



ATLAS SAM 100 (5-30 mm) fast setting, self-leveling screed

- anhydrite-gypsum based
- high compressive strength $\geq 35.0 \text{ N/mm}^2$
- resistant to concentrated load
- almost contractionless – no need of expansion joints for up to 50 m^2
- under tiles, carpet flooring, parquet, panels



Use

Levels surfaces within 5 - 30 mm thickness range – both when substrate has only local irregularities and when it is whole executed with slight slope.

Elevates floor level in the whole room – e.g. when necessary to equalize the level of two adjacent rooms.

Recommended for leveling surfaces of existing screeds with heating systems – when screed irregularities make the execution of top finish impossible and additional thin layer of compound must be applied.

Can be used in dry rooms – as the screed based on high quality anhydrite, it can only be used indoors in dry rooms: in living rooms, hallways, halls, salons, offices, corridors, waiting rooms, etc.

Forms screed beneath top finishes in rooms exposed to medium load – in offices, kindergartens, schools, etc.

Types of finishing layers – tiles, PVC and carpet flooring, floor panels.

Types of possible arrangements:

- **bonded - thickness 5 - 30 mm** – on good quality substrates, e.g. concrete, cement or anhydrite screed (with or without floor heating).

Properties

Self-spreading – enables execution of smooth horizontal surfaces even in large rooms, with no use of battens and mass raking up with a darby.

Fast-setting - rapid strength build-up enables foot traffic just after 6 hours since the compound application.

Compressive strength: $\geq 35.0 \text{ N/mm}^2$.

Flexural strength: $\geq 6.0 \text{ N/mm}^2$.

Limited contraction – reduced to minimum possibility of shrinkage cracks during setting, which enables application on areas up to 50 m^2 large without expansion joints.

Suitable for manual and machine application – can be easily and quickly applied both manually and with machines equipped with helical pumps, therefore high efficiency is reached.

Technical data

ATLAS SAM 100 is manufactured as a dry mix based on high quality anhydrite powder, α -gypsum and Portland cement.

Bulk density (of dry mix)	approx. 1.30 kg/dm^3
Mass bulk density (after mixing)	approx. 2.10 kg/dm^3
Dry density (after setting)	approx. 1.95 kg/dm^3
Mixing ratio (water/dry mix)	approx. $0.20 \div 0.22 \text{ l/1 kg}$ approx. $5.00 \div 5.50 \text{ l/25 kg}$
Min./max. screed thickness	5 mm / 30 mm
Maximum aggregate size	0.8 mm
Linear changes	< 0.03%
Resistance to shearing forces (after 28 days)	> 0.8 MPa
Mortar preparation temperature, substrate and ambient temperature during work	from $+5^\circ\text{C}$ to $+25^\circ\text{C}$
Pot life (between mass mixing until work end)	min. 30 minutes*
Foot traffic	after 6 hours*
Full setting and drying	min. 2 weeks*
Start of heating	after approx. 7 days*
Fixing the cladding	screed moisture not higher than 1.5% (in case of impermeable or wooden coverings follow the manufacturer's guidelines)

*The time shown in the table is recommended for the application in the temperature 20°C and humidity 55-60% (approx.).

Technical requirements

The product conforms to PN-EN 13813 standard. EC Declaration of Performance No. 069/CPR.

CE 0767	PN-EN 13813:2003 (EN 13813:2012)
Screed based on calcium sulphate CA-C35-F6	self-leveling, for indoor use, in dry rooms
Reaction to fire – class	A1 _{fl}
Corrosive substance release	CA
pH value	> 7
Compressive strength	$\geq 35.0 \text{ N/mm}^2$
Flexural strength	$\geq 6.0 \text{ N/mm}^2$
Water permeability, vapour permeability, acoustic insulation, noise damping, heat resistance, chemical resistance	NPD

The product has been given the Radiation Hygiene Certificate.

Screed installation

Substrate preparation

The substrate should be stable and appropriately strong, due to the risk of mass outflow, should keep bath-like shape. General requirements for substrates:

- cement screeds – min. 28 days old,
- concrete – min. 3 months old,
- anhydrite screeds – mechanically grinded and dusted.

Substrate irregularities (cracks and gaps) should be primed with ATLAS UNI-GRUNT emulsion or ATLAS GRUNTO-PLAST mass and leveled with ATLAS ZW 330 mortar. Dry, fixed substrate should be dusted and thoroughly primed with ATLAS UNI-GRUNT or ATLAS UNI-GRUNT PLUS emulsion (absorptive substrates), or ATLAS GRUNTO-PLAST mass (non-absorptive substrates) and left to dry.

Any steel elements in contact with screed should be protected against corrosion.

Expansion joints

Separate screed from walls and other elements with ATLAS EXPANSION JOINT PROFILES. The intermediate expansion joints are not required for areas up to 50 m² large and those of diagonal below 10 m. Any existing structural expansion joints should be transferred onto the screed layer. Contraction joints should be executed around load-bearing columns and at room thresholds.

Mass preparation

Machine application. Pour the mortar to the basket in the mixing-and-pumping unit, set the mix water level providing appropriate consistency of the mass leaving the hose.

Manual application. Pour the mortar from the bag into a container with the suitable amount of water (see Technical Data for ratio) and mix, best with a low-speed mixer with a drill for gypsum, until homogenous. The mass is ready to use directly after mixing and keeps properties within approx. 30 minutes. Proper consistency should be verified by pouring the mass from 1 liter container onto an even, non-absorptive substrate (e.g. foil). It should form a "patch" of approx. 45 ÷ 50 cm diameter.

Mass application

The mass is poured mechanically with a mixing-and-pumping units, with continuous water flow and worm pump. ATLAS SAM 100 can also be poured manually, but only upon surfaces divided into application areas 10 ÷ 15 m² large. Before application, the future screed thickness is to be marked (on walls and in the application area), which can be done with, e.g. a level and portable height benchmarks. Pour the prepared mass evenly and continuously up to the desired height, avoid gaps. Just after filling an individual area, the mass has to be de-aerated with, e.g. de-aeration roller or a brush with long and hard hair. Move the brush shaking along and across the application area. This action facilitates the mass spreading and leveling. The application area should be filled, leveled and de-aerated within approx. 30 minutes.

Maintenance

Avoid direct sunlight and draughts, provide proper room ventilation within the first two days of screed setting. If white tarnish occurs on the screed surface, remove it mechanically with a grinder and dust the whole surface then. Grinding accelerates the process of screed drying. The time of drying depends on layer thickness as well as thermal and humidity conditions in a room.

Finishing works

Depending on the setting conditions, humidity, type and permeability of the top finish materials, the finishing works can commence after approx. 2-3 weeks. Prime the dry screed surface with ATLAS UNI-GRUNT or ATLAS UNI-GRUNT PLUS before the work commencement,

Consumption

The average consumption is 20 kg of mortar for 1 m² for each 10 mm of layer thickness.

Important additional information

- Inappropriate amount of mix water results in deterioration of screed strength parameters and ingredients separation. Monitor the mass consistency and quality of mixing during screed application.
- Gradual heating of screed beneath the applied layer (by max. 3°C per day) can start only when the screed fully sets.
- Tools must be cleaned with clean water directly after use.
- Contains cement. Causes skin irritation. May cause an allergic skin reaction. Causes serious eye damage. Keep out of reach of children. Avoid breathing dust. Wear protective gloves/protective clothing/eye protection/face protection. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing. Follow the instructions in the Safety Data Sheet.
- The mortar must be transported and stored in tightly sealed bags, in dry conditions (most preferably on pallets). Protect against humidity. Shelf life in conditions as specified is 9 months from the production date shown on the packaging. Content of soluble chromium (VI) in ready-to-use mix - ≤ 0.0002%.

Packaging

Foil bags: 25 kg

Pallet: 1,050 kg in 25 kg bags

The above information constitutes basic guidelines for the application of the product and does not release the user from the obligation of carrying out works according to engineering principles and OHS regulations.

At the time of publication of this product data sheet all previous ones become void.

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