

PRODUCT DATA SHEET

Icoment[®]-520 Mortar

Polymer-modified, thin layer levelling mortar for concrete protection and repairs in accordance with ZTV-ING, part 3, section 4

PRODUCT DESCRIPTION

Icoment-520 mortar is a hydraulic setting, 2-component PCC mortar. The liquid component A consists of a specially developed polymer dispersion. The powder component B contains hydraulic binders and mineral fillers. An easily applied levelling mortar is produced by adding water to achieve the desired consistency. Icoment-520 mortar, powder component B, is low-chromate according to TRGS 613 [German Regulations for Hazardous Substances].

USES

For the levelling and repair of minor surface defects in concrete surfaces, including surfaces under water and in splash-zones (e.g. swimming pools, water treatment plants etc.); also for the filling sealing of surface voids and defects such as blowholes etc.. Levelling and smoothing with Icoment-520 is carried out by the thin-layer trowel application process. Formwork profiles can be largely removed. Particularly suitable for surface levelling and protection in concrete repair works.

CHARACTERISTICS / ADVANTAGES

- Bonds firmly to the substrate in thin layers
- Provides an ideal substrate for protective coatings
- Fine surface filler for OS systems according to DIN V 18026
- Low E-modulus, low surface stress

TEST CERTIFICATES / APPROVALS

- The system is certified in ZTV-ING, part 3, section 4, Test reports 3330-2-88 and 3330-9-88 Munich University, Institute of Civil Engineering II, Faculty of Construction Materials and Materials Testing, Department for Testing Bituminous and Plastic Construction Materials.
- Certified for use on Sika MonoTop-600 by report no. P-5004/4353-MPA BS, also for use on Sika MonoTop-PCC-System by report no. P-5103/438/13 –MPA BS; Materials Testing Institute for Building, Braunschweig Technical University (IBMB MPA TU Braunschweig).

PRODUCT DATA

PACKAGING

25 kg units

SHELF LIFE / STORAGE CONDITIONS

1 year from date of production
Store in undamaged, unopened, original sealed packaging in cool and dry conditions. Keep away frost and protect from damp.

TECHNICAL DATA

DENSITY	1.84 kg/l of fresh mortar	
LAYER THICKNESS	max. 3 mm per layer / coat (see also 'Application Methods' below)	
MECHANICAL PROPERTIES	Flexural strength	ca. 10 N/mm ²
	Compressive strength	ca. 40 N/mm ²
TENSILE STRENGTH	Pull-off strength	ca. 2 N/mm ²

SYSTEM DATA

COATING STRUCTURE / MATERIAL CONSUMPTION	Ca. 1.9 kg/m ² /mm of mixed mortar. equivalent to a material consumption of Icoment-520 mortar, components A+B, of 1.76 kg/m ² /mm.	
SUBSTRATE PREPARATION	<p>The concrete substrate must be clean and sound, free from loose and friable particles, dust and dirt, any traces of formwork release agents, particularly if they contain oil or wax, plus any cement laitance on the surface must be completely removed (according to guidelines of ZTV-ING, part 3, section 4).</p> <p>If future underwater or splash-zone exposure is intended, always prepare the concrete substrate by blast cleaning to ensure removal of cement laitance and fully expose any surface voids and blowholes etc.</p> <p>The concrete substrate must be damp before and throughout application; pre-wet it thoroughly before applying the Icoment-520 mortar (SSD condition).</p>	

APPLICATION CONDITIONS / LIMITS

SUBSTRATE AND AMBIENT TEMPERATURE	Minimum + 5°C Maximum + 35°C
DEWPOINT	The substrate temperature must be min. min. + 3°C above the dew point during application and hardening. Protect freshly applied material from condensation.

APPLICATION METHOD

MIXING	Icoment-520 component A : component B : water = 16 : 84 : 8 in parts by weight. 25 kg pack: 4 kg component A + 21 kg component B + add max. 2 litres water.
MIXING RATIO	<p>Icoment-520 mortar is supplied as a pre-batched unit with the components in the correct quantities; only the water that has to be added to mix and produce the mortar has to be measured.</p> <p>Stir or agitate the liquid component A thoroughly and pour into a suitable mixing container. Add 1.8 litres of water (= ~90% of the maximum water quantity) to produce the mixing liquid and then add the powder component B in to it gradually, whilst stirring continuously. Then mix thoroughly using a suitable paddle / compulsory mixer, until a fully homogeneous mixture is obtained.</p> <p>The right consistency for application is obtained by gradually adding the necessary amount of the remaining water quantity available (adding this from the liquid component A bottle means that this is also rinsed of any residual polymer at the same time). Never exceed the measured quantity of water.</p> <p>Immediately after mixing, allow the material to stand for a few minutes prior to application. During this standing phase the material may stiffen slightly, and this consistence makes application easier on the surface. Do not add any additional admixtures or additives to, or with, Icoment-520 mortar!</p>

METHOD / EQUIPMENT

Icoment-520 is applied using plastering/rendering techniques, with trowels, floats, scrapers etc. on a pre-saturated, damp substrate. A simple method of pre-saturating and keeping moist for curing is to use a garden sprayer. Any larger or deep holes / voids should be pre-filled with the Icoment-520 or another suitable Sika repair mortar and then levelled.

Two operations are generally advisable for the application of Icoment-520 mortar:

1st operation: Levelling of the concrete substrate

2nd operation: Application of a uniform protective layer.

The maximum layer thickness per operation is 3 mm. Application in several layers is possible with careful dampening of each preceding substrate layer. Only finish the final layer to a smooth, dense surface.

If layer thicknesses over 3 mm need to be applied in one operation, the Icoment-520 mortar powder component must be pre-mixed with about 25% by weight of quartz sand, preferably of granulometry 0.7 - 1.2 mm. Never apply layer thicknesses above 5 mm in one operation. Always use the Icoment-520 mortar as supplied for the final application.

As soon as the final layer begins to harden and stiffen evenly, a fine-grained finish similar to sandpaper should be produced with a suitable sponge or wood float.

No additional water must be added during this finishing process, if tools are cleaned with water during application, then this must be squeezed out or wiped off before re-using them on the surface.

For larger areas, Icoment-520 mortar can be wet spray applied without changing the mixing ratio, but care must be taken to prevent the material from overheating in the hopper or lines. Spray application is not possible with material temperatures $\geq 25^{\circ}\text{C}$. Do not exceed the maximum layer thickness. Smooth and finish as usual. Mechanical spray application does not affect the stated technical data.

For spray application (up to 25°C max.):

Wet spray equipment with screw pumps that have variable gearing are recommended; this is so that the delivery rate can be adjusted to suit the application and environmental conditions. Examples of suitable spray equipment include the Putzmeister texture spray machine, the PFT decorative plaster spray machine, and the Wagner injection wand, or other similar machines of the same type, with a 6 mm nozzle.

For optimum spray atomisation we recommend that the spray pumps should have an air compressor with an output of $2.5 \text{ m}^3/\text{min.}$, providing an oil and water free air supply.

Our application equipment recommendations are based on tests with the stated machines. As these machines are not manufactured and sold by Sika and may be differently configured and/or equipped and/or modified, these recommendations cannot replace the user's own research and testing to confirm their suitability before application. Sika cannot accept any liability for any unsuccessful use of the machines.

**TOOL & EQUIPMENT
CLEANING**

Fresh mortar on tools and equipment can be cleaned with water. Hardened mortar can only be removed mechanically.

POT LIFE

+ 5°C	+ 20°C	+ 35°C (max temp)
Ca. 2 hours	Ca. 1 hour	Ca. 0.5 hours

The correct consistency for application is restored by simply stirring the Icoment-520 mortar within the above time limits and without adding more water.

WAITING TIME BETWEEN COATS

Operation	Waiting time approx.
Coarse mortar/ 1st operation, pre-filling (levelling, pore sealing)	24 hours
1st operation, pre-filling 2nd operation, pre-filling	24 hours
2nd operation, protective coating	4 days

Curing:

Prevent the freshly applied material from drying out too quickly, e.g. due to direct sunlight or wind; follow standard rules for the curing of cement based mortars.

Freshly applied and hardened surfaces must be kept damp by covering with suitable hessian matting / plastic sheeting and / or mist spraying with water.

Allow the material to cure for at least 3 - 4 days (5 days according to ZTV-SIB).

Avoid cold water shock on the surface.

As an alternative to the traditional curing methods, Icoment-520 mortar can be over-coated with Sikagard-552 W Primer W, Sikagard-675 Color W, or Sikagard-550 Elastoflex W as an impregnation before subsequent over-coating with the rest of the respective protective coating system.

Coatings for use on Icoment-520 mortar must be materials suitable for use on an alkaline substrate. (e.g. Sikagard-680 S Concrete Color, Sikagard-675 Color W, Sikagard-550 Elastoflex W, Sikagard Poolcoat). In compliance with EN 1504-3, Icoment-520 mortar must not be used without carbonation protection

IMPORTANT INFORMATION

CE MARK

See Declaration of Performance

HEALTH & SAFETY

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.

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 the product may vary from country to country. Please consult the local Product Data Sheet for the exact description of the application fields.

LEGAL NOTES

This information and, in particular, the suggestions relating to the application and end-use of our products, are based on our knowledge and experience in normal use, providing the products have been properly stored and applied. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of results achieved or liability arising out of any legal relationship whatsoever, can be inferred either from this information or from any advice offered by spoken word, unless we have been deliberately at fault or guilty of gross negligence. The user shall be required to prove that he has duly and in full extent submitted to Sika in writing all information necessary for Sika to make a fair and proper assessment. The user must test the products' suitability for the intended application and purpose. Sika reserves the right to change the product specifications. The proprietary rights of third parties must be observed. Orders are accepted subject to our current terms and conditions of sale and delivery. The most recent edition of the Product Data Sheet shall apply, copies of which should be requested from us.

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