable water contact

CERTIFICATES AND TEST REPORTS

- WRAS drinking water approval no. 240455060: April 2024 for use with hot water up to 70 °C.

PRODUCT INFORMATION

Composition	~100 % polyurea	
Packaging	Part A (Polyamine):~200 kg in 200 L drums Part B (Isocyanate):~225 kg in 200 L drums	
Colour	Light grey	
Shelf life	Part A: 12 months from date of production Part B: 9 months from date of production	
Storage conditions	Store in a dry area in original sealed packaging at temperatures between +15 °C and +25 °C. Protect from direct sunlight, heat and moisture.	
Density	Values at +25°C	
	Part A	~1.00 kg/l
	Part B	~1.12 kg/l

TECHNICAL INFORMATION

Shore A hardness	~90	(ASTM D2240)
Shore D Hardness	~40	(ASTM D2240)
Resistance to impact	~20 Nm	(EN ISO 6272/2)
Tensile strength	~16 N/mm ²	(ISO 527-1)
Elongation	~340 %	(ISO 527-1)
Tensile adhesion strength	Concrete	≥ 3 N/mm ² (or concrete failure) (ASTM D7234)
	Metal	≥ 3 N/mm ² (ASTM D4541)
Tear strength	~80 N	(DIN 53515)
	Membrane thickness: 1.5 mm	
Crack bridging ability	3.2 mm	(ASTM C1305)
Chemical resistance	Resistant to many chemicals. Contact Sika Technical Services for additional information.	
Behaviour after artificial weathering	Pass	(EN 1062)
Service temperature	-20 °C min. / +130 °C max.	Dry
	0 °C min. / +80 °C max.	High moisture, but not wet
	0 °C min. / +55 °C max.	Wet

APPLICATION INFORMATION

Mixing ratio	100 : 100 by volume 100 : 112 by weight
Consumption	Sikalastic® M 689 AE is normally applied at 2.2 - 2.8 kg/m ² . This corresponds to a thickness of approx. 2.0 - 2.5 mm. Note: These figures are theoretical and do not include for any additional material required due to surface porosity, surface profile, variations in level and wastage.
Relative air humidity	Max. 85 %
Substrate temperature	Min. 5 °C / Max. 50 °C

Substrate moisture content	≤ 4 % parts by weight. The following test methods can be used: Sika®-Tramex meter, CM-measurement or Oven-dry-method. No rising moisture according to ASTM (Polyethylene-sheet).
Open Time	5 - 7 seconds
Tack free time	~30 seconds at 25 °C
Applied product ready for use	~12 hours at 25 °C
Drying time	~30 minutes at 25 °C

BASIS OF PRODUCT DATA

All technical data stated in this Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

FURTHER DOCUMENTATION

General Method Statement

IMPORTANT CONSIDERATIONS

- Sikalastic® M 689 AE can be used directly in exposed applications as the mechanical properties are not affected, but has a limited aesthetical UV resistance.
- Sikalastic® M 689 AE must be applied by 2-Component hot spray high pressure equipment.
- Product must only be applied in accordance with their intended use.
- Do not apply on substrates with rising moisture or are unstable.
- On substrates likely to exhibit outgassing, apply during falling ambient and substrate temperature. If applied during rising temperatures "pin holing" may occur from rising vapour. Sikalastic® or Sikafloor® range of primers may assist with reducing or eliminating this effect.
- Do not apply near to running air intakes of air conditioning units. Switch off units and seal intakes before applying.

ECOLOGY, HEALTH AND SAFETY

User must read the most recent corresponding Safety Data Sheets (SDS) before using any products. The SDS provides information and advice on the safe handling, storage and disposal of chemical products and contains physical, ecological, toxicological and other safety-related data.

APPLICATION INSTRUCTIONS

EQUIPMENT

Mixing and spraying

- Drum stirrer
- Air driven or electrical 2-Component heated spray equipment

Contact Sika Technical Services for recommendation.

SUBSTRATE PREPARATION

The preparation of the substrate and the use of the appropriate primer are of paramount importance. All surfaces to which Sikalastic® M 689 AE is applied should be sound, clean and dry and free from oil or grease, loose particles and any other substances which may impair adhesion. For substrate pre-treatment prior to the primer application refer to particular primer product data sheet.

Concrete and cementitious screeds:

Concrete and other cementitious substrates must have a minimum pull off strength of 1.5 N/mm². Any laitance present on the surface must be removed mechanically. Shot blasting is the preferred method. Release oil and other contaminants which may impair adhesion must be removed prior to the application of the primer.

Metal substrate:

Should be sand blasted to a Sa 2 ½ finish prior to application of the primer.

SUBSTRATE QUALITY / PRE-TREATMENT

PRIMING

Use the following guide to select the appropriate primer:

Substrate	Primer
Concrete	Sikalastic® Concrete Primer, or Sikafloor®-151, or Sikafloor® P 650
Metal	Sikalastic® Metal Primer N, or Sikalastic® P 616

In some circumstances, other primers may be more appropriate. For further details, please consult your local Technical Services Department.

MIXING

Dose and mix with suitable air driven or electrical two-part hot spray equipment. The accuracy of mixing and dosage must be controlled regularly with the equipment.

Stir well PTA drums before use to homogenise the content. Precondition the membrane components to the correct temperature 70-80°C prior to application. Check mix ratios are correct at the start of spraying and regularly throughout the spraying procedure.

APPLICATION

Sikalastic® M 689 AE can only be applied by means of a suitable two component heated, high pressure, proportioning spray equipment (e.g. Graco® or any other suitable). The choice of machine depends to a large extent on the type and size of work contemplated.

For advice, please contact Technical Service Department.

Sikalastic® M 689 AE should only be applied to properly prepared substrates. For best results substrate and air temperature should be in a range 5- 40°C.

Sikalastic® M 689 AE should be applied within the recommended temperature and relative humidity limits. The temperature of the substrate should be min. 3°C above the dew point.

Due to the fast reaction it is possible to rapidly build thicknesses.

Surrounding areas should be protected from overspray by masking off. Care should be taken to prevent spray mist being carried by wind by suitable barrier.

CLEANING OF EQUIPMENT

Re-useable tools should be cleaned carefully with a suitable thinner (Xylene / MEK / Acetone). Hardened material can only be removed mechanically.

LOCAL RESTRICTIONS

Note that as a result of specific local regulations the declared data and recommended uses for this product may vary from country to country. Consult the local Product Data Sheet for exact product data and uses.

LEGAL NOTES

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.

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- Sika Saudi Arabia Limited
ISO 9001, 14001 – TÜV
- Sika MB Construction Chemicals LLC
- Sika Construction Chemicals for Manufacturing LLC
- Master Builders Solutions LLC

All products are supplied under a management system certified to conform to the requirements of the quality, environmental and occupational health & safety standards ISO 9001, ISO 14001 and ISO 45001.



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December 2024, Version 02.01

020706201000000097