Technical Data Sheet
StoCrete VM 640

Self-levelling mortar, cementitious, medium compressive load

Characteristics

Area of application

- interior
- on floors
- as a floor coating for roofed commercial areas in industrial use
- mechanical stress: with pneumatic rubber tyres up to 13 tonnes, solid rubber tyres up to 7.5 tonnes, and pallet truck (polyamide tyres) up to 1.5 tonnes

Properties

- very good self-levelling properties
- very good adhesion to the substrate
- very low volume reduction during curing
- layer thicknesses: max. 25 mm, standard layer thickness: 5-8 mm
- for medium compressive loads
- non-combustible A1 (floor) in accordance with 96/603/EC

Information/notes

- product is in accordance with EN 13813

Technical data

Criterion	Standard / test specification	Value/ Unit	Notes
Compressive strength	EN 13892-2	40 MPa	
Flexural strength	EN 13892-2	8 MPa	
Shrinkage	EN 13872	< 0,5 mm/m	
Wear resistance BCA	EN 13982-4		AR0.5

The characteristic values stated are average values or approximate values. Due to the natural raw materials in our products, the stated values can vary slightly in the same delivery batch; this does not affect the suitability of the product for its intended use.

Substrate

Requirements

Cementitious screed in accordance with DIN 18560 or concrete in accordance with DIN 1045. (ZE 30 or C 20/25).

Requirements on the substrate:
The concrete substrate must be load-bearing and free from native and foreign substances that could interfere with adhesion, as well as from corrosion-promoting components (e.g. chlorides). Remove less strong layers and laitance.

	Average bond strength: 1.5 N/mm² Bond strength, lowest single value: 1.0 N/mm² Substrate temperature higher than +8 °C and 3 K above dew point.
Preparations	Prepare the substrate using a suitable mechanical process such as shot-blasting, milling and then shot-blasting, or abrasive blasting. Sanding the substrate is not sufficient.

Application

Application temperature	lowest application temperature: +10 °C highest application temperature: +25 °C
Time for application	At +20°C: (air temperature), approx. 15 minutes Protect from draughts and direct sunlight during application.
Mixing ratio	25 kg of material in accordance with the description / 4.5 - 5.0 l water = 1.0 : 0.18 - 0.20 parts by weight (+20 °C max. water temperature)
Material preparation	Manual application (areas up to 50 m²): Mix StoCrete VM 640 using a compulsory mixer (duo stirrer) or a high-performance hand paddle mixer with cold and clean tap water until it is homogeneous and without lumps. Mix material for approx. 3 minutes. Machine application: Mix StoCrete VM 640 in a mixing pump (e.g. Inocomb M4 or the PFT G4 plastering machine) with cold and clean tap water until it is homogeneous and without lumps.
Consumption	Type of application: per mm layer thickness — Approx. consumption: 1,7 kg/m² Material consumption depends on the application, substrate, and consistency, among other factors. The stated consumption values are only to be used as a guide. If required, determine precise consumption values on the basis of the specific project.
Coating build-up	Mineral coating for industrial use 1) Substrate preparation 2) Prime coating of StoCryl CP 3) If necessary, smoothing coat of StoCrete VM 630 4) Prime coating of StoCryl CP 5) Coating of StoCrete VM 640 It is also possible to apply an epoxy resin primer to mineral substrates before applying the StoCrete VM 630/640 self-levelling mortar. Epoxy resin priming coats should generally be scattered with a slight surplus of quartz sand 0.6 - 1.2 mm

	graining over the entire surface; the scattered surface must be homogeneous and free from bald areas. We recommend priming the scattered surface again with StoCryl CP until a film forms, as otherwise there is a risk of pinholes. It is essential to add only the minimum amount of water indicated to the self-levelling mortar, due to the low absorption capacity of the dense epoxy resin substrate - the mixing water cannot penetrate downwards. Please note that the reworking intervals for subsequent coatings are extended due to the self-levelling mortar releasing water at a delayed rate. If the next coating is to be a dense thick coating (e.g. StoPox BB OS or OS 11/F a/b), wait at least 7 days before lightly blasting and coating the self-levelling mortar. Avoid forming puddles and standing water on the surface of the freshly applied self-levelling mortar. Due to the higher level of substrate roughness, put down StoCrete VM 640 with a layer thickness of at least 7 - 8 mm so that it retains its flow properties and surface appearance.
Application	pumping and conveying by machine possible Mineral coating for industrial use 1) Prepare the substrate using a suitable mechanical process. Ensure that pores and blow-holes in the substrate are sufficiently opened, so that they can be completely wetted with the priming dispersion. For a strongly absorbent substrate, pre-wetting the prepared surface is recommended the evening before priming and coating. Before laying StoCrete VM 640, level large unevenness and roughness depths in the floor using StoCrete VM 630. Details can be obtained from the Technical Data Sheet for StoCrete VM 630. Waterproof any door sills, gutters, and drains with self-adhesive foam strips before applying StoCrete VM 640. 2) Prime coating For normally absorbent mineral substrates, dilute 1 part by weight StoCryl CP with 3 parts by weight water. Flood-apply the mixed primer over the floor using a broom until the substrate is evenly wet and can absorb no more. It is essential to avoid forming puddles. Reroll thoroughly using a roller to remove remaining material in the recesses. Usually 2 application cycles of primer are required. Depending on the absorption capacity of the substrate, carry out the second priming cycle after 2 - 12 hours. Pores must be sealed. Consumption: approx. 0.15 - 0.30 kg/m², depending on the absorption capacity of

the substrate

3) Coating
Adjust the mixing ratio (proportion of water) to suit the project conditions and the machinery equipment and, if required, determine it in advance using a representative test surface.

After the prime coating has dried off, which can be seen from the change in colour shade from milky to transparent (still slightly sticky), apply the mixed StoCrete VM 640 manually using a screed rake or a pin leveller (e.g. from Inotec).

If applying manually (areas up to 50 m²), mix StoCrete VM 640 in a compulsory mixer with a duo stirrer or use a high-performance hand paddle mixer (mixing time approx. 3 minutes), then apply and process manually.

If necessary, convey manually-mixed material using a Vario screw pump (e.g. Inobeam F 21, Inotec GmbH) to the site of application.

If applying by machine, mix StoCrete VM 640 in a mixing pump (e.g. Inocomb M4 G or the PFT G4 plastering machine). Convey (pump) the mixed material by machine and work it manually.

Consumption: 1.7 kg/m² and mm of layer thickness (dry material)

Layer thicknesses of 4 and 15 mm are possible in one application cycle (depending on the conveying output of the mixing pump).
max. layer thickness 25 mm

To obtain greater layer thicknesses or to apply StoCrete VM 640 on a slope, the amount of water can be reduced. Determine self-levelling properties beforehand using a representative test surface.

If applying material to StoCrete VM 630 or StoCrete VM 640, it may be necessary to prime again 1 - 2 times.

An unnotched trailing squeegee is suitable for subsequent smoothing.

CAUTION!! Do not de-air StoCrete VM 640.

Ensure sufficient conveying output depending on the area to be covered and the layer thickness. If required the PFT G4 can be equipped with a rotor (33 l/min or 55 l/min) and stator. To change the rotor and stator, the PFT G4 must be equipped with an interchangeable flange. (Please observe the instructions for implementation!)

Note:
Please observe the instructions for implementation for applying StoCrete VM 630/StoCrete VM 640! (Obtainable from the StoCretec Technical InfoCenter or at

	www.stocretec.de) Divide large areas into sections of 4.00 to 12.00 m (depending on the conveying output of the mixing pump). With large areas, we recommend setting levelling points to obtain as even a floor area as possible. At normal temperatures, the area can be walked on after 2 - 3 hours. The surface can be driven on after 7 days at normal temperatures. Protect the surface from soiling. Depending on the air and ambient climatic conditions, the surface can appear visually inhomogeneous. The surface can be reworked with StoPox WL 100 for coloured decoration and as a sealing coat. After approx. 3 - 4 days (20 °C), StoCrete VM 640 can be coated with StoCretec reaction resins (StoPox GH 205 primer). Prepare the surface beforehand by shot-blasting. The appearance of the surface is influenced by the conveying output and the machinery equipment. If reworking with water-based sealers or coatings, it is essential not to exceed the prescribed amount of water for StoCrete VM 640 or StoCrete VM 630. This ensures that the strength is also developing well and the required bond strength will be achieved. From experience the final value of the bond strength (> 1.5 N/mm²) is only obtained after approx. 28 days. However, the surface of StoCrete VM 640 or StoCrete VM 630 is hard enough after 3 - 4 days (+20 °C) and can be shot-blasted.
Cleaning the tools	Clean with water immediately after use. Hardened material can only be removed mechanically. Observe environmental protection.
Notes, recommendations, special information, miscellaneous	The abrasion resistance class specified in the CE marking refers to the smooth, not scattered covering. General application instructions are available at www.stocretec.de and in the notes of the latest Technical Manual. “The natural raw materials contained in the product may result in random mottling or ropiness in the surface appearance after curing. Visual effects in the surface cannot be ruled out due to the product-typical

application. This does not affect the technical functionality".

Delivery

Colour shade	grey, not a RAL colour shade
Packaging	sack

Article number	Name	Container
04341-005	StoCrete VM 640	25 kg bag

Storage

Storage conditions	Store in dry and frost-free conditions, 6 months
Storage life	In the original container until ... (see packaging). This product has a low chromate content. The product quality is best guaranteed in its unopened original container until its shelf life has expired. The first digit of the batch number is the final digit of the year. The second and third digits indicate the calendar week. Example: 1450013223 - shelf life until end of calendar week 45 in 2021. For further explanation, see the price list.

Certificates/approvals

Rev.-Nr. 110518	Implementation instructions StoCrete VM

Identification

Product group	Self-levelling mortar
GISCODE	ZP1
Safety	This product is subject to compulsory labelling in accordance with the current EU regulation. You will receive an EU Safety Data Sheet with your first order. Please observe the information regarding the handling of the product, its storage, and disposal.

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Special notes

The information in this Technical Data Sheet serves to ensure the product's intended use, or its suitability for use, and is based on our findings and experience. Users are nevertheless responsible for establishing the product's suitability and use.
Applications not specifically mentioned in this Technical Data Sheet are permissible only after prior consultation. Where no approval is given, such applications are at the user's own risk. This applies in particular when the product is used in combination with other products.

When a new Technical Data Sheet is published, all previous Technical Data Sheets are no longer valid. The latest version is available on the Internet.

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