



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 2-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.

WHERE TO USE

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 & 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

Composition / Manufacturing	2-part polyurethane grout		
Packaging		Volume	Net weight
	Part A (pail)	5.46 L (1.44 US gal.)	5.46 kg (12.04 lbs)
	Part B (can)	0.44 L (0.12 US gal.)	0.54 kg (1.19 lbs)
	A + B	5.9 L (1.56 US gal.)	6 kg (13.23 lbs)
Colour	Black		
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 (50 and 77 °F). Always refer to packaging.		

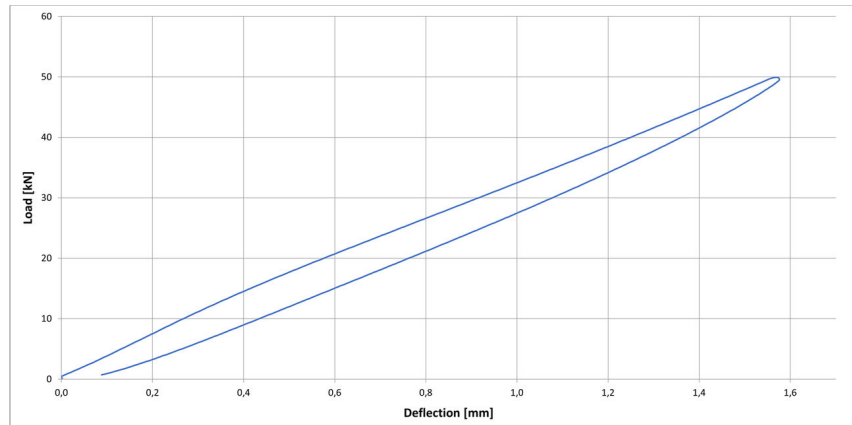
Density	Part A	~1 kg/L	(ISO 2811-1)
	Part B	~1,2 kg/L	(ISO 2811-1)
	A + B	~1 kg/L	(ISO 1183-1)

TECHNICAL INFORMATION

Shore A Hardness	65 ± 5 (after 28 days) Shore hardness assists with material identification and assessing the curing progress on site.	(ISO 868)
Tensile Strength	~2,6 MPa (377 psi)	(ISO 527)
Elongation at Break	~140 %	(ISO 527)
Chemical Resistance	<p>Long-term resistant against:</p> <ul style="list-style-type: none"> ▪ Water ▪ Most detergents ▪ Sea water <p>Temporary resistant against:</p> <ul style="list-style-type: none"> ▪ Mineral oils, diesel fuel <p>Short-term or no resistance against:</p> <ul style="list-style-type: none"> ▪ Organic solvents (ester, ketone , aromates) and alcohol ▪ Concentrated acids and lyes <p>Contact Sika technical services for specific information.</p>	
Electrical Resistivity	~1,22 × 10 ⁹ Ω·m	(DIN VDE 0100-610 and IEC 93)
Service Temperature	-40 °C minimum / +80 °C maximum (-40 °F minimum / +176 °F maximum) short term +150 °C (302 °F) maximum	

Compressive Stiffness

Load-Deflection Diagram



Static stiffness determined according to DIN 45673-1.

Test specimen dimensions: 360 × 160 × 25 mm

(pure material value measured without rail)

Preload: 1,000 N

Testing speed: 2 kN/s

Maximum load: 50 kN

Bedding figure $k_{stat} = \sim 31 \text{ [(kN/mm)/m]} (\pm 10 \%)^*$, determined as per the secant method between 8 and 32 kN.

*Deviation of the bedding figure and the curve are ±10%.

APPLICATION INFORMATION

Mixing Ratio	Part A : Part B = 100 : 10 (parts by weight)			
Consumption	~1 kg (2.2 lbs) 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 (59 °F) to assist with flow and curing speed			
Ambient Air Temperature	+5 °C min. / +35 °C max. (41 °F min. / 95 °F max.)			
Relative Air Humidity	90 % max.			
Substrate Temperature	+5 °C min. / +35 °C max. (41 °F min. / 95 °F max.)			
Substrate Moisture Content	Dry to matt damp			
Pot Life	~11 minutes at +20 °C (68 °F) After this time, the mixture becomes unusable. Higher temperatures will shorten pot life			
Curing Time	Tack-free ~2 hours at +20 °C (68 °F) Trafficable ~12 hours at +20 °C (68 °F)			
Curing Rate	Shore A	Curing Temperature		
	Curing Time	0 °C (32 °F)	5 °C (41 °F)	23 °C (73 °F)
				35 °C (95 °F)
	1 h	-	-	~20
	2 h	-	-	~20
	4 h	-	~15	~30
	7 h	~25	~25	~40
	1 d	~40	~40	~50
	2 d	~45	~45	~55
	3 d	~50	~50	~60
7 d	~55	~55	~60	
14 d	~55	~55	~60	
Waiting Time / Overcoating	On primer or coating at +20 °C (68 °F)			
		Minimum	Maximum	
	Icosit® KC 330 Primer	1 hour	3 days	

SYSTEMS

System Structure	<ul style="list-style-type: none"> Sika® Icosit® KC 340/4 Icosit® KC 330 Primer
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BASIS OF PRODUCT DATA

Product properties are typically averages, obtained under laboratory conditions. Reasonable variations can be expected on-site due to local factors, including environment, preparation, application, curing and test methods.

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.

ENVIRONMENT, HEALTH & 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 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). Refer to the individual Product Data Sheets 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.

- Use an electric or pneumatic mixer with basket type stirrer or helical stirrer, diameter 120–140 mm, speed ~600–800 rpm.
- Mixing time ~60–80 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.

a) Mature concrete substrate (min 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.

b) 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

CLEAN UP

Mixing and application tools must be cleaned at regular intervals and immediately after use with Cleaner 5. Cured material can only be removed mechanically

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 recommendations, or from any other advice offered. The information contained herein does not relieve the user of the products from testing them for the intended application and purpose. 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 or may be downloaded from our website at: www.sika.ca

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