

KLB-SYSTEM ACRYL

AC 353

Elastic grouting resin on the basis of PMMA for joints that can be driven over

Packaging units



Article no.	Packaging	Content (kg)	Units/pallet
AK0030-47	Bucket	10.00 kg	30
AK0030-30	Hobbock	25.00 kg	12

Product characteristics

Processing time	20 °C / 68 °F : 8 - 13 min.
Processing temperature	Minimum 5 °C / 41 °F (room and floor temperature)
Curing time (accessibility)	20 °C / 68 °F : approx. 60 - 120 minutes (until it is grindable)
Dosage of hardener	5 °C / 41 °F: 3.0 - 4.0 % 12 °C / 53.6 °F : 2.0 - 3.0 % 20 °C / 68 °F : 1.5 - 2.0 % 30 °C / 86 °F : 1.0 - 1.5 %
Curing	60 - 120 minutes until accessibility at 20 °C / 68 °F
Consumption	(resin with 50% KLB-Mischsand 2/1) approx. 1.65 kg/l (resin with 75% KLB-Mischsand 2/1) approx. 1.8 kg/l
Colours	Grey (approx. RAL 7030)
Shelf life	6 months (originally sealed)

Product description

KLB-SYSTEM ACRYL AC 353 is an elastic PMMA grouting compound which is used for producing accessible floor joints. The fast-curing grouting resin requires only short installation times and can thus be used or driven over after just a few hours. The coating can additionally be filled with mixed sand **KLB-Mischsand 2/1** to control the hardness and load-bearing capacity. The application is carried out in block casting in thick layers of up to 40 mm. Due to the fast hardening, the joint can be ground even with the floor after only 1 to 2 hours.

KLB-SYSTEM ACRYL AC 353 is suitable for grouting structural, connection, industrial and movement joints in layer thicknesses of 10 - 30 mm in one grouting. The elastic deformability allows to absorb the movement of structural components, such as two concrete slabs lying next to each other. **KLB-SYSTEM ACRYL AC 353** is particularly convincing for block joints with little movement and high stress. In contrast to this, **KLB-SYSTEM ACRYL AC 356** has a higher elasticity and should therefore rather be used for joints susceptible to higher deformation.

Due to its deformability, the movement of structural components can be absorbed, while the building joints can still be driven or rolled over. In the case of floor conveyor use, the joints between the building components can be accessed with low noise, which means that the driving speed can be kept high. Shocks and impacts of conventionally installed joint profiles are avoided.

KLB-SYSTEM ACRYL AC 353 suits application in storage, commercial or industrial facilities as well as for accessible joints on parking decks, underground parking, and much more.

KLB-SYSTEM ACRYL AC 353 has a medium viscosity and is adjusted with a very pourable consistency; the processing time is short, as with all PMMA resins. The joint can already be ground down to the level of the floor after 1 to 2 hours using a suitable grinding machine. The resin hardens in layer thicknesses of 10 to 30 mm with little shrinkage. Higher thicknesses must be laid in several layers. Depending on the area of application, joint width, mechanical requirements and therefore, desired elasticity, the product can be individually adjusted by filling it with mixed sand **KLB-Mischsand 2/1**. To improve the visual impression of the joints and to increase cleanliness, a sealing layer with **KLB-SYSTEM POLUYREA PU 469** can be applied.

KLB-SYSTEM ACRYL AC 353 is sufficiently hard/elastic within 2 - 3 hours, thus can be walked or rolled over with light weight. Full hardening is achieved after 12-18 hours. If possible, traffic with high frequency and load should only take place after this time.

The joint has good chemical resistance to water, aqueous solutions, diluted acids, glycol and petrol under normal use. Conditional resistance to solvents.

Area of application

- Hard-elastic grouting of building joints between concrete slabs or as alternative to profiles.
- Block grouting of concrete slabs in commercial or industrial halls that can be driven over by floor conveyors with low vibration and low noise.
- For building, connection, industrial and movement joints in driving or parking areas, also with intensive traffic.
- Suitable for joints with low movement and high stress.

Product features

- rapid-setting
- quickly accessible
- deformable
- low-shrink
- good resistance to water and chemicals
- impervious to fluids
- resistant to weather

Technical data

Viscosity	approx. 400 - 600	mPas	DIN 53018
Density	Approx. 1.3 (unfilled), approx. 1.6 (with 50% KLB-Mischsand 2/1), approx. 1.7 (with 75% KLB-Mischsand 2/1)	kg/l	DIN EN ISO 2811-2 (20 °C / 68 °F)
Tensile strength	approx. 4.7 (with 50% KLB-Mischsand 2/1), approx. 4.5 (with 75% KLB-Mischsand 2/1)	N/mm ²	DIN 53504
Elongation at break	Approx. 90 (with 50% KLB-Mischsand 2/1), approx. 30 (with 75% KLB-Mischsand 2/1)	%	DIN EN ISO 527-2
Shore-hardness A	Ca. 96 (mit 50 % Mischsand 2/1)	-	DIN 53505 (after 7 days)
Shore-hardness D	Ca. 45 (mit 50 % Mischsand 2/1)	-	DIN 53505 (after 7 days)

The values established in tests are average values. Deviations from the product specification may occur.

Build-up of coats

Prepare the joints between the concrete slabs mechanically. Existing joints must be dismantled. If necessary, the joint profile is to be chiselled out and reprofiled using a mortar out of **AC 353** and mixed sand **Mischsand 1**. Here, the dimensions must be created in a way that there is sufficient deformation distance between the building components in accordance with their expected movements, so that enough adhesion is provided to the two joint flanks. An elastic separating profile is to be inserted into

the substrate. The exposed joint deformation section must be sufficiently dimensioned so that the expansions/deformations can be absorbed.

Grouting of accessible joints

- Prime the joint flanks with **AC 23**, consumption approx. 0.35 - 0.45 kg/m².
- Optional: openly scattering the fresh surface with quartz sand 0.7/1.2 mm, consumption approx. 0.5 - 1.0 kg/m².
- If necessary, reprofile break-outs with a mortar consisting of **AC 353** and mixed sand **Mischsand 1** in a mixing ration of 1 : 4 parts by weight.
- **Important note:** during installation, the mortar must be well compacted, as air pockets disturb the curing process and do not allow sufficient stability.
- After the mortar has hardened, the closed joint is opened again by a separating cut, and a closed-cell PE round cord of suitable width is inserted to prevent three-flank adhesion.
- After curing, the elastic grouting mortar filled with 50 - 75% of mixed sand **Mischsand 2/1** can be poured in (depending on driving load and joint movement), so that a slight excess of the material remains (for 1 - 2 mm).
- **Important note:** we do not recommend higher filling than 75%, as this reduces the mechanical properties of the block joint.
- Grind the filled joint flat with the surface of the concrete slab/coating after 1 - 2 hours using a floor or concrete grinder; rough grinding with PCD cup; levelling or intermediate grinding with diamond cup. Vacuum afterwards.
- Application of a scratch coat or pore-closure with **PU 469**, filled with approx. 33% of mixed sand **KLB-Mischsand 2/1**, consumption approx. 0.6 kg/m² using a Kaupp spatula or a trowel. The consumption depends on the porosity of the substrate.
- Then, another fine grinding with an eccentric grinder (grit 120 to 180) is recommended.
- This is followed by a final sealing layer with **PU 469** using a velours roller, consumption approx. 0.40 - 0.8 kg/m².

Substrate

The component/substrate to be grouted must be even, dry, free of dust, sufficiently resistant to tension and compression as well as be free from weakly-bonded components or surfaces. Materials impairing adhesion such as grease, oil and paint residues should be removed with suitable measures. Substrates suitable for coating are concrete C20/25, cement screed CT-C35-F5 (ZE30) as well as other sufficiently solid substrates. The substrate has to have adequately high strength for the intended occupational use and be dimensioned. The substrates to be coated should be prepared mechanically, preferably by shot blasting. The surface strength must then be at least 1.5 N/mm². For concrete, moisture content must not exceed 4.0 CM-%, remaining residual humidity. The possibility of moisture ingress from the rear must be permanently excluded. Observe the information issued by the trade associations, e.g. the most recent versions of BEB worksheets KH-0/U and KH-0/S.

The surfaces to be coated must be primed with AC 23.

Mixing

PMMA resins and hardener powder will be delivered in individual packaging units. Since the curing reaction depends on the prevailing processing temperature, the hardener powder is dosed according to the respective section on hardener dosage.

KLB PMMA resin has to be stirred or agitated to a homogeneous resin mixture before processing. Due to the rapid curing of the material, only partial quantities that can be processed within the pot life should be mixed. The recommended hardener quantities must be observed in any case, as curing problems may occur if too little, and colour changes if too much is added. Empty all of the hardener into the resin component **AC 353** and mix carefully with a slow speed mixer (200 - 400 r/pm) for at least 30 - 60 seconds until the hardener powder is completely dissolved.

For joint grouting, it is recommended to add the hardener powder after the mixed sand. For mortar, it is recommended to add the hardener powder before the mixed sand. Then apply the grouting immediately.

Addition of filling sand for joint grouting

10 kg AC 353

5 - 7.5 kg of mixed sand **KLB-Mischsand 2/1**

Important note: when industrial trucks are supposed to drive on the floor, it is mandatory to use 7.5 kg of sand (75%).

Producing mortars

10 kg AC 353

35 to 40 kg of mixed sand **KLB-Mischsand 1**

Before adding the mixed sand **KLB-Mischsand 1** or **KLB-Mischsand 2/1**, the binding agent must be premixed with the specified amount of hardener powder while stirring. The amount of mixed sand depends on the necessary consistency and stability. Then process immediately.

Important note: AC mortars must be rich in binder and well compacted, as oxygen inclusions can affect the curing and stability process.

Processing

The joints are cut/chiselled out according to the desired joint profile and freed from loose material. If necessary, clean the joint edges with thinner, e.g. **VR 119**. Then insert a closed-cell PE round cord of suitable joint width to prevent three-flank adhesion. Prime the joint edges with **AC 23** and, if needed, scatter openly with quartz sand 0.7/1.2 mm.

In case of mortared joints, too deep joint cross-sections or uneven substrates, reprofile the joint with a mortar made of **AC 353** and mixed sand **Mischsand 1**. To do so, apply the mortar to the pre-primed joint within a few minutes using a smoothing trowel or another suitable smoothing tool.

Important note: during installation, the mortar must be well compacted, as air pockets disturb the curing process and do not allow sufficient stability.

After 30 - 60 minutes, make a separating cut and insert sealing tape. The mortar can be recoated with **AC 353** without further priming.

The pre-primed joint is then filled with the mixture of **AC 353** and mixed sand **Mischsand 2/1**. Pour the fresh mixture into the joint and spread the material evenly. Fill with excess. For increased layer thicknesses (> 30 mm), a second grouting may be necessary.

After hardening (approx. 1 - 2 hours), the excess material can be removed, e.g. with a concrete grinder incl. diamond cup. A finish grinding might be required using an eccentric grinder. When doing so, grind in a way that the joint is even with the floor surfaces on both sides. After grinding, a sealing layer with **PU 469** can be applied, when needed.

Floor and air temperature must not fall below 5 °C / 41 °F. If a dew-point situation arises, adhesion may be disrupted. If working conditions are not complied with, the technical properties of the end product may deviate from those specified.

Note: PMMA resins are highly flammable and subject to the Ordinance on Hazardous Substances. Observe the instructions in the safety data sheet and on the container!

Cleaning

To remove fresh contamination and to clean tools, use thinner **VR 119** immediately.

Storage

Store in dry and if possible, at frost-free conditions. Ideal storage temperature is between 10 - 20 °C / 50 - 68 °F. Bring to a suitable processing temperature before application. Tightly re-seal opened packages and use up the content as soon as possible.

Special remarks

The product is regulated by the German Ordinance on Hazardous Substances (GefStoffV), the German Ordinance on Industrial Safety and Health (BetrSichV), and transport regulations for hazardous goods. The necessary information is contained in the DIN Safety Data Sheet. Observe all identification information on the container label!

GISCODE: RMA 10

Indication of VOC-content:

(EG-Regulation 2004/42) Maximum Permissible Value 500 g/l (2010,II,j/lb): Ready-for-use product contains < 500 g/l VOC.



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