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SCHOMBURG Building Product Systems

Technical Data Sheet

ASO®-EZ2

Special cement

Art.-No. 2 05529

Properties:
- High strength
- Fibre reinforced
- Rapid setting
- Long working time
- Foot traffic after approx. 6 hours *)
- Permits early installation of tiles
- Suitable for interior and exterior use
- Can be heated to recognised technical regulations after 3 days

Areas of application:
ASO-EZ2 is a fibre reinforced special cement for the production of cement-based screeds that permits coverings to be installed early, either as a bonded, unbonded, floating or heated screed, whether as a wearing finish or as a substrate for tiles, slabs, textile coverings, parquet or PVC. For installation the general directives for cementitious screeds to DIN 18560 and DIN 18353 are obligatory. The substrate must be able to take the loading according to DIN 1055.
Provided that a suitable SCHOMBURG waterproofing system has been applied, screeds produced with the binder ASO-EZ2 can be installed in wet duty areas e.g. swimming pools, swimming pool surrounds and communal showers as well as in wet duty areas classified as A2, B and C in accordance with technical test criteria and wet duty areas classified as 0, A02, B0 in accordance with the ZDB information sheet [*1].
[*1] see advice section

Technical Data:

Basis:	special cement, additives
Colour:	grey
Mixing ratio:	ASO-EZ2 / aggregate: 1:4 to 1:5 parts by weight
Water addition:	dependent on the moisture content of the aggregate used. 33% by weight (damp earth consistency) to max. 40% by weight (stiff plastic) relative to the ASO-EZ2 addition; these values refer to the use of dry aggregate
Mix method:	Forced paddle mixer, free fall mixer
Bulk density of fresh mortar:	approx. 2.2 kg/dm³ dependent on the aggregate used
Storage:	12 months when stored dry in the original unopened packaging. Use opened packaging promptly.
Application/substrate temp:	min. approx. +5° C to max. approx. +30° C
Packaging:	25 kg bags
Cleaning:	clean tools and equipment with water immediately after use
Foot traffic after *):	approx. 6 hours
Fully cured after *):	approx. 7 days
Working time *):	approx. 60 minutes

*) Values refer to +23° C and 65% relative humidity, higher temperatures reduce, lower temperatures extend these given times.

Approx. consumption, kg/m² ASO-EZ2:

	Mixing ratio	Parts by weight
Screed thickness, cm	1:4**)	1:5**)
1	4.1	3.4
4	16.3	13.6
5	20.4	17.0
6	24.4	20.4

**) 1:4 parts by weight equal to approx. 1:2.7 parts by volume, 1:5 parts by weight equal to approx. 1:3.3 parts by volume

Minimum nominal thickness to DIN 18560:

Beneath tiles	45 mm on insulation or separating layer
Beneath parquet, carpet, linoleum or PVC	35 mm on insulation or separating layer
In general	10 mm bonded

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Product preparation:
For preparation we recommend using the Brinkmann screed boy with a 65mm hose diameter, or other conventional screed mixers PFT, Putzmeister Mixocret or similar. Pay attention to the moisture content of the aggregate and avoid excess water. The working time is approx. 60 minutes at +20° C. Mixing, application and finishing must follow each other swiftly. Only measure out areas that can be completed within this working time. Higher temperatures reduce and lower temperatures extend the working time and setting time. For bonded screeds firstly brush ASOCRET-HB-flex onto the prepared, e.g. mechanically abraded, concrete substrate. Lay the screed into the wet slurry coat. The general directives for cement-based screeds DIN 18560 and 18353 should be followed for screed laying.

Mixing recommendations for mixing and rotary feed machines:
In a conventional mixing machine with rotary feed with a 220 litre mix capacity e.g. PFT, Putzmeister Mixocret mix together a total of 200 kg aggregate with 50 kg ASO-EZ2. This relates to a mixer capacity of approx. 80% - which is generally recommended by the equipment manufacturers. Please observe the following steps (mix ratio 1:4).
First half fill the mix vessel with aggregate 0/8 (approx. 15 shovels at 7kg), approx. 5-6 litres of water and 50 kg of ASO-EZ2 and mix to a plastic consistency for 2 minutes. Then fill the mixing vessel with the rest of the aggregate (dependent on the mixing ratio another 15 shovels at 7 kg) and the remaining water.
Dependent on the moisture content of the aggregate a total of approx. 10-20 litres of water will be necessary. The latter value relates to dry aggregate. In general 0/8 aggregate has a moisture content of approx. 4%, therefore 8 litres of water are already contained in 200 kg of aggregate. Keep to a total mix time of 4 minutes as only then are all components dispersed and the final consistency achieved.

Mixing recommendations for a free-fall mixer:
Recommended mixing ratio:
1:3 by volume (equates to approx. 1:4.5 parts by weight); add approx. 3 litres of water, approx. 60 kg aggregate (0-8 mm diameter, approx. 8 shovels) with 25 kg ASO-EZ2 and premix for approx. 5 minutes. Add the remaining aggregate approx. 40 kg (0-8 mm diameter, approx. 6 shovels) and mix for 1-2 minutes. Adjust to a damp earth to stiff plastic consistency by adding water.

Protect the fresh screed from drying out too quickly e.g. through heat or drafts. The screed is ready to take tiled finishes after three days when installed at 5 cm thick when the ambient and substrate temperatures are at +23 °C and the relative humidity is 50% and when the mixing ratio is 1:4 parts by weight and dry aggregate conforming to DIN 4226 is used with a particle size distribution between A8-B8 closer to B8 with consistent grading and with a water addition of 17 litres per 50 kg ASO-EZ2.
Confirmation should be sought by measuring the moisture content with a carbide hygrometer (CM).
For screeds that need to conform to a particular screed quality in accordance with DIN EN 13813, performance tests will be required. These are to be carried out prior to commencing work.

Important advice:
- By high temperatures, direct sunlight and drafts, protect the screed from water loss during drying. To ensure ideal hydration of cement, the screed can be protected during the curing phase e.g. with plastic sheeting or with continuous light misting.
- Instead of ASOCRET-HB-flex use an alternative bonding slurry consisting of ASOPLAST-MZ diluted 1:1 with water and screed mortar consisting of 1 part by volume of ASO-EZ2 and 2 parts by volume of aggregate of particle size 0-4 or 0-8 diameter.
- ASO-EZ2 is ready to receive floor finishes quickly because it contains additives that require an

especially low water demand. If more water is added than needed to achieve a stiff or stiff plastic consistency, the excess water cannot be bound within the system and must evaporate. This leads to the screed being ready to receive finishes later.

- If a shorter mix time is selected or mixing is not intensive enough, then the dispersion of all components is not guaranteed. The readiness to receive finishes early and high strength are no longer guaranteed.
- ASO-EZ2 already contains fibres. If additional fibres are to be mixed in, this can lead to delays in the readiness to receive finishes.
- For installation in areas where there is an inadequate aggregate quality or where storage of the mortar components is not possible or desired, the pre-blended mortars ASO-EZ2-Plus, ASO-EZ4-Plus, ASO-EZ6-Plus are available.
- The determination of the screed's readiness to receive floor finishes should be carried out using a carbide hygrometer (CM). Keep to the following limiting values:
- Lower temperatures, high humidity and thick screeds delay the setting, drying and achievement of readiness for laying finishes (see also the BEB data sheet "climatic requirements for the drying of screeds"). Trials have shown that at lower temperatures (+5 °C to +12 °C) the binding of the water proceeds at a delayed rate so that the readiness to receive floor finishes was only achieved belatedly.
- Water that bleeds to the surface indicates too much water or aggregate addition (more than 3.3:1 by volume equating to 5:1 parts by weight), the wrong particle size distribution or inadequate mixing. This results in a sandy surface.
- The quality of the aggregate used determines the properties of the screed produced with it. Aggregate to DIN 4226 with a consistent grading between A and B closer to B to DIN 1045 should be used. If aggregates with other particle size distributions are used, then the binder demand can increase.

Important advice table 1:

Maximum moisture content of the screed determined with a carbide hygrometer

Floor finish		heated	unheated
Vapour impervious finishes		1.8 %	2.0 %
Textile finishes	Vapour barrier	1.8 %	2.5 %
	Vapour permeable	2.0 %	3.0 %
Parquet		1.8 %	2.0 %
Laminate flooring		1.8 %	2.0 %
Ceramic tiles, natural stone/concrete slabs	Sand: Cement fixing	2.0 %	2.0 %
	Adhesive fixing	2.0 %	2.0 %

The measurements with the carbide hygrometer are to be carried out in accordance with the current work instructions of the FBH-AD from the technical information "coordination of cut out areas for heated floor constructions".

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Aggregates with a grading between B and C to DIN 1045 require a high level of ASO-EZ2. Which grade for which screed thickness should be taken from the following table:

Grading	Minimum thickness	Maximum thickness
0–4 mm	10 mm	30 mm
0–8 mm	25 mm	80 mm
0–16 mm	50 mm	160 mm

- If when smoothed off the surface cannot be adequately closed, this indicates that there are too little fines in the aggregate. Here greater quantities of ASO-EZ2 are required to replace the missing fines.
- Where there is rising damp from the substrate, a functioning damp proof membrane is necessary prior to laying the screed.
- Ventilation on site is necessary. However drafts during preparation and the curing process are to be avoided, as is direct sunlight. The interior and floor temperature during application and for 1 week afterwards should be a minimum of +5 °C. De-humidifiers may not be used during the first 3 days.
- Do not mix with other cements or binders.
- Perimeter, bay, construction and movement joints are to be carried through or incorporated in the designated position and composed of suitable material e.g. edging strip. Crack control joints are to be cut into the top third of the installed screed.
- Do not add any additives or other materials.
- Take heed of the technical data sheets for the aforementioned products.
- The relevant current regulations are to be observed.
  E.g.
  DIN 18157
  DIN 18352
  DIN 18560
  DIN EN 13813
  DIN 1055
  DIN 1045
  DIN 4226

The BEB data sheets distributed by the National Association for Screeds and Finishes
The technical information ""coordination of cut out areas for heated floor constructions"
The ZDB data sheets distributed by the Technical Association of the German Tile Industry.
[*1] Advice for the installation of waterproofing combined with ceramic tiles in interior and exterior areas.
[*2] Ceramic finishes subjected to high mechanical stress.
["3] Movement joints in tiled finishes.
[*5] Ceramic tiles, slabs, natural stone and concrete blocks on cement-based screeds over insulation.
[*6] Ceramic tiles, slabs, natural stone and concrete blocks on heated cement-based floor constructions.
[*7] Exterior finishes.

Please observe a valid European safety data sheet!

GISCODE: ZP1

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