BUILDING TRUST

PRODUCT DATA SHEET

Sika® Icosit® KC 340/4

2-part polyurethane grout under discrete baseplates of tram / light rail tracks

PRODUCT DESCRIPTION

Sika® Icosit® KC 340/4 is a flexible two-part polymer grout based on polyurethane resin. It is designed as a vibration absorbing, load-bearing, flexible grout for the precision alignment of rails, turnouts / switches, etc. Sika® Icosit® KC 340/4 is also used for fixing track components to rigid substrates such as concrete slabs, steel bridge decks and tunnel invert slabs.

USES

Sika® Icosit® KC 340/4 may only be used by experienced professionals.

As a noise and vibration reducing grout under discrete baseplates of tramway or light rail track sections.

CHARACTERISTICS / ADVANTAGES

- Medium axle loads of trams and light-rail vehicles.
- Noise and vibration suppression.
- Reduces erosion of concrete under baseplate.
- More uniform load distribution into substructure.
- Watertight undersealing.
- Flexible, elastic (shore A 65).
- Damping, compressible.
- Good electrical insulation against stray currents.
- No stress peaks on anchor bolts.
- Excellent adhesion on various substrates.
- Levels out tolerances.
- Suitable as a powerful, shear-resistant adhesive.
- Absorbs dynamic stresses and prolongs the life of concrete substructure.
- Insensitive to moisture.
- Long durability, less maintenance.

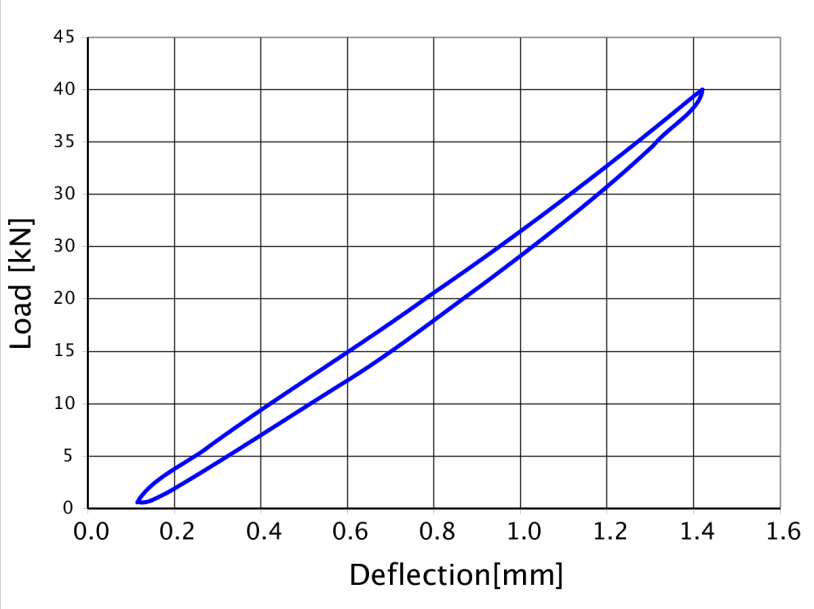
PRODUCT INFORMATION

Chemical Base	2-part polyurethane grout		
Packaging	Part A	5,46 kg container	
	Part B	0,54 kg container	
	A+B	6 kg	
	Refer to current price list for packaging variations.		
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 +10 °C and +25 °C. Always refer to packaging.		
Colour	Black		
Density	Part A	~1 kg/l	(ISO 2811-1)
	Part B	~1,2 kg/l	(ISO 2811-1)
	A + B	~1 kg/l	(ISO 1183-1)

SYSTEM INFORMATION

System Structure	▪ Sika® Icosit® KC 340/4 ▪ Sikadur®-32+: For 'green' and wet concrete ▪ Icosit® KC 330 Primer

TECHNICAL INFORMATION

Shore A Hardness	65 ± 5 (after 28 days) (ISO 868) Shore hardness assists with material identification and assessing the curing progress on site.
Compressive stiffness	**Load-Deflection Diagram**  Static stiffness determined according to DIN 45673-1. Dimensions of test specimen 360 × 160 × 25 mm; Spring index k_{stat} = 29 kN/mm, determined as per the secant method between 8 and 32 kN.
Tensile Strength	~2,6 N/mm² (ISO 527)
Elongation at Break	~140 % (ISO 527)
Electrical Resistivity	~1,22 × 10^9 Ω·m (DIN VDE 0100-610 and IEC 93)
Service Temperature	-40 °C minimum / +80 °C maximum short term +150 °C maximum
Chemical Resistance	**Long-term resistant against:** ▪ Water ▪ Most detergents ▪ Sea water **Temporary resistant against:** ▪ Mineral oils, diesel fuel **Short-term or no resistance against:** ▪ Organic solvents (ester, ketone , aromates) and alcohol ▪ Concentrated acids and lyes Contact Sika® Technical Services for specific information.

APPLICATION INFORMATION

Mixing Ratio	Part A : Part B = 100 : 10 (parts by weight)
Consumption	~1 kg per litre of volume to be sealed

Layer Thickness	15 mm minimum 60 mm maximum
Product Temperature	Condition product parts before application preferably at ~+15 °C to assist with flow and curing speed
Ambient Air Temperature	+5 °C minimum / +35 °C maximum
Relative Air Humidity	90 % maximum
Substrate Temperature	+5 °C minimum / +35 °C maximum
Substrate Moisture Content	Dry to matt damp
Pot Life	~11 minutes at +20 °C After this time, the mixture becomes unusable. Higher temperatures will shorten pot life.
Curing Time	Tack-free ~2 hours at +20 °C Trafficable ~12 hours at +20 °C

Curing Rate

	Shore A Hardness Values at Different Curing Temperatures			
Curing Time	**0 °C**	**5 °C**	**23 °C**	**35 °C**
1 Hour	-	-		~20
2 Hours	-	-	~20	~35
4 Hours	-	~15	~30	~40
7 Hours	~25	~25	~40	~50
1 Day	~40	~40	~50	~55
2 Days	~45	~45	~55	~60
3 Days	~50	~50	~60	~60
7 Days	~55	~55	~60	~60
14 Days	~55	~55	~60	~60

Waiting Time / Overcoating

On primer or coating at +20 °C

	Minimum	Maximum
Icosit® KC 330 Primer	1 hour	3 days
Sikadur®-32+	24 hours	7 days

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.

LIMITATIONS

- To achieve the optimum flow performance, condition the material to a temperature of +15 °C before application.
- Undersealing layer thickness must be a minimum 15 mm and maximum 60 mm.
- To achieve maximum adhesion on concrete, loose particles and cement laitance must be removed mechanically (e.g. by blast cleaning or scabbling).
- Use of appropriate Sika® Primers will improve adhesion and durability.
- Do not add any solvents to product.
- Standing water must be removed (e.g. by vacuum extraction or oil free compressed air) before pouring.

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.

Regulation (EC) No 1907/2006 (REACH) - Mandatory training

As from 24 August 2023 adequate training is required before industrial or professional use of this product. For more information and a link to the training visit www.sika.com/pu-training.

APPLICATION INSTRUCTIONS

SUBSTRATE QUALITY

Substrate must be sound, free from oil, grease, loose and friable particles.
Slightly damp substrates are acceptable. Standing water must be removed (e.g. by vacuum extraction or oil free compressed air) before pouring Sika® Icosit® KC 340/4.

SUBSTRATE PREPARATION

To improve adhesion, apply Icosit® KC 330 Primer as a primer on absorbent substrates (concrete).
Note: Refer to the individual Product Data Sheet for more information.

MIXING

Icosit KC 340/4 is supplied in pre-weighed composite units consisting of parts A + B. Part A must be stirred thoroughly before being mixed with part B.

6 kg units

The following mixing instructions must be adhered to:

- Use an electric or pneumatic mixer with basket type stirrer or helical stirrer, diameter 120–140 mm, speed ~600–800 rpm.
- Mixing time ~60 to 80 seconds
- Ensure material is mixed from the container walls and the base by the stirrer during mixing.

APPLICATION METHOD / TOOLS

Reference must be made to further documentation where applicable, such as relevant method statement, application manual and installation or working instructions.
Application technique for direct (sleeperless) fixation of trackwork (discrete fixation):

- Adjust rail to correct line and level.
- Drill holes for anchor bolts.
- Apply appropriate Sika® Primer.
- Fix baseplates loosely to rail foot.
- Fill bolt holes with pourable epoxy grout, consisting of 1 part by weight Icosit KC 220/TX and 1 part by weight dry quartz sand (0,4–0,7 mm granulometry). Place pre-assembled anchor bolts.
- Place pre-assembled anchor bolts into grout filled bolt holes.
- Fit shuttering frame (formwork) treated with release agent around the baseplate by leaving a 0,5 cm gap between sides of baseplate and formwork. Provide a gap on one side of the baseplate and formwork of at least 1,5 cm wide for pouring. Seal formwork to prevent leakage of grout.
- Mix Sika® Icosit® KC 340/4 in accordance with mixing instructions.
- Immediately after mixing, pour Sika® Icosit® KC 340/4 between the baseplate and substrate using only the gap provided for pouring. Ensure a continuous grout flow from one side to the other to avoid trapping, continue to pour until grout appears at the gap on the opposite side.
- After a waiting time of ~4 hours, the formwork can be removed.

'Green' and Wet Concrete:

Freshly applied Sikadur®-32+ with theoretical consumption: ~0,60 kg/m² should be broadcasted with quartz sand, granulometry: ~0,2 up to ~0,8 mm, theoretical consumption: ~2 kg/m².
1) Concrete substrates: 'green', the matt-damp concrete surface, after at least the first day of maturation, and on a minimum 14 days old concrete.
Substrate must be solid, rough and clean: the concrete surface should be free from loose fractions, dust, cement laitance, oil stains, grease and other contaminants.
a) 'Green', the matt-damp concrete surface, without a shiny layer of water on the surface (may be locally dry or matt-damp, with light and dark spots); should meet the following requirements, after at least the 1st day of maturing: the designed concrete class according to EN 206 + A1: 2016-12 should be at least C30/37; the water/cement ratio of the designed concrete should be w/c = 0.50; the surface of fresh concrete should be 'brushed' about 6 to 8 hours after mixing the concrete mixture with the use of stiff brushes in order to remove the cement laitance surface.
b) Mature concrete substrate (minimum 14 days old): substrate strength tested using the 'pull-off' method should be at least 1.5 MPa; concrete with no visible traces of moisture and no darkening caused by moisture. The concrete substrates must be prepared mechanically using suitable abrasive blast cleaning or planing / scarifying equipment to remove cement laitance and achieve an open textured gripping surface. High spots can be removed by grinding.
2) Steel substrates must be prepared mechanically using suitable abrasive blast cleaning to remove all corrosion products and achieve a bright metal finish. All dust, loose and friable material must be completely removed from all surfaces before application of the product and associated system products, preferably by vacuum extraction equipment.
Waiting Time / Overcoating: Minimum 24 hours, maximum 7 days

CLEANING OF TOOLS

Mixing and application tools must be cleaned at regular intervals and immediately after use with Sika® Thinner C. Cured 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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