

# PRODUCT DATA SHEET

## Sikagard®-65 WN

2-part water-based epoxy curing compound and protective coating

### DESCRIPTION

Sikagard®-65 WN is a protective two part, solvent free, water dispersed epoxy resin for the efficient curing and protection of tunnel precast concrete segments, immediately after de-moulding.

### USES

Sikagard®-65 WN may only be used by experienced professionals.

- Curing compound and protective coating for tunnel precast concrete elements.
- Sealing surface micro-cracks.

### CHARACTERISTICS / ADVANTAGES

- Good adhesion to damp and green concrete
- Application immediately after de-moulding
- Good pore sealing properties
- Good opacity
- Easy application by roller
- Fast curing at elevated temperatures
- Almost odourless

### APPROVALS / STANDARDS

- CE Marking and Declaration of Performance to EN 1504-2 - Surface protection product for concrete - Coating
- Water permeability DIN 1048, SikaGard®-65 WN, Admaterials Technologies, Report No. ADM/15/4183
- Water test SikaGard®-65 WN, Admaterials Technologies, Report No. ADM/14/6443, No. ADM/14/4901

### PRODUCT INFORMATION

<b>Chemical Base</b>	Water based epoxy resin	
<b>Packaging</b>	Part A	22,5 kg drum
	Part B	7,5 kg drum
<b>Appearance / Colour</b>	Part A	Grey liquid, ~ RAL 7032
	Part B	Amber, transparent liquid
<b>Shelf Life</b>	12 months from date of production	
<b>Storage Conditions</b>	The product must be stored in original, unopened and undamaged packaging in dry conditions at temperatures between +5 °C and +30 °C. Always refer to packaging.	
<b>Density</b>	Part A	~1,6 kg/l
	Part B	~1,1 kg/l
	Mixed resin	~1,4 kg/l
<b>Solid Content by Weight</b>	~70 %	

## TECHNICAL INFORMATION

<b>Abrasion Resistance</b>	<3000 mg (H22/1000/1000)	
<b>Tensile Adhesion Strength</b>	~3,6 N/mm <sup>2</sup>	(EN 1542)
<b>Permeability to Water Vapour</b>	Water vapour transmission rate	~27 g·m <sup>-2</sup> ·d <sup>-1</sup> (EN ISO 7783)
	Water vapour permeance	~4.5×10 <sup>-6</sup> g·m <sup>-2</sup> ·d <sup>-1</sup> ·Pa <sup>-1</sup>
	Diffusion equivalent air layer thickness $s_d$	0.77 m
<b>Permeability to Carbon Dioxide</b>	Carbon dioxide permeability	~2.6 g·m <sup>-2</sup> ·d <sup>-1</sup> (EN 1062-6)
	Diffusion equivalent air layer thickness $S_d$	~100 m
	Diffusion resistance factor $\mu$	~470000
<b>Compressive Strength</b>	Reaction to fire	Class B <sub>f</sub> s1 (EN 13501-1)

## APPLICATION INFORMATION

<b>Mixing Ratio</b>	Part A : Part B = 100 : 33 (by weight)		
<b>Consumption</b>	~300 g/m <sup>2</sup> per layer These figures are theoretical and do not consider any additional material due to surface porosity, surface profile, variations in level or wastage etc.		
<b>Layer Thickness</b>	~120 $\mu$ m		
<b>Ambient Air Temperature</b>	+10 °C min. / +70 °C max.		
<b>Relative Air Humidity</b>	maximum 85 %		
<b>Substrate Temperature</b>	+10 °C min. / +70 °C max.		
<b>Substrate Moisture Content</b>	Can be applied on green or damp concrete ensuring no standing water is present.		
<b>Pot Life</b>	Material temperature	Time	
	+10 °C	~40 minutes	
	+20 °C	~20 minutes	
	+30 °C	~10 minutes	
<b>Curing Time</b>	<b>Rate of cure if product is applied on concrete with surface temperature above +40°C and at ~85% RH.</b>		
	Temperature	Minimum curing time before transportation of segment	Full cure
	+10 °C	48 hours	14 days
	+20 °C	12 hours	10 days
	+30 °C	4 hours	7 days
	<b>Note:</b> The above times are given as indication and may fluctuate depending on parameters above our control. It is advisable to carry out test prior to moving the segments.		
<b>Waiting Time / Overcoating</b>	If a second coat is required, it must be applied when the first coat is tack-free.		

## BASIS OF PRODUCT DATA

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.

## USES

Sikagard®-65 WN may only be used by experienced professionals.

## FURTHER DOCUMENTS

Please refer to the Method statement: Application of Sikagard®-65 WN.

## LIMITATIONS

- Apply Sikagard®-65 WN only on freshly demoulded concrete elements.
- Continuously monitor the pot life of the mixed material as the end of pot life is not visibly noticeable.
- Ensure good ventilation when Sikagard®-65 WN is applied in confined spaces.
- Do not apply by airless spray.
- Protect freshly applied product from rain/water for a minimum of 6 hours.

## 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 Material Safety Data Sheet (MSDS) containing physical, ecological, toxicological and other safety-related data.

## APPLICATION INSTRUCTIONS

### EQUIPMENT

#### Mixing

- Double paddle electric stirrer (300–400 rpm)
- Scraper
- Clean mixing containers

#### Application

- Brush
- Trowel
- Fleece roller

### SUBSTRATE QUALITY

#### Curing Membrane

Substrate must be clean, dry or slightly damp and free of all contaminants such as dirt, oil, grease, surface treatments and loose friable material.

## SUBSTRATE PREPARATION

Substrate must be clean, dry, or slightly damp (no standing water on the surface) and free of all contaminants such as dirt, oil, grease, surface treatments and loose friable material.

If there are pinholes on the surface of the concrete after demoulding, they shall be rectified to provide a pore-free surface.

The filling of the pinholes can be done using either Sikagard®-65 WN or SikaFloor® EpoCem® Modul to which fresh cement is added during the mixing process to achieve a scratch coat consistency. Further application of the coating can be done while this scratch coat is still fresh.

## MIXING

Mix full units only.

Prior to mixing all parts, mix part A (resin) using an electric stirrer to mix liquid and all the coloured pigment until a uniform colour has been achieved. Add part B (hardener) to part A and mix part A + B continuously for 1.5 minutes until a uniformly coloured mix has been achieved. To ensure thorough mixing pour materials into a clean container and mix again for at least 1 minute to achieve a smooth consistent mix. Excessive mixing must be avoided to minimise air entrainment. During the final mixing stage, scrape down the sides and bottom of the mixing container with a straight edge trowel or spatula at least once to ensure complete mixing.

Total mixing time shall not exceed 2.5 minutes.

## APPLICATION

#### Priming:

If the surface temperature of the concrete is above +40°C, no primer is required.

If the surface temperature of the concrete is below +40°C, then the SikaFloor® EpoCem Modul shall be used – refer to the specific data sheet.

#### Application:

Reference must be made to further documentation where applicable, such as relevant method statement, application manual and installation or working instructions.

Prior to application, relative air humidity, dew point, substrate, air, substrate, and product temperatures shall be recorded.

Apply Sikagard®-65 WN evenly onto the prepared substrate using a roller or brush at the required consumption rate.

Typically, a single coat application is sufficient.

However, if a second coat is required, it shall be done when the first coat is tack-free.

Do not wait more than 3 days before applying the second coat. If this time is exceeded, then the surface of the segments shall be slightly grinded and dedusted before applying the subsequent coat.

## CLEANING OF TOOLS

Clean all tools and application equipment with water immediately after use. Hardened material can only be removed mechanically.

## LOCAL RESTRICTIONS

Please note that as a result of specific local regulations the performance of this product may vary from country to country. Please consult the local Product Data Sheet for the exact description of the application fields.

## 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. It may be necessary to adapt the above disclaimer to specific local laws and regulations. Any changes to this disclaimer may only be implemented with permission of Sika® Corporate Legal in Baar.

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### Product Data Sheet

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