

# PRODUCT DATA SHEET

## Sika® Icosit® KC 220/60 TX

### 2-Part multipurpose epoxy resin binder

#### DESCRIPTION

Sika® Icosit® KC 220/60 TX is a 2-part multipurpose epoxy resin binder used for producing a bonding bridge, pourable epoxy grout and epoxy mortar. It has low shrinkage, good mechanical strengths and is suitable for many static or dynamic precision applications.

#### USES

Sika® Icosit® KC 220/60 TX may only be used by experienced professionals.

- Grouting and fixing anchor bolts of rail fixing systems (bridges, tunnel track slabs, train washing installations, track turn tables, crane tracks)
- Grout for undersealing rail baseplates, bridge bearings and machine foundations
- Bonding agent between old concrete and freshly poured concrete / cement mortar

#### FEATURES

- Good adhesion on concrete and steel substrates
- High mechanical properties
- Can be bulked with sand to produce epoxy grouts and mortars
- Used by Deutsche Bahn (German railways) and a number of other European Railway Authorities

#### PRODUCT INFORMATION

<b>Composition</b>	2-component epoxy binder		
<b>Packaging</b>	Part A	3,6 kg container	
	Part B	4,4 kg container	
	A + B	8,0 kg	
<b>Colour</b>	Part A	Amber	
	Part B	Beige	
<b>Shelf life</b>	24 months from date of production		
<b>Storage conditions</b>	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.		
<b>Density</b>	Part A	~1,2 kg/l	(ISO 2811-1)
	Part B	~1,6 kg/l	(ISO 2811-1)
	A + B	~1,4 kg/l	(ISO 2811-1)

# TECHNICAL INFORMATION

<b>Compressive strength</b>	Mixed with quartz sand 0,4 mm – 0,7 mm 1 : 1 (p.b.w)	90 – 100 N/mm <sup>2</sup>	(DIN EN 196-1)
	Mixed with quartz sand 0 – 4 mm 1 : 6 (p.b.w)	40 – 50 N/mm <sup>2</sup>	
<b>Flexural-strength</b>	Mixed with quartz sand 0,4 mm – 0,7 mm 1 : 1 (p.b.w)	30 – 40 N/mm <sup>2</sup>	(DIN EN 196-1)
	Mixed with quartz sand 0 – 4 mm 1 : 6 (p.b.w)	10 – 20 N/mm <sup>2</sup>	
<b>Temperature resistance</b>	-40 °C up to +60 °C		

# APPLICATION INFORMATION

<b>Mixing ratio</b>	Part A : Part B = 45 : 55 (p.b.w.) Part A : Part B = 53 : 47 (p.b.v.)		
<b>Consumption</b>	<b>Application</b>	<b>Sika® Icosit® KC 220/60 TX</b>	
	Bonding agent	~0,8 – 1,2 kg/m <sup>2</sup>	
	Primer	~0,5 – 0,6 kg/m <sup>2</sup>	
	<b>Application</b>	<b>Mixing ratio</b>	<b>Sika® Icosit® KC 220/60 TX</b>
	Epoxy grout	1 : 1 (p.b.w) ~1 litre of grout	0,85 kg 0,85 kg Granulometry: 0,4 – 0,7 mm
	Epoxy mortar	1 : 6 (p.b.w) ~1 litre of mortar	1,44 kg 1,44 kg Granulometry: 0 – 4 mm
<b>Layer thickness</b>	<b>Application</b>	<b>Layer Thickness</b>	
	Epoxy grout for filling wide joints and undersealing baseplates	15 - 80 mm	
	Epoxy grout for fixing anchor bolts	diameter of anchor hole: min. 7 mm Sika® Icosit® KC 220/60 TX + diameter of anchor bolt Length of anchor hole: min. 115 mm max. 40 mm	
<b>Epoxy mortar</b>	max. 40 mm		
<b>Ambient air temperature</b>	minimum +5 °C / maximum +35 °C		
<b>Substrate temperature</b>	minimum +5 °C / maximum +35 °C		
<b>Substrate moisture content</b>	Dry		
<b>Pot Life</b>	Temperature	+5 °C – +10 °C	+20 °C
	Time	~90 minutes	~60 minutes
	Potlife begins when all parts have been mixed. It is shorter at high temperatures and longer at low temperatures. The greater the quantity mixed, the shorter the potlife.		
<b>Curing time</b>	Temperature	+5 °C – +10 °C	+20 °C
	Time	~48 hours	~18 hours

## BASIS OF PRODUCT DATA

All technical data stated in this Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

## IMPORTANT CONSIDERATIONS

- Minimum substrate temperature must be maintained during application and curing e.g. with suitable thermal insulation and / or infrared heating.
- Do not add solvents. Solvents will prevent proper curing and change the mechanical properties.
- Cold ambient, substrate or material temperatures will reduce the curing and flow characteristics.

## ECOLOGY, HEALTH AND SAFETY

### GISCODE: RE50

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

#### Concrete

Concrete must be at least 3–6 weeks old. Substrate surfaces must be sound, clean, dry or matt damp. Free from standing water, ice, dirt, oil, grease, coatings, laitance, efflorescence, old surface treatments, all loose particles and any other surface contaminants that could affect adhesion.

#### Steel

Surfaces must be clean, dry, free from oil, grease, coatings, rust scale, all loose particles and any other surface contaminants that could affect adhesion.

## SUBSTRATE PREPARATION

### Concrete

Substrate must be prepared by suitable mechanical preparation i.e. very high pressure water blasting, needle gun, scabblor or bush hammer to achieve a laitance and contaminant free, open textured surface. To improve adhesion, apply Icosit® KC 330 Primer as a primer on absorbent substrates (concrete). Any pockets or holes for structural fixings must also be cleaned of all debris.

### Steel

Substrate must be prepared by suitable mechanical preparation i.e. abrasive blast cleaning techniques or high pressure water-blasting, angle grinder to achieve a bright finish or to a standard equivalent to Sa 2½ as per EN ISO 12944.

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).

Avoid dew point conditions.

### All substrates

All dust and loose material must be completely removed from all substrate surfaces before application of the product by vacuum / dust removal equipment.

### Shutter Formwork

Where formwork is to be used, all formwork must be of adequate strength, treated with release agent and sealed to prevent leakage.

For grouting application, prepare the formwork to maintain a minimum 100 mm grout head to assist with placement. A grout box equipped with an inclined trough attached to the formwork will also improve the grout flow and reduce air voids.

## MIXING

Prior to mixing all parts, mix separately Part A (resin) using an electric single paddle mixer (speed ~ 600 – 800 rpm.) or other suitable equipment for ~60 seconds. Add Part B (hardener) to Part A and mix part A + B continuously for ~60 – 90 seconds until a uniformly coloured mix has been achieved.

When Parts A and B have been mixed gradually add the appropriate granulometry of dried quartz sand. Mix for a further ~60 – 90 seconds until a uniform mix has been achieved. Excessive mixing must be avoided to minimise air entrainment.

During the final mixing stage, scrape down the sides and bottom of the mixing container with a flat or straight edge trowel at least once to ensure complete mixing. Mix full units only.

Mixing time for A + B + quartz sand = ~3 – 4 minutes. For adding sand to produce an epoxy mortar. Using a forced action / rotating pan / double paddle / trough type or other suitable equipment (free fall mixers must not be used).

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## APPLICATION METHOD / TOOLS

Reference must be made to further documentation where applicable, such as relevant method statement, application manual and installation or working instructions.

### Grouting

Immediately after mixing, pour the mixed grout into the prepared formwork from one or two sides only ensuring a continuous flow and maintaining a 100 mm grout head to prevent air voids.

### Bonding agent / primer

Apply mixed material onto the prepared substrate at the required consumption by brush or roller. Ensure a continuous, pore free coat covers the substrate. If necessary, apply two priming coats. For bonding bridge application, apply subsequent products 'wet on wet'. For primer application, apply subsequent products when primer has hardened.

### Epoxy mortar

Apply mixed mortar to the prepared surfaces with a spatula, trowel or by gloved hand between the minimum and maximum layer thicknesses without the formation of voids. Use temporary formwork as required. Finishing must be carried out to the required surface texture using suitable finishing tools.

## CLEANING OF EQUIPMENT

Clean all tools and application equipment with Sika® Reinigungsmittel-5 immediately after use. Hardened material can only be removed mechanically.

## LOCAL RESTRICTIONS

Note that as a result of specific local regulations the declared data and recommended uses for this product may vary from country to country. Consult the local Product Data Sheet for the exact product data and uses.

## 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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