



SikaGrout® 212

Flowable Shrinkage Compensated Cementitious Grout

Technical Data Sheet

DESCRIPTION

SikaGrout 212 is a single component flowable shrinkage compensated cementitious grout based on a blend of cements graded aggregates and admixtures.

USES

- * Under stanchion plates.
- * Void filling.
- * Concrete repairs.
- * Machine base plates.
- * For exterior and interior use.

ADVANTAGES

- * Excellent flow properties.
- * Pre batched for quality.
- * Just add water.
- * Compatible with **Sika® FerroGard®** corrosion inhibitors.
- * High compressive strength gain.
- * Easy to mix and apply.
- * Excellent bond to concrete.
- * Contains no chloride admixtures.
- * Overcoatable with **Sika** reprofiling/levelling mortars and coatings.
- * Low shrinkage.
- * Generally more durable than equivalent class of concrete.
- * Does not segregate or bleed.
- * Fire rating and protection properties comparable to concrete.
- * Can be pumped or poured.
- * Good mechanical properties.

Technical Data (typical)

Mixed colour: Grey

Mixed wet density: 2.2 kg/litre

Application temperature: +5°C min, +30°C max
(Substrate and ambient)

Application thickness per layer: 10 mm minimum
75 mm maximum

MECHANICAL PROPERTIES

(@ 20°C)	24 hours	18 - 20 N/mm ²
	3 days	35 - 40 N/mm ²
	7 days	40 - 45 N/mm ²
	28 days	50 - 55 N/mm ²

Early expansion: 0.25 - 0.50%



Water addition: 2.3 litres - 3.9 litres per 25 kg
(depending on consistency required)

'Working time': 20 mins

All above values are approximate.

CONCRETE SUBSTRATE PREPARATION

Breakout and remove all concrete designated as being defective, loose and unsound, using suitable mechanical equipment.

Ensure sufficient concrete is removed from around reinforcement to allow priming and compaction of the repair material.

At the repair locations, feather edging should be avoided. The edges should be square cut to at least the recommended minimum application thickness of the repair material. Where a saw cut is employed, the substrate should be roughened mechanically to provide a 'key' between the repair mortar and substrate.

STEEL REINFORCEMENT PRIMING

Prior to applying **SikaGrout 212** into the repair area, apply two coats of **SikaTop® Armatec 110 EpoCem®** onto the reinforcement in accordance with the product technical data sheet.

MIXING

SikaGrout 212 repair mortar should be mechanically mixed using a forced action mixer or in a clean drum using a drill and paddle. A normal concrete mixer is NOT suitable.

Mix **SikaGrout 212** with water for at least 2 minutes to achieve a uniform consistency.

APPLICATION

The prepared substrate should be thoroughly soaked with clean water until uniformly saturated leaving no standing water.

When pouring, the area of grouting must be tightly shuttered and a header box used so that a grout head of 150 to 200 mm can be maintained.

For larger applications **SikaGrout 212** can be placed using a grout pump. Ensure that air is displaced by grout, if necessary, by making breather holes. Use steel rods or chains to assist the flow of grout where necessary.

After the grout has initially hardened remove any shuttering and keep the grout damp by covering with polythene or damp hessian.

Handling Precautions

Sika products are generally harmless provided that certain precautions normally taken when handling chemicals are observed. The materials must not, for instance, be allowed to come in contact with foodstuffs or food utensils and measures should also be taken to prevent the uncured materials from coming in contact with the skin, since people with particularly sensitive skin may be affected. The use of protective clothing, goggles, barrier creams and rubber gloves is required. The skin should be thoroughly cleaned at the end of each working period either by washing with soap and warm water or by using a resin-removing cream - the use of powerful solvents is to be avoided. Disposable paper towels - not cloth towels - should be used to dry the skin. Adequate ventilation of the working area is recommended. In case of accidental eye or mouth contact, flush with water - consult a doctor immediately. Health and Safety information on Sika Products is available and we strongly advise that this is read prior to their use. Sika products are for professional use and should be stored in sealed containers away from the reach of children.

Important Note

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 should always refer to the most recent issue of the Technical Data Sheet for the product concerned, copies of which will be supplied on request.

Please consult our Technical Sales Department for further information

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IMPORTANT CONSIDERATIONS

CURING

It is essential to cure the product immediately after application for a minimum of 5 - 7 days to ensure full cement hydration and to minimise cracking. Use polythene sheeting taped down at the edges or other approved method.

- * Large/deep repairs may be subject to shrinkage and cracking. This may be minimised by limiting repair volumes and reducing layer thicknesses.
- * Use only clean potable water.
- * Do not add water over recommended dosage.
- * Apply only to prepared, sound substrates.
- * Protect freshly applied material from freezing for 3 days.

CLEANING

Remove **SikaGrout 212** from tools and equipment with water. Hardened material can only be removed mechanically.

PACKAGING

Refer to latest price list.

CONSUMPTION

2.2 kg/m²/mm (2.2 kg/litre)

Excluding allowances for loss wastage, surface profile and porosity.

STORAGE AND SHELF LIFE

Minimum 9 months in unopened original sealed containers stored in dry warehouse conditions (+5°C - +25°C).



SikaDur[®] 42

Rapid High Strength Pourable Epoxy Grout

Technical Data Sheet

DESCRIPTION

SikaDur 42 is a three component solvent free, rapid curing, high strength epoxy pourable grout. It is based on a special combination of epoxy resin and aggregates to allow the material to flow and self-level.

USES

- * As a levelling and repair mortar on concrete, stone, mortar, render and timber.
- * Structural bonding of starter bars and holding down bolts.
- * Grouting of bearing plates, machine bases, mechanical bridge joints, bridge bearings and rail base plates.

ADVANTAGES

- * Excellent flowability.
- * Excellent mechanical properties.
- * Rapid strength gain.
- * Can be applied in damp conditions.
- * Excellent performance and durability.
- * Easy to mix and apply.
- * Excellent bond to most construction materials.
- * High early strengths.
- * Good abrasion resistance.
- * Good chemical resistance.
- * Very good water resistance.
- * Negligible shrinkage.
- * Cures in damp and wet conditions.
- * Non corrosive to steel.
- * Factory batched for quality control.
- * Vapour proof.
- * Solvent free.
- * Low odour.
- * User friendly.

Technical Data (typical)

Colour: Grey (mixed)
Density: 2.0 kg/litre
Application temperatures: +5°C min - +30°C max (substrate and ambient)

Application thickness: 12 mm minimum
 50 mm maximum

Compressive strength gain guide (N/mm²)

Time (days)	1	3	7	14
5°C	-	110	120	130
20°C	110	120	130	130

Flexural strength: 30 N/mm² @ 20°C

Tensile strength: 20 N/mm² @ 20°C

Modulus of Elasticity: 18 KN/mm² @ 20°C
 (static)

Coefficient of Expansion: 18 x 10⁻⁶ per °C

Bond strength: Concrete: typically 4 N/mm² (concrete failure)
 Steel: typically 20 N/mm² (epoxy failure)

Shrinkage: Negligible

Pot life:

Temp	Mins
5°C	90
10°C	60
20°C	30
30°C	15

All above values are approximate.

SURFACE PREPARATION

Concrete/Brickwork/Mortar Substrates:

Surfaces must be sound, clean, free from frost, oils, grease, standing water and all loosely adhering particles and other surface contaminants. Cement laitance must be removed

Mechanically prepare surfaces by suitable approved techniques such as needle gunning, scabbling, bush hammering, water/grit blasting etc. Concrete must be at least 3-6 weeks old. Feather edging should be avoided. The edges should be square cut to at least the recommended minimum application thickness of the product.

Steel Substrate:

Prepare surfaces by removing old coatings, rust products, grease, oil etc by suitable mechanical equipment to a bright metal finish (equivalent to SA2½ Swedish standard). Apply **SikaDur 42** within 4 hours or protect reinforcement with **Sika® Armatec 110 EpoCem®**.

MIXING

Stir component A prior to mixing (resin). The whole of component A (resin) should be mixed with the whole of component B (hardener) for a minimum of 2 minutes using a slow speed electric stirrer (300 rpm) and suitable spiral or paddle mixer until a uniform mix and colour is achieved.

Then add component C (filler/aggregate) slowly and continue to mix until mixture is homogeneous. Leave **SikaDur 42** to stand in container until the majority of air bubbles have dispersed.

SUBSTRATE PRIMING

Priming is not required.

APPLICATION

Pour **SikaDur 42** into prepared opening or hopper and maintain enough head (approx 150 - 200 mm) to allow a free flow of material and avoiding the formation of air pockets. Ensure that air is displaced by the **SikaDur 42**, if necessary, by making breather holes. Use steel rods or chains to assist the flow of grout where necessary.

IMPORTANT CONSIDERATIONS

- * At higher temperatures pot life will be shortened.
- * At lower temperatures the material will become more difficult to apply and take longer to harden.
- * Wear suitable protective clothing, gloves and eye protection.
- * Do not add solvent to the mix.
- * Always ensure good ventilation when using in a confined space.
- * **Thinner C** is flammable. NO NAKED FLAMES
- * Do not mix additional fillers.

CLEANING

All tools should be cleaned with **Thinner C** immediately after use. Hardened material must be removed mechanically.

PACKAGING

Refer to latest price list.

CONSUMPTION

24 kg/m² @ 12 mm thickness
40 kg/m² @ 20 mm thickness

Excluding allowances for loss wastage surface profile and porosity.

STORAGE AND SHELF LIFE

Minimum 12 months in sealed containers stored in dry warehouse conditions (+5°C - +25°C).



Handling Precautions

Sika products are generally harmless provided that certain precautions normally taken when handling chemicals are observed. The materials must not, for instance, be allowed to come in contact with foodstuffs or food utensils and measures should also be taken to prevent the uncured materials from coming in contact with the skin, since people with particularly sensitive skin may be affected. The use of protective clothing, goggles, barrier creams and rubber gloves is required. The skin should be thoroughly cleaned at the end of each working period either by washing with soap and warm water or by using a resin-removing cream - the use of powerful solvents is to be avoided. Disposable paper towels - not cloth towels - should be used to dry the skin. Adequate ventilation of the working area is recommended. In case of accidental eye or mouth contact, flush with water - consult a doctor immediately. Health and Safety information on Sika Products is available and we strongly advise that this is read prior to their use. Sika products are for professional use and should be stored in sealed containers away from the reach of children.

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SikaRail® KC330/340 Range

Polyurethane Flexible Resin Based Grout

Technical Data Sheet

DESCRIPTION

SikaRail KC330/340 are two pack, solvent free, rapid curing, polyurethane flexible grouts. Available in several grades and formulated for application by pouring or injection.

USES

SikaRail KC330/340 provides a flowing, vibration absorbing load bearing resilient grout for:

- * Bedding and bonding rail base plates to: steel bridge decks, concrete bridge and tunnel slab tracks, concrete sleepers
- * Bonding buried rails for in street running.
- * New and maintenance works.
- * Carriage wash down areas.
- * Maintenance depot track work.
- * Heavy, light and crane rail applications.

ADVANTAGES

- * Out performs cementitious, epoxy and polyester grouts under dynamic loading.
- * Rapid strength gain.
- * Over 30 years proven performance.
- * Fast injection process.
- * Excellent electrical isolation reducing stray currents.
- * Can help reduce corrugation of rails.
- * Can be trafficked without cracking before fully cured.
- * Excellent bond to steel and concrete.
- * Excellent noise and vibration damping.
- * Reduces structure borne noise.
- * Various grades available for optimum performance.
- * Chemical resistant to lubricants and cleaning fluids.
- * Allows design of base plates without the use of holding down bolts.
- * Evenly distributes loads to substrate.
- * Does not crack.
- * Expands on application to prevent voids.

Technical Data (typical)

Application temperatures:	+5°C min - +30°C max (All grades)				
Grades:	330/2M	330/5	330/6	330/10	340/45
Colour:	Grey	Grey	Black	Black	Grey
Density: (kg/litre)	0.9	1.1	1.1	1.1	0.9
Optimum pressure for deflection limits: (N/mm ²)	1.0	1 - 2	2 - 10	> 20	0.25
Shore hardness: (± 5): A50	A60	A75	D65	A50	
Tensile strength: (N/mm ²)	1.0	1.5	3.5	9.0	1.7
Tear resistance: (N/mm ²)	3.0	3.5	8.5	45	6.0
Full service loads:					
20°C (hrs)	24	24	24	24	24
5°C (days)	2 - 3	2 - 3	2 - 3	2 - 3	2 - 3
Curing time:					
20°C (hrs)	3 - 5	2 - 3	2 - 3	3 - 5	2 - 3
Working time:					
20°C (mins)	15	10	10	10	10
± 2 mins					
Shelf life: (months)	6	12	12	6	12

Additional detailed information such as load/deflection graphs, spring coefficients, resonance frequency, damping factor etc are available on request.

All above values are approximate.

SURFACE PREPARATION

Concrete surfaces:

Cementitious surfaces must be fine gripping and solid, free of loose and friable particles and contaminants such as laitance, dust and oil etc. This preparation is only required if the design is for a fully bonded base plate or where a reduced number of holding down bolts are being employed.

Steel surfaces:

Where it is required to achieve a high degree of bond between the steel surface and the **SikaRail KC330/340** the surface should be prepared to clean bright metal without any corrosion products. A high degree of bond is recommended where holding down bolts are being reduced/eliminated or where the ingress of water is to be prevented to avoid corrosion of the underside of the base plate or rail.

PRIMING

After preparation of the steel or concrete surfaces, apply undiluted **SikaRail KC330 Primer** by brush at a consumption rate of not less than 0.2 kg/m². **SikaRail KC330/340** should be placed within 3 days of priming. (Also refer to separate **SikaRail KC330 Primer** data sheet).

APPLICATION

Align and level track work and support as necessary prior to the application of **SikaRail KC330/340**. Allow primer to become tack free and wipe up any puddles of primer on substrates.

Stir component A (resin) prior to adding component B (hardener). Mix for 60 -90 seconds using a drill (600 - 800 rpm) and special mixing paddle. The use of mixing timers is recommended. Only mix material which can be immediately incorporated into the shuttering.

SikaRail KC330/340 should only be placed against dry surfaces (whether primed or not) and should be protected during curing if water or rain contamination is expected.

Shuttering, should be treated with a debonding agent. The nature and 'tightness' of the shutter will depend on the specific detail of fixing being employed and whether a pouring or injection grade of **SikaRail KC330/340** is used.

Average thickness of **SikaRail KC330/340** below a base plate should be between 15 mm and 50 mm for the optimum combination of noise/vibration reduction.

Inject or pour the **SikaRail KC330/340** into the void underneath the base plate or rail foot.

IMPORTANT CONSIDERATIONS

- * Do not apply in wet conditions.
- * Ensure thorough mixing.
- * **SikaRail KC330/340** can be applied at 0°C under discreet base plates. Ensure substrates are frost free.

CLEANING

Remove **SikaRail KC330/340** from tools and equipment with **Thinner C**. Hardened material can only be removed mechanically.

PACKAGING

Refer to latest price list.

CONSUMPTION

15 kg/m² @ 15 mm thickness (approximately)
15 litres/m² @ 15 mm thickness (approximately)
Excluding allowances for loss wastage, surface profile and porosity.

STORAGE AND SHELF LIFE

Minimum shelf life (refer to technical data information) in unopened original sealed containers stored in dry warehouse conditions (+5°C - +25°C).

Handling Precautions

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SikaRail® KC330 Primer

Polyurethane Primer for SikaRail KC330/340

Technical Data Sheet

DESCRIPTION

SikaRail KC330 Primer is a two component, solvented polyurethane resin.

USES

SikaRail KC330 Primer can be used for priming concrete and steel substrates prior to applying **SikaRail KC330/340**

ADVANTAGES

- * Simple to apply.
- * Compatible with all **SikaRail KC330/340** grout grades.
- * Applied by brush, roller or spray.

Technical Data (typical)

Colour:	Yellow/transparent		
Specific gravity:	1.0 kg/litre		
Volume solids:	38%		
Application temperature & humidity conditions:	+5°C - +30°C (substrate and ambient) 70% RH MC of substrate <3% by wt		
Consumption:	0.1 - 0.2 kg/m ²		
Overcoating times:			
40 - 60% RH	+10°C	+20°C	+30°C
Min (hours)	3	1	1
Max (days)	3	3	2

All above values are approximate.



SURFACE PREPARATION

Concrete surfaces:

Cementitious surfaces must be fine gripping and solid, free of loose and friable particles and contaminants such as laitance, dust and oil etc. This preparation is only required if the design is for a fully bonded base plate or where a reduced number of holding down bolts are being employed.

Steel surfaces:

Where it is required to achieve a high degree of bond between the steel surface and the **SikaRail KC330/340** the surface should be prepared to clean bright metal without any corrosion products. A high degree of bond is recommended where holding down bolts are being reduced/eliminated or where the ingress of water is to be prevented to avoid corrosion of the underside of the base plate or rail.

PRIMING

After preparation of the steel or concrete surfaces, apply undiluted **SikaRail KC330 Primer** by brush at a consumption rate of not less than 0.2 kg/m². **SikaRail KC330/340** should be placed within 3 days of priming.

APPLICATION

Apply **SikaRail KC330 Primer** to the dry substrate by brush, roller or spray avoiding the formation of puddles. Allow to dry 'tack free' before applying **SikaRail KC330/340** grout.

IMPORTANT CONSIDERATIONS

- * Apply to dry surfaces.
- * At low temperature and humidity curing will be delayed.
- * Do not add solvents.
- * Use undiluted.
- * Unused opened **SikaRail KC330 Primer** should be used within 2 days.

CLEANING

Remove **SikaRail KC330 Primer** from tools and equipment with **Thinner C**. Hardened material can only be removed mechanically.

PACKAGING

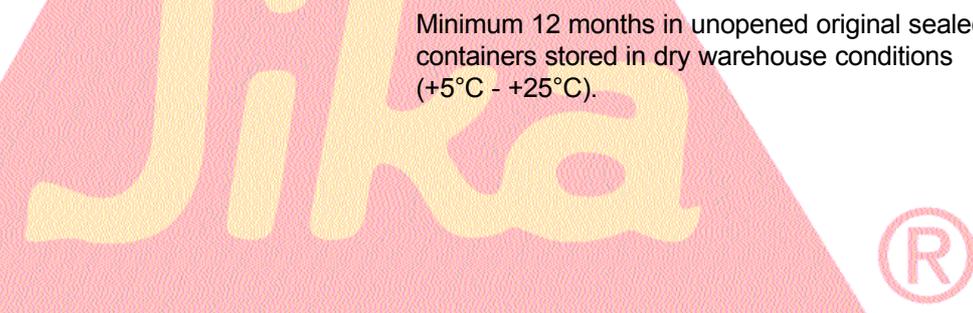
Refer to latest price list.

CONSUMPTION

0.1-0.2 kg/m² approximately.
Excluding allowances for loss wastage, surface profile and porosity.

STORAGE AND SHELF LIFE

Minimum 12 months in unopened original sealed containers stored in dry warehouse conditions (+5°C - +25°C).



Handling Precautions

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