

PRODUCT DATA SHEET

Sika® Icosit® KC 340/45

2-part polyurethane grout for continuous embedded tracks with medium axle loads

DESCRIPTION

Sika® Icosit® KC 340/45 is a flexible 2-part polyurethane polymer resin grout that can be applied manually or by machine. It is designed as a vibration absorbing, load-bearing, flexible grout for fixing grooved or T-rails onto concrete slabs, steel bridge decks and tunnel invert slabs. Particularly suitable for embedded (floating) rail designs.

USES

Sika® Icosit® KC 340/45 may only be used by experienced professionals.

As a noise and vibration reducing grout for continuous embedded grooved or T-rails and road crossing applications.

CHARACTERISTICS / ADVANTAGES

- Medium axle loads and standard deflection
- Noise & vibration suppression
- More uniform load distribution into substructure
- Watertight undersealing
- Flexible, elastic (shore A 55)
- Damping, compressible
- Good electrical insulation against stray currents
- 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

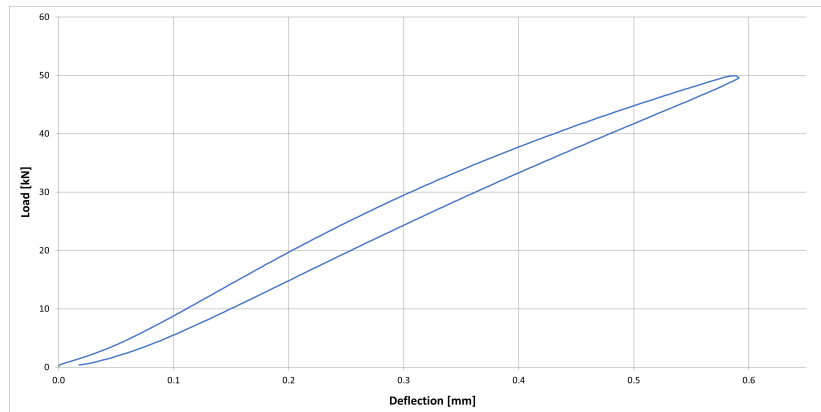
PRODUCT INFORMATION

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| Composition | 2-part polyurethane | | |
| Packaging | | Manual application | Machine application |
| | Part A | 9.1 kg container | 160 kg drum |
| | Part B | 0.9 kg container | 16 kg container |
| | A + B | 10 kg | 176 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 +10 °C and +25 °C. Always refer to packaging. | | |
| Colour | Light grey | | |
| Density | Part A | ~0.9 kg/l | (ISO 2811-1) |
| | Part B | ~1.2 kg/l | |
| | A + B | ~0.9 kg/l | (ISO 1183-1) |

TECHNICAL INFORMATION

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| Shore A Hardness | 55 ± 5 (after 28 days) Shore hardness assists with material identification and assessing the curing progress on site. |
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| Compressive Stiffness | Load-Deflection Diagram* |
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Static stiffness determined according to DIN 45673-1.

Test specimen dimensions: 1000 × 180 × 25 mm

(pure material value measured without rail)

Preload: 1000 N

Testing speed: 2 kN/s

Maximum load: 50 kN

Bedding figure $k_{stat} = \sim 102 \text{ [(kN/mm)/m]} (\pm 10 \%)^*$, determined as per the secant method between 8 and 32 kN.

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

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| Tensile Strength | ~1.7 N/mm ² | (ISO 527) |
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| Elongation at Break | ~120 % | (ISO 527) |
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| Electrical Resistivity | ~2.85 × 10 ⁹ Ωm | (DIN VDE 0100-610 and DIN IEC 93) |
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| Service Temperature | -40 °C min. / +80 °C max., short term up to +150 °C |
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| 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> |
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SYSTEM INFORMATION

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| System Structure | <ul style="list-style-type: none"> ▪ Sika® Icosit® KC 340/45 ▪ Sikadur®-32 +: For green and wet concrete ▪ Icosit® KC 330 Primer or Sika® Primer-115 ▪ SikaCor®-299 Airless (Steel deck / baseplate / rail coating) |
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APPLICATION INFORMATION

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| Mixing Ratio | Part A : Part B = 100 : 10 (parts by weight) |
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| Consumption | ~0.9 kg per litre of volume to be sealed |
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| Layer Thickness | 15 mm min. / 60 mm max. |
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| Product Temperature | Condition product parts before application preferably at ~+15 °C to assist with flow and curing speed | | | |
| Ambient Air Temperature | +5 °C min. / +35 °C max. | | | |
| Relative Air Humidity | 90 % max. | | | |
| Substrate Temperature | +5 °C min. / +35 °C max. | | | |
| Substrate Moisture Content | Dry to matt damp | | | |
| Pot Life | ~10 minutes at +20 °C After this time, the mixture becomes unuseable. Higher temperatures will shorten potlife. | | | |
| Curing Time | Tack-free | ~2 hours at +20 °C | | |
| | Traffickable | ~24 hours at +20 °C | | |
| Curing Rate | Shore A | Curing Temperature | | |
| | Curing Time | 5 °C | 23 °C | 35 °C |
| | 2 h | - | ~15 | ~20 |
| | 4 h | - | ~25 | ~30 |
| | 7 h | ~10 | ~30 | ~45 |
| | 1 d | ~30 | ~40 | ~45 |
| | 3 d | ~40 | ~50 | ~55 |
| | 7 d | ~45 | ~55 | ~55 |
| | 14 d | ~45 | ~55 | ~55 |
| Waiting Time / Overcoating | On primer or coating at +20 °C | | | |
| | | Minimum | Maximum | |
| | Icosit® KC 330 Primer | 1 hour | 3 days | |
| | Sika® Primer-115 | 0.5 hour | 3 days | |
| | SikaCor®-299 Airless | 24 hours | 7 days | |
| Sikadur®-32 + | 24 hours | 7 days | | |

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.

IMPORTANT CONSIDERATIONS

- 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 before pouring.

ECOLOGY, HEALTH AND SAFETY

GISCODE: PU 40

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 con-

tains 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 340/45.

SUBSTRATE PREPARATION

To improve adhesion, apply Icosit® KC 330 Primer as a primer on absorbent substrates (concrete). For additional corrosion protection, use SikaCor®-299 Airless and Icosit KC 330 Primer in combination to coat the steel surfaces.

Immediately blind (broadcast) the freshly applied coated surfaces with quartz sand (0.4–0.7 mm granulometry).

Always comply with the waiting time limits between application of SikaCor®-299 Airless, Icosit KC 330 Primer and pouring of Sika® Icosit® KC 340/45.

Refer to the individual Product Data Sheets for more

information.

MIXING

Sika® Icosit® KC 340/45 is supplied in pre-weighed composite units consisting of parts A + B. Part A must be stirred thoroughly before being mixed with part B.

10 kg units

The following mixing instructions must be carried out:

- Use an electric or pneumatic mixer with basket type 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.

176 kg units

Recommended mixer for stirring Part-A in 160 kg drums:

Geppert Rührtechnik GmbH gear stirrer GRS 300/1.5 equipped with three blades Ø 300 mm. Gear stirrer must be mounted on a drum lid which replaces the original lid during stirring. Stirring time ~5 minutes.

APPLICATION METHOD / TOOLS

Material is suitable for application with special 2-part casting machines. Correct mix ratio must be carried out. Part A must be stirred at regular intervals. Reference must be made to equipment supplier's instruction manual.

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 mat-damp concrete surface, after at least the first day of maturation, and on a min 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 mat-damp concrete surface, without a shiny layer of water on the surface (may be locally dry or mat-damp, with light and dark spots); should meet the following requirements, after at least the 1st day of maturing: the designed concrete class 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 6–8 hours after mixing the concrete mixture with the use of stiff brushes in order to remove the cement laitance surface.

b) Mature concrete substrate (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 mois-

ture. 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® Cleaner 5. 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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Product Data Sheet

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