



ATLAS ENDER S

finishing coat for concrete repairs, thickness 3-10 mm

- fine-aggregate
- designed for leveling concrete and ferroconcrete surfaces
- for filling cavities in prefabricated elements
- does not require application of contact coat
- for manual and machine application
- finishing coat applicable after 24 h



Properties

ATLAS ENDER S is manufactured as a dry mix of best quality cement binder, quartz fillers and improvers.

Repair mortar of R3 class according to the PN-EN 1504-3:2006 standard.

With fine aggregate – forms smooth surface on the repaired elements.

Very high compressive strength – min. 25.0 MPa.

Use

Element of concrete and ferroconcrete repair system ATLAS BETONER S.

Contact coat	ATLAS ADHER S
Main repair layer	ATLAS FILER S
Finishing coat	ATLAS ENDER S

Forms outer, finishing repair coat – finishing coat of previously leveled and shaped surfaces.

Designed for repairs of construction and finishing elements – balconies, terraces, ceilings, beams, posts, stairs, framework and monolithic constructions, containers, chimney coolers and other structural and non-structural elements.


Possible application on prefabricated elements - for filling cavities or as a finishing coat.

Technical data

Bulk density (of dry mix)	approx. 1.4 kg/dm ³
Mixing ratio (water/dry mix)	0.16 ÷ 0.18 l/1 kg 4.0 ÷ 4.5 l/25 kg
Min./max. mortar thickness	3 mm / 10 mm
Bonding to the ATLAS FILER S layer	min. 1.5 MPa
Compressive strength after 28 days	min. 25 MPa
Mortar, substrate and ambient temperature during application	from +5°C to +25°C
Maturing time	approx. 5 minutes
Pot life	approx. 1 hour
Open time	approx. 15 minutes
Foot traffic	after approx. 24 hours
Waterproofing coat application (ATLAS WODER DUO)	after approx. 24 hours
Full load	after approx. 24 hours

Technical requirements

The product conforms to the PN-EN 1504-3:2006 standard. EC Declaration of Performance No. 085-3S/CPR.

 1488	PN-EN 1504-3:2006 (EN-1504-3:2005)
Product designed for constructional and non-constructional concrete repairs in buildings and civil engineering works.	
Compressive strength	R3 class
Chloride ions content	≤ 0.05 %
Bonding	≥ 1.5 MPa
Restricted shrinkage/expansion (dimensional stability), bonding after testing	≥ 1.5 MPa
Carbonation resistance	NPD
Elasticity modulus	≥ 15 GPa
Thermal compatibility, bonding after 50 freeze-thaw cycles	≥ 1.5 MPa
Resistance to slip	Class I and II
Thermal expansion coefficient	Test not required if thermal compatibility test has been carried out
Capillary absorption	≤ 0.5 kg/(m ² ·h ^{0.5}) t
Reaction to fire - class	A1
Release/content of hazardous substances	See: Safety Data Sheet

The product has been given the Radiation Hygiene Certificate.

Substrate repairs

Substrate preparation

Concrete substrate should be stable, even and structurally sound i.e. strong enough (peel strength min. 1.5 MPa) and free from layers which would impair mortar bonding. Clean the repaired surface of any loose or poorly bonded concrete layers and clean it of dust, dirt, lime, oil, grease, wax, residues of emulsion and oil paint. Concrete substrates which are significantly damaged, dirty, chemically or biologically corroded, must undergo special treatment, such as: sand blasting, milling, fumigation, etc. Substrate should be coated with ATLAS ADHER S contact coat first, then with ATLAS FILER S leveling layer. Follow their recommended method of application.

Right before application of ATLAS ENDER S, the surface needs to be moistened with water up to the matt-wet state – application of the contact coat is not necessary at this stage. In case of application directly on ATLAS ADHER S contact coat it is recommended to use the "wet on wet" method.

Mortar preparation

Pour the mortar from the bag into a clean container with suitable amount of water (see Technical Data for ratio) and mix using a low-speed mixer until homogenous. The mass can be used after approx. 5 minutes and remixing, and should be used up within approx. 1 hour.

Finishing coat – manual application

ATLAS ENDER S mortar should be uniformly distributed over the leveling layer made of ATLAS FILER S mortar, at least 24 hours since the application of the previous layer. The surface should be kept in matt-wet state. The mortar should be applied by concurrent strong pressing against the substrate and smoothed with a steel trowel. It is recommended to smoothen the surface with a moistened sponge trowel. The mortar thickness should not exceed 10 mm. Subsequent layers can be applied after min. 8 hours in standard conditions.

Finishing coat – machine application

It is recommended that the unit nozzle is directed at an angle around 90° from a distance between nozzle and the substrate from 0.5 to 1.0 m. Applied layer should be dense. The layer thickness shouldn't exceed 10 mm. Application over the surface with reinforcement should be carried out from a closer distance and from different sides in order to avoid "caps" on the reinforcing rods. In case of filling cavities greater than the thickness of mortar applied in a single cycle, the following layer can be applied after 4 hours (application of ATLAS ADHER S contact coat is not necessary at this point).

Maintenance of freshly-applied mortar

After application of ATLAS ENDER S mortar, the surface needs to be protected from excessive drying for approx. 3-5 days since application, with the use of appropriate means (e.g. water fog, wet screens made of geotextile). Freshly applied surface should be protected against excessive drying, direct sunlight, draughts and vast temperature fluctuations. In case of risk of e.g. night frost, the surface should be covered with a thick thermal insulation material. The heating in a room where repairs are carried out should be limited. Time of layer drying depends on its thickness, temperature and humidity in a room.

Surface use

Use of surface coated with the repair mortar (foot traffic) can start after approx. 24 hours and full load can be applied after approx. 7 days. Other finishing works can start after 3÷7 days depending on the mortar thickness, temperature and humidity in a room.

Consumption

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

Packaging

Paper bags: 25 kg

Important additional information

- According to the PN-EN 1504-10 standard Products and systems for protection and repair of concrete structures - Definitions, requirements, quality control and evaluation of conformity - Part 10: Site application of products and systems and quality control of the works are as per below:
 - 3.1. – manual application of the repair mortar,
 - 4.4. – application of the repair mortar,
 - 7.1. – increase of the mortar layer thickness by adding mortar,
 - 7.2. – replacement of the contaminated or carbonated concrete with the mortar,
 - 11.2. – reinforcement coating with the protective layer.
- Tools must be cleaned with clean water directly after use. Difficult to remove residues of the set mortar can be cleaned with ATLAS SZOP agent.
- Contains cement. May cause respiratory tract irritation. Causes skin irritation. Causes serious eye damage. May cause an allergic skin reaction. Keep out of reach of children. Avoid breathing dust. Wear protective gloves/protective clothing/eye protection/face protection. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation or a rash occurs: Get medical advice/attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to remove – continue rinsing. Follow the instructions of the Safety Data Sheet.
- The mortar must be transported and stored in tightly sealed, original and labelled bags, in dry conditions (most preferably on pallets). Do not expose product to a direct sunlight. Keep in dry, cool and well ventilated room, away from incompatible materials (see Section 10 of Safety Data Sheet), beverages and food. Protect against humidity – product gets irreversibly solid under humid action. While maintaining precautions above, no adverse reactions known. Shelf life in conditions as specified is 12 months from the production date shown on the packaging. Content of soluble chromium (VI) in ready-to-use mix – ≤ 0.0002%.

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. An up-to-date technical product documentation is available at www.atlas.com.pl/en Date of update: 2018-07-17