BUILDING TRUST

PRODUCT DATA SHEET

Sika® Icosit® KC 350/65

Two-part polyurethane grout for continuous embedded tracks (Shore A 70 hardness)

PRODUCT DESCRIPTION

Sika® Icosit® KC 350/65 is a flexible, two-part polyurethane polymer resin grout that can be applied manually or by machine. It is used as a vibration-absorbing, load-bearing, flexible grout for fixing grooved or T-rails on concrete or steel surfaces, on roads, bridges and in tunnels. Sika® Icosit® KC 350/65 is particularly suitable for embedded or continuously undersealed rail designs..

USES

Sika® Icosit® KC 350/65 may only be used by experienced professionals.

Sika® Icosit® KC 350/65 is used as a:
- Noise and vibration-reducing grout.

Sika® Icosit® KC 350/65 is used for:
- Fixing grooved or T-rails.
- Fixing rails that are continuously undersealed, embedded or are road crossings.

CHARACTERISTICS / ADVANTAGES

- Longer application time due to extended pot life and delayed viscosity increase of the mixed material.
- Rapid release to traffic due to fast curing time.
- High durability leads to less maintenance.
- Supports heavy axle loads up to 250 kN.
- Suppresses secondary noise and vibrations.
- Ensures a more uniform load distribution into the substructure.
- Watertight undersealing or embedding.
- Flexible, elastic (Shore A 70 hardness).
- Protection against stray currents.
- Good electrical insulation.
- Excellent adhesion to a variety of substrates.
- Levels out tolerances.
- Suitable as a shear-resistant adhesive.
- Absorbs dynamic stresses and prolongs the life of substructure.
- Insensitive to moisture.

PRODUCT INFORMATION

Chemical Base	2-part polyurethane		
Packaging		**Manual application**	**Machine application**
	Part A	7.88 kg container	150 kg drum
	Part B	2.12 kg container	40.4 kg container
	Part A+B	10 kg	190.4 kg
Shelf Life	12 months from date of production		
Storage Conditions	The Product must be stored in original, unopened and undamaged sealed packaging in dry conditions at temperatures between +5 °C and +25 °C. Always refer to the packaging. Refer to the current Safety Data Sheet for information on safe handling and storage.		

Density	Part A	~0.92 kg/L	(EN ISO 2811-1)
	Part B	~1.21 kg/L	(EN ISO 2811-1)
	Parts A+B	~0.97 kg/L	(ISO 1183-1)
Viscosity	5000 Pa·s (with Z 3 DIN, 20 °C)	Part A	(EN ISO 3219)
	50 Pa·s (with Z 3 DIN, 20 °C)	Part B	

TECHNICAL INFORMATION

Shore A Hardness	65 ± 5 (after 28 days) Shore hardness assists with material identification and assessing the curing progress on site.	(EN ISO 868)
Tensile Strength	2.5 N/mm²	(EN ISO 527-1)
Elongation at Break	140 %	(EN ISO 527-1)
Chemical Resistance	Sika® Icosit® KC 350/65 has a good resistance to: ▪ Water ▪ Most detergents ▪ Sea water	
	Sika® Icosit® KC 350/65 is temporarily resistant (72 hours) to: ▪ Mineral oils ▪ Diesel fuel	
	Sika® Icosit® KC 350/65 is not resistant to: ▪ Organic solvents (ester, ketone, aromates) and alcohol ▪ Concentrated acids and lyes	
	Contact Sika® Technical Services for specific information.	

Electrical Resistivity	Dry conditions	7.74 to 9.03 × 10^9 Ω·m	(EN 50122-2)
	After heat ageing	3.42 to 3.95 × 10^{10} Ω·m	
	After storage in a 0.1 M NaCl solution. No significant water uptake was detected.	1.80 to 1.89 × 10^{10} Ω·m	
Compressive stiffness	Load deflection diagram 1000 mm × 180 mm × 25 mm	Test specimen dimensions (pure material value measured without rail)	(DIN 45673-1)
	(136 ± 13.6) kN·mm^{-1}·m^{-1}	Static bedding factor, determined as per the secant method between 8 kN and 32 kN	

APPLICATION INFORMATION

Mixing Ratio	Part A : Part B by weight	3.7 : 1
	Part A : Part B by volume	4.63 : 1
Consumption	~0.9 kg/L	
Layer Thickness	Minimum	15 mm
	Maximum	60 mm

Product Temperature	Condition product parts before application preferably at +15 °C to assist with flow and curing speed

Ambient Air Temperature		
	Maximum	+35 °C
	Minimum	+5 °C

Relative Air Humidity	90 % maximum

Substrate Temperature		
	Maximum	+35 °C
	Minimum	+5 °C

Substrate Moisture Content	Dry to matt damp

Pot Life	~15 minutes at +20 °C After this time, the mixture becomes unuseable for application. Higher temperatures will shorten pot life.

Curing Time		
	Tack-free	2 hours at +20 °C
	Trafficable	4 hours at +20 °C

Curing Rate

SHORE A VALUE AT THE FOLLOWING CURING TEMPERATURES AND TIMES:

Curing Time	5 °C	23 °C	35 °C
1 hour	-	42	55
2 hours	8	48	60
4 hours	45	54	63
6 hours	51	58	64
8 hours	54	60	65
24 hours	59	63	67
48 hours	63	66	67

Waiting Time / Overcoating

Waiting time for applying the Product on primer or coating at +20 °C:

Product	Minimum	Maximum
Sika® Primer-115	30 minutes	3 days
Sikadur®-32+	24 hours	7 days

SYSTEM INFORMATION

System Structure

System products:

- Sika® Icosit® KC 350/65.
- Sikadur®-32+ for steel surfaces and green concrete.
- Sika® Primer-115 for dry and matt damp mature concrete.

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.

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

SUBSTRATE PREPARATION

GREEN CONCRETE, MINIMUM 1 DAY OLD
Preconditions
The designed concrete class according to BS EN 206:2013+A1:2016 must be at least C30/37.
The water/cement ratio of the designed concrete must be ≤0.50.
The concrete surface must not have a shiny layer of water on top, but the substrate may be locally dry or matt damp.
The substrate must be solid, rough and clean: the concrete surface should be free from loose particles, dust, cement laitance, oil stains, grease and other contaminants.

1. In order to remove cement laitance from the concrete surface, brush the surface with stiff bristle brushes. The brushing process should begin as early as possible (i.e. when it is possible to step onto the surface of the hardening concrete), usually about 6 to 8 hours after mixing the concrete mixture.
2. Remove any standing water by vacuum extraction or oil-free compressed air. A matt damp substrate is acceptable.
3. Apply Sikadur®-32+ with a consumption of approximately 0.75 kg/m².
4. Immediately broadcast the freshly coated surfaces with quartz sand 0.4 to 0.7 mm with a consumption of approximately 2 kg/m².
5. Apply the Product after a waiting time of minimum 24 hours to maximum 7 days, to a layer thickness of 15 to 60 mm.

MATURE CONCRETE, MINIMUM 14 DAYS OLD
Preconditions
The pull-off / bond strength of the concrete substrate must be at least 1.5 MPa.
It must have no visible traces of moisture and no darkening caused by moisture.
The substrate must be solid, rough and clean: the concrete surface should be free from loose particles, dust, cement laitance, oil stains, grease and other contaminants.

1. Prepare the concrete substrate mechanically using suitable abrasive blast cleaning or planing / scarifying equipment to remove cement laitance and achieve an open-textured gripping surface.
2. Remove high spots by grinding.
3. Completely remove all dust, loose and friable material from all surfaces, preferably by using vacuum extraction equipment.
4. Apply Sika® Primer-115 with a consumption of approximately 0.2 kg/m².
5. Immediately broadcast the freshly coated surfaces with quartz sand 0.4 to 0.7 mm with a consumption of approximately 2 kg/m².
6. Apply the Product after a waiting time of at least 30 minutes to a maximum of 3 days to a layer thickness of 15 to 60 mm.

STEEL

1. Prepare steel substrates mechanically using suitable abrasive blast cleaning to remove all corrosion and to achieve a bright metal finish.
2. Completely remove all dust, loose and friable material from all surfaces, preferably by using vacuum extraction equipment.
3. Apply Sikadur®-32+ with a consumption of approximately 0.75 kg/m².
4. Immediately broadcast the freshly coated surfaces with quartz sand 0.4 to 0.7 mm with a consumption of approximately 2 kg/m².
5. Apply the Product after a waiting time of minimum 24 hours to maximum 7 days to a layer thickness of 15 to 60 mm.

MIXING

The Product is supplied in pre-weighed composite units consisting of parts A+B.
IMPORTANT: Do not add any solvents to the Product.
10 KG UNITS

1. Use an electric or pneumatic mixer with spiral or basket stirrer, diameter 140 mm, speed 600 to 800 rpm.
2. Stir Part A thoroughly until the material is completely homogeneous for at least 30 seconds in the original container.
3. Add Part B and mix for a further 60 to 80 seconds.
   NOTE: Ensure the material from the container walls and the base is also mixed in.

203 KG UNITS
Contact Sika® Technical Services for information about suitable mixing machines.

- Large volumes of the Product can be mixed and applied with special two-part casting machines, which both mix and pump the material.
- Large volumes of the Product can also be mixed using geared mixers, and application is performed separately.
  A suitable geared mixer is the GRS 300/1,5 from Geppert Rührtechnik GmbH, equipped with three blades (Ø 300 mm). Refer to the equipment supplier's instruction manual. Mount the agitator shaft on a drum lid which replaces the original lid during stirring. Stir Part A thoroughly, then add Part B and stir for approximately 5 minutes.

APPLICATION

To achieve the optimum flow performance, condition the material to a temperature of +15 °C before application.
The Product is suitable for application with special two-part casting machines, which both mix and pump the material. In this case, part A must be stirred at regular intervals. Refer to the equipment supplier's instruction manual.

CLEANING OF TOOLS

Clean all tools and application equipment with Sika® Thinner C at regular intervals and 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.

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