

# PRODUCT DATA SHEET

## Sikadur<sup>®</sup>-1 MP

### 2-PART THIXOTROPIC MULTIPURPOSE EPOXY ADHESIVE

#### DESCRIPTION

Sikadur<sup>®</sup>-1 MP is a moisture tolerant, thixotropic, structural two part adhesive and repair mortar, based on a combination of epoxy resins and special fillers, designed for use at temperatures between +10 °C and +40 °C.

#### USES

Sikadur<sup>®</sup>-1 MP may only be used by experienced professionals.

As a structural adhesive and mortar for:

- Concrete elements
- Hard natural stone
- Ceramics, fiber cement
- Mortar, Bricks, Masonry
- Steel, Iron
- Wood
- Polyester, Epoxy

As a repair mortar and adhesive:

- Corners and edges
- Holes and void filling
- Vertical and overhead use

Joint filling and crack sealing:

- Joint and crack arris / edge repair

#### CHARACTERISTICS / ADVANTAGES

Sikadur<sup>®</sup>-1 MP has the following advantages:

- Easy to mix and apply
- Suitable for dry and damp concrete surfaces
- Good adhesion to most construction materials
- Thixotropic: non-sag in vertical and overhead applications
- Hardens without shrinkage
- Different coloured components (for mixing control)
- No primer needed
- Abrasion resistant
- Impermeable to liquids and water vapour
- Chemical resistance

#### PRODUCT INFORMATION

<b>Chemical base</b>	Epoxy resin
<b>Packaging</b>	8 kg (A+B) Pre-batched unit
<b>Colour</b>	Component A: white Component B: dark grey Components A+B mixed: concrete grey
<b>Shelf life</b>	24 months from date of production if stored properly in original unopened, sealed and undamaged packaging.
<b>Storage conditions</b>	Store in dry conditions at temperatures between +5 °C and +30 °C. Protect from direct sunlight.
<b>Density</b>	2.09 ± 0.1 kg/L (part A+B mixed) (at +23 °C) (evacuated)

## TECHNICAL INFORMATION

<b>Compressive Strength</b>	Curing Time	+10 °C	+23 °C	+40 °C	(ASTM D 695)
	1 day	~20 N/mm <sup>2</sup>	~40 N/mm <sup>2</sup>	~55 N/mm <sup>2</sup>	
	3 days	~50 N/mm <sup>2</sup>	~52 N/mm <sup>2</sup>	~56 N/mm <sup>2</sup>	
	7 days	~56 N/mm <sup>2</sup>	~57 N/mm <sup>2</sup>	~58 N/mm <sup>2</sup>	
<b>Tensile Strength in Flexure</b>	Curing time	+10 °C	+23 °C	+40 °C	(DIN EN 53452)
	1 day	~11 N/mm <sup>2</sup>	~19 N/mm <sup>2</sup>	~20 N/mm <sup>2</sup>	
	3 days	~21 N/mm <sup>2</sup>	~25 N/mm <sup>2</sup>	~26 N/mm <sup>2</sup>	
	7 days	~25 N/mm <sup>2</sup>	~29 N/mm <sup>2</sup>	~26 N/mm <sup>2</sup>	
<b>Tensile Strength</b>	Curing time	+10 °C	+23 °C	+40 °C	(ISO 527)
	1 day	~2 N/mm <sup>2</sup>	~6 N/mm <sup>2</sup>	~9 N/mm <sup>2</sup>	
	3 days	~8 N/mm <sup>2</sup>	~14 N/mm <sup>2</sup>	~15 N/mm <sup>2</sup>	
	7 days	~12 N/mm <sup>2</sup>	~16 N/mm <sup>2</sup>	~17 N/mm <sup>2</sup>	
<b>Shrinkage</b>	Hardens without shrinkage.				
<b>Tensile Adhesion Strength</b>	Time	Temperat- ure	Substrate	Bond Strength	(EN ISO 4624, EN 1542 and EN 12188)
	1 day	+23 °C	Dry Con- crete	~2 N/mm <sup>2</sup> *	
	1 day	+23 °C	Moist Con- crete	~2 N/mm <sup>2</sup> *	
	1 day	+23 °C	Steel	~6 N/mm <sup>2</sup>	
	3 day	+23 °C	Steel	~10 N/mm <sup>2</sup>	
*100 % concrete failure over mechanically prepared concrete surface grade					

## APPLICATION INFORMATION

<b>Mixing Ratio</b>	Part A : part B = 3 : 1 by weight or volume			
<b>Consumption</b>	The consumption of Sikadur®-1 MP is ~ 2.0 kg/m <sup>2</sup> per mm of thickness.			
<b>Layer Thickness</b>	30 mm max. When using multiple units, one after the other. Do not mix the following unit until the previous one has been used in order to avoid a reduction in handling time.			
<b>Sag Flow</b>	On vertical surfaces it is non-sag up to 15 mm thickness		(EN 1799)	
<b>Product Temperature</b>	Sikadur®-1 MP must be applied at temperatures between +10°C and +40°C			
<b>Ambient Air Temperature</b>	+10 °C min. / +40 °C max.			
<b>Dew Point</b>	Beware of condensation. Substrate temperature during application must be at least 3 °C above dew point.			
<b>Substrate Temperature</b>	+10 °C min. / +40 °C max.			
<b>Substrate Moisture Content</b>	When applied to mat moisture concrete, brush the adhesive well into substrate.			
<b>Pot Life</b>	Temperature	Potlife*		(EN ISO 9514)
	+10 °C	~120 min		
	+23 °C	~55 min		
	+35 °C	~30 min		
	+40 °C	~20 min		

\*200 g Adiabatic

The potlife begins when the resin and hardener are mixed. It is shorter at high temperatures and longer at low temperatures. The greater the quantity mixed, the shorter the potlife. To obtain longer workability at high temperatures, the mixed adhesive may be divided into portions. Another method is to chill components A+B before mixing them (not below +5 °C).

## APPLICATION INSTRUCTIONS

### SUBSTRATE QUALITY

Mortar and concrete must be older than 28 days (depends on minimal requirement of strengths). Verify the substrate strength (concrete, masonry, natural stone).

The substrate surface (all types) must be clean, dry and free from contaminants such as dirt, oil, grease, existing surface treatments and coatings etc.

Steel substrates must be de-rusted similar to Sa 2.5. The substrate must be sound and all loose particles must be removed.

### SUBSTRATE PREPARATION

Concrete, mortar, stone, bricks:

Substrates must be sound, dry, clean and free from laitance, ice, standing water, grease, oils, old surface treatments or coatings and all loose or friable particles must be removed to achieve a laitance and contaminant free, open textured surface.

Steel:

Must be cleaned and prepared thoroughly to an acceptable quality i.e. by blastcleaning and vacuum. Avoid dew point conditions.

### MIXING

Pre-batched units:

Mix parts A+B together for at least 3 minutes with a mixing spindle attached to a slow speed electric drill (max. 300 rpm) until the material becomes smooth in consistency and a uniform grey colour.

Avoid aeration while mixing. Then, pour the whole mix into a clean container and stir again for approx. 1 more minute at low speed to keep air entrapment at a minimum. Mix only that quantity which can be used within its potlife.

## APPLICATION METHOD / TOOLS

When using a thin layer adhesive, apply the mixed adhesive to the prepared surface with a spatula, trowel, notched trowel, (or with hands protected by gloves).

When applying as a repair mortar, use some formwork.

When using for bonding metal profiles onto vertical surfaces, support and press uniformly using props for at least 12 hours, depending on the thickness applied (not more than 5 mm) and the room temperature.

Once hardened check the adhesion by tapping with a hammer.

### CLEANING OF TOOLS

Clean all tools and application equipment with Sika® Colma Cleaner immediately after use. Hardened / cured material can only be mechanically removed.

## LIMITATIONS

- Sikadur® resins are formulated to have low creep under permanent loading.
- However due to the creep behaviour of all polymer materials under load, the long term structural design load must account for creep. Generally the long term structural design load must be lower than 20-25 % of the failure load.
- Please consult a structural engineer for load calculations for your specific application.

## 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.

## LOCAL RESTRICTIONS

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

## ECOLOGY, HEALTH AND SAFETY

For information and advice on the safe handling, storage and disposal of chemical products, users shall refer to the most recent Safety Data Sheet (SDS) containing physical, ecological, toxicological and other safety-related data.

## 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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