

# Icosit® KC 340/4

2-pack, Polyurethane grout for rail fixing

## Product Description

Icosit® KC 340/4 is a flexible two-component polymer grout based on polyurethane resin.

## Uses

Icosit® KC 340/4 is designed as vibration absorbing, flexible grout for load-bearing undersealing layers in precision alignment of rails, turnouts/switches etc., for fixing track components to rigid substrates such as concrete slabs, steel bridge decks and in tunnels. Primarily used as noise and vibration reducing grout under discrete or continuous baseplates of LRT track sections.

## Characteristics / Advantages

- Reduces vibration
- Excellent electrical insulation against stray currents
- Levels out tolerances
- Suitable as powerful, shear-resistant adhesive for rail fixing (prevents underflow of water and may reduce or eliminate the need for anchor bolts)
- Insensitive to moisture
- elastic (Shore A 65) - compressible
- Long life expectance

## Product Data

### Appearance / Colours

Black

### Packaging

|              |                  |              |
|--------------|------------------|--------------|
| Component A: | 2.7 kg cartridge | 5.46 kg pail |
| Component B: | 0.3 kg tin       | 0.54 kg tin  |
| Part A + B:  | 3 kg             | 6 kg         |

### Conditions of storage / Shelf-Life

12 months (3 kg cartridges 9 months) from date of manufacture in cool and dry storage in unopened original containers, protected from direct sun radiation, at temperatures between + 10 °C and + 25 °C. Protect from frost.

## Technical Data

### Chemical base

2-component polyurethane grout

### Density

|              |                      |            |
|--------------|----------------------|------------|
| Component A: | approx. 1.00 kg/ltr. | ISO 2811-1 |
| Component B: | approx. 1.23 kg/ltr. | ISO 2811-1 |
| Part A + B:  | approx. 1.00 kg/ltr. | ISO 1183-1 |

### Viscosity

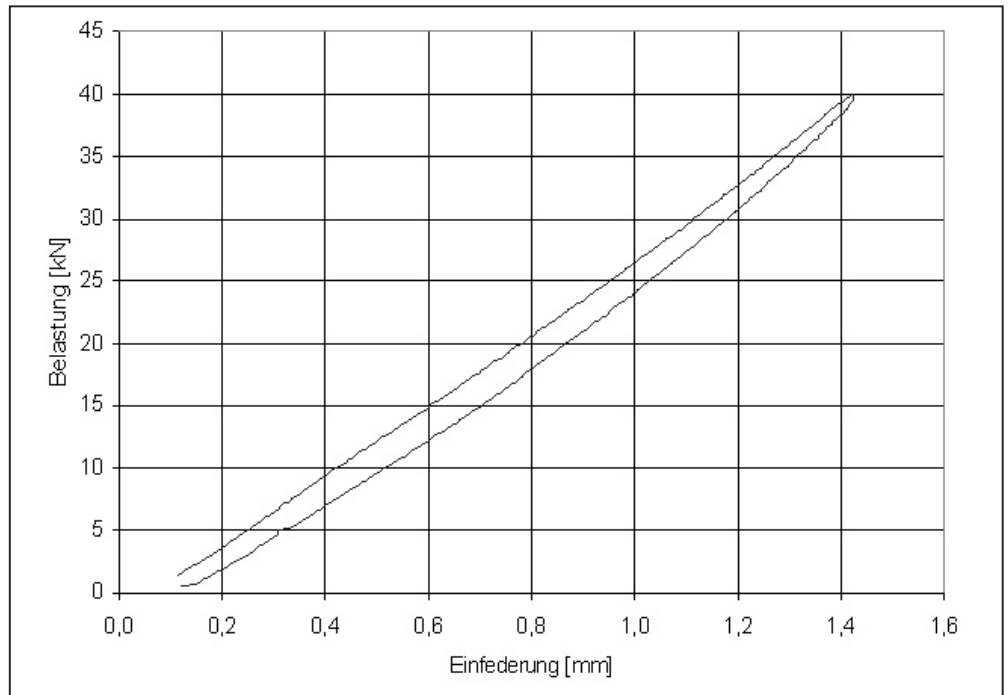
|              |                   |                     |
|--------------|-------------------|---------------------|
| Component A: | approx. 4.00 Pa s | With Z 3 DIN, 20 °C |
| Component B: | approx. 0.26 Pa s | With Z 3 DIN, 20 °C |

### Layer Thickness

Minimum 15 mm  
Maximum 60 mm

|                                       |   |                                   |
|---------------------------------------|---|-----------------------------------|
| <b>Temperature Resistance</b>         | From - 40°C up to + 80°C (temporarily up to + 150°C). |                                   |
| <b>Tensile Strength</b>               | 2.6 N/mm <sup>2</sup>                                 | (ISO 527)                         |
| <b>Shore D Hardness</b>               | 65 ± 5 (after 28 days)                                | (ISO 868)                         |
| <b>Elongation at Break</b>            | Approx. 140%  | (ISO 527)                         |
| <b>Specific electrical Resistance</b> | Approx. 1.22 x 10 <sup>9</sup> Ω m                    | (DIN VDE 0100-610 and DIN IEC 93) |

**Spring Diagram  
DIN 45673-1**



“Belastung” = load [kN]; “Einfederung” = deflection [mm]

Dimensions of test specimen 360 x 160 x 25 mm; static stiffness analogous to DIN 45673-1.

Spring index  $c = 29$  kN/mm, determined as per the secant method between 8 and 32 kN.

Shore hardness serves for material identification and control of curing progress on site.

**Chemical Resistance**

**Long-term resistant against:**

- Water
- Most detergents
- Sea water

**Temporary resistant against:**

- Mineral oils, Diesel fuel

**Not or only short-term resistant against:**

- Organic solvents (ester, ketone, aromates) and alcohol
- Concentrated acids and lyes

**For more details contact our technical service centre.**

**System Information**

**Consumption / Dosage**    Approx. 1.0 kg per litre of volume to be sealed.

**Substrate Quality**        Substrate must be solid, free from oil, fat, loose and friable particles.  
Slightly damp substrates are acceptable. Water in liquid form (droplets) must be removed (e.g. by vacuum or compressed air) before pouring **Icosit® KC 340/4**.

**Substrate Preparation**    **Icosit® KC 330 Primer:**  
To improve adhesion, absorbent substrates (concrete) should be primed. Waiting time between application of **Icosit® KC 330 Primer** and pouring of **Icosit® KC 340/4** min. 1 hour and max. 3 days.

## SikaCor® 277:

If a waiting time of more than 3 days is to be expected between priming and pouring **Icosit® KC 340/4** or if a solvent-free primer or an efficient corrosion protection is required, **SikaCor® 277** shall be used for priming. The freshly applied coating should immediately be blinded (broadcasted) with quartz sand 0,4 – 0,7 mm granulometry.

Waiting time between application of **SikaCor® 277** and **Icosit® KC 340/4** minimum 24 hours.

See individual data sheets for these products!

## Application Conditions

**Material temperature** Before application preferably approx. + 15 °C.

**Substrate temperature** + 5 °C min. / + 35 °C max.

**Ambient temperature** + 5 °C min. / + 35 °C max.

**Substrate humidity** Dry to mat-damp

**Relative air humidity** 90% max.

## Application Instructions

**Application Method / Tools** Mixing proportion component A : component B = 100 : 10 (parts by weight).

**Icosit® KC 340/4** is supplied in pre-weighed composite units consisting of A + B component. Component A must be stirred up thoroughly before being mixed with component B.

Whilst mixing component A with B, observe the following instructions:

1. Electric or pneumatic stirrer, approx. 600–800 rpm
2. Mixing time approx. 60 to 80 seconds
3. Make sure to properly reach walls and bottom of container

For 6 kg units, we recommend mixer CX 40 stirrer WK 120 of Messrs.

Collomix or mixer MXP 1000 EQ with stirrer HS 2, 120 x 600, of Messrs. PROTOOL.

For application of the 3 kg cartridges, we can supply the following equipment:

Stirring rod No. 207 (**compulsory**)

Cartridge holder 252 (**compulsory**)

Pneumatic injection gun 251 (strongly recommended).

Needs compressor with rating of 150 to 200 litres/minute, operating pressure 4 bar (58 p.s.i.)

Application technique for direct (sleeperless) fixation of trackwork (discrete fixation):

1. Adjust rail to correct line and level
2. Drill holes to accommodate anchor bolts (normally 2 per baseplate, diagonally placed)
3. Apply **Icosit® KC 330 Primer** (or **SikaCor® 277** respectively)
4. Fix baseplates loosely to rail foot
5. Fill bolt holes with pourable epoxy grout, consisting of 1 part by weight **Icosit® KC 220/60 TX** and 1 part by weight dry quartz sand of 0.4 – 0.7 mm granulometry. Place pre-assembled anchor bolts.
6. Fit shuttering frame (formwork) treated with release agent.
7. Mix **Icosit® KC 340/4** as described above and replace nozzle which has previously been cut to a suitable size. Extrude air by pushing the cartridge bottom (piston) upwards by suitable means (e.g. timber 6 x 6 cm, 10 – 15 cm long).
8. Inject **Icosit® KC 340/4** between baseplate and substrate.
9. After a waiting time of approx. 4 hours, the formwork can be removed.

**Cleaning of Tools** Mixing and application tools must be cleaned at regular intervals and immediately after use with **Sika® Cleaner 5**. Cured material can only be removed mechanically.

**Potlife** Approx. 11 minutes at + 20 °C (68 °F).

After this time, the mixture becomes unserviceable.

**Do not add any solvents!**

Higher temperatures will shorten pot life!

**Waiting Time** Tack-free after approx. 2 h at + 20 °C (68 °F).

Traffickable after approx. 12 h at + 20 °C (68 °F).

## Please Note

For easier application, we recommend a material temperature of + 15 °C.

Undersealing layer thickness should be 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 blastcleaning or scabbling.

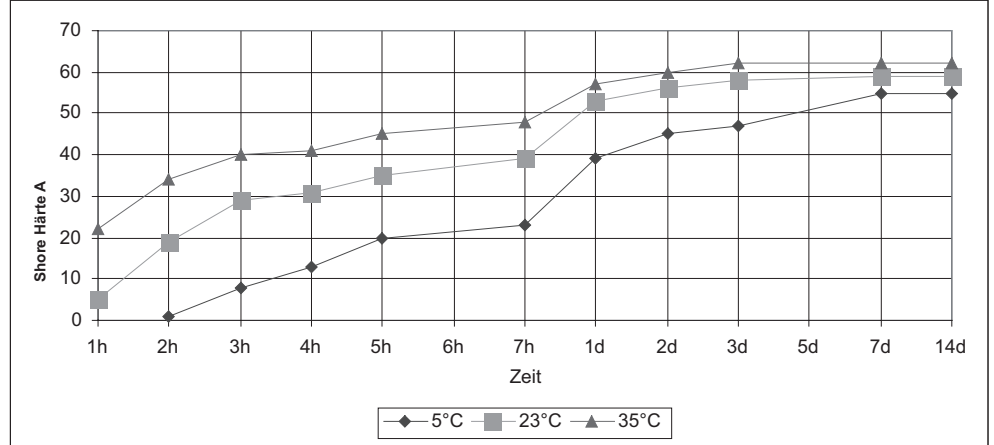
Substrate may be damp.

Droplets of water have to be removed before application of **Icosit® KC 340/4**, e.g. by compressed air.

Use of appropriate **Sika® Primers** will improve adhesion considerably.

Baseplates should be undersealed by injection from 3 kg tubes (cartridges).

## Curing Progression



## 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.

## 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.

## Health and Safety Information

### Protective Measures

Components A + B of **Icosit® KC 340/4** are solvent-free.  
Component A falls under UN No. 3082, class 9 of the IMDG/IATA DGR transport regulations and is classified as “irritating” Component B is classified as “harmful”.  
Local regulations as well as health and safety advice on containers must be observed.

Component B of **Icosit® KC 340/4** contains Isocyanate.

Isocyanate containing material may cause irritation and – under permanent exposure – sensitization of skin, eyes and respiratory tract and may also lead to allergic reactions. Allergic persons and persons tending to illness of respiratory tract should not come into contact with this kind of materials. Therefore avoid direct contact with the liquid components (chemical resistant gloves/goggles/clothing) to prevent direct contact with skin and eyes. Use only in presence of adequate general and local exhaust ventilation to prevent concentration of vapours. Use properly fitted NIOSH respirator if ventilation is poor. Cured product (as combined with companion component) is chemically inert but very difficult to remove from skin or any objects to which it adheres. Cured product must be mechanically removed. In case of spill, avoid direct contact. Wearing protective equipment, contain and collect spill with absorbent material and place in suitable container. Ventilate enclosed area. Do not dispose of in sewer or drain. Dispose of spilled or excess product and container in accordance with applicable federal, state and local environmental regulations.

Prior to as well as after application use fat-free barrier cream. After completion of work clean skin with plenty of soap and water and again protect with fat-containing barrier cream.

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 containing physical, ecological, toxicological and other safety-related data.

### Notes

All technical data stated in this Product Data Sheet are based on laboratory tests.  
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### Important Notes

Residues of material must be removed according to local regulations. Fully cured material can be disposed of as household waste in agreement with the responsible local authorities.

Detailed health and safety information as well as detailed precautionary measures e.g. physical, toxicological and ecological data can be obtained from the safety data sheet.

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 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 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 Product Data Sheet for the product concerned, copies of which will be supplied on request.