

Floor Tenax

Fibre-reinforced micro-concrete for the restoration of floors



Floor Tenax is a pourable, plastic/fluid, fibre-reinforced mortar for use in repairing deteriorated concrete flooring (with a reconstruction thickness from 4 mm to 20 mm) along with structural repairs of reinforced concrete cast in formwork. The formulation contains very fine yet high-strength cements, microsilica compounds with pozzolanic activity, rational granular aggregate composition curve (0.1-1.8 mm), special additives and a substantial amount of READYMESH fibre reinforcement. The product mixes with very low water/binder ratios (<0.32). The special formulation of Floor Tenax confers mechanical strength, fracture energy, exceptional durability and very high chemical-physical resistance to the repairs performed.

CUSTOMS CODE: 3824 5090

COMPONENTS: Single-component

APPEARANCE: Powder

AVAILABLE COLORS: Gray

PACKAGING AND DIMENSIONS: Bag 25 kg

OBTAINED CERTIFICATIONS AND REGULATIONS



FEATURES AND BENEFITS

Floor Tenax has a workability time of approximately >120 minutes, after which the gripping process is triggered followed by a progressive hardening. The hygrometric shrinkage is extremely limited thanks to the presence of glass fibres and Readymesh PM 060 multi-filament polypropylene fibres, guaranteeing volumetric stability to restoration carried out. The performances that make Floor Tenax unique are: • very high mechanical compression strength (> 95 MPa at 28 days), • very high mechanical tensile and bending strength (> 14.5 MPa at 28 days), • excellent durability and resistance to chemical attacks.

FIELDS OF APPLICATION

Floor Tenax is used in the repair of deteriorated floorings with limited thickness (typical applications in the range 8 - 20 mm), characterised by high performance in terms of deformation, resistance and anti-cracking resistance and in particular where there is a need for rapid opening to traffic or rapid exercise after application. The main application fields are: • repair of industrial concrete floors with walkability allowed after approximately eight hours from casting and drive over allowed after 24-48 hours from application; • repair of joints in industrial flooring; • laying and fixing of manhole covers; • structural repairs and repairs generally performed with casting within formwork.

ALLOWED SUPPORTS

Concrete - Bricks



PREPARATION OF SUPPORTS

Application surfaces must be clean, free of dust, contamination, crumbling, inconsistencies, etc., and adequately saturated-surface-dry with water.

MODE OF USE

- The support must be prepared by mechanical scarification or hydro-scarification for a depth of not less than 8 mm. The scarification of the support is an absolutely necessary operation to ensure sufficient grip of the coating applied. In the case of localized patches or repairs, cut the contours at right angles with an angle grinder.
- The support must not have traces of oils, greases, detergents.
- The support must be in good condition, clean, coarse, without crumbling parts or dust (suction of all dust and debris with an adequately equipped vacuum system). Wash the surface with pressurized water. Saturate the support with water before applying and eliminate any excess water on the surface.
- Application temperature: 5°C to 35°C.
- We strongly recommend the use of a vertical axis mixer with planetary or double horizontal helical movement, for optimal performance of site operations.
- MIXING: The powder is mixed with potable water in the measure of 11% - 12%, referred to the total weight of the mortar (about 2.75 lt per 25 kg bag) creating a homogeneous mixture. Mixing time: approximately 4 minutes with high-efficiency mixer.
- In the case of large thicknesses (e.g.: manhole repairs) use compaction with a vibrating needle or tamp it down in a very intense way.
- Level the surface with a vibrating screed on the prepared templates.
- The surface must be protected after application by polyethylene sheets or anti-evaporation treatments. The latter should be sprayed on the freshly cast and restored surface (provide anti-evaporation treatments only if no other protective or aesthetic-protective applications are planned above: contact our technical service for advice on the most indicated surface protection methods and on the type of product that can be used as a curing compound).
- In the case of thicknesses exceeding 20 mm, Floor Tenax must be laid out, supported and floated on a suitable sub-base only with appropriate measures to ensure the structural adhesion and anchoring to the support itself. The methods of anchorage suggested include: laying with a special epoxy resin for structural construction joints (Syntech RGS or Syntech Pavisheer); or positioning a galvanized steel net with 5x5 cm mesh and 2 mm wire, which is spaced from the support plane of half the expected thickness of Floor Tenax and anchored to the same by "L"-shaped connectors fixed in holes resinated with Syntech Profix or fixed by nailing with "nail guns". Provide a cover with wet TNT and waterproof sheet as soon as the surfaces are walkable.

APPLICATION METHODS

Finishing trowel - Pump - Spatula - Straight edge

TOOL CLEANING

Water

KEY FEATURES

↔ Max. recommended thickness: 20 mm

→↔ Min. recommended thickness: 8 mm

☉ Mix with water: 11 / 12.5 %

🕒 Shelf-life: 12 months

🌡 Temperature of use: +5 / +30 °C



TECHNICAL SPECIFICATIONS

EN 12190

Compressive strength after 12 hours **8 N/mm²**

EN 12190

Compressive strength after 7 days > **70 N/mm²**

UNI EN 196/1

Flexural strength at 1 day > **8 N/mm²**

UNI EN 196/1

Flexural strength after 28 days > **11 N/mm²**

ASTM D4060

Taber abrasion resistance expressed as weight loss in grams (H22 wheel - 1000 g - 1000 rpm) **0.28 g**

Thermal conductivity **0.73 W/mK**

UNI EN 1015-6

Density **2250 kg/m³**

Setting time **3 h**

EN 12190

> **45 N/mm²**

EN 12190

Compressive strength after 28 days > **90 N/mm²**

UNI EN 196/1

Flexural strength after 7 days > **11 N/mm²**

Breaking load longitudinal **4 MPa**

EN 13412

Static elastic modulus **35000 N/mm²**

UNI EN 13892-3

Wear resistance **0.8 cm³/50cm²**

UNI EN 13057

Capillary absorption **0.38 kg•h^{0.5}/m²**

UNI EN 1542

Bonding force > **2.5 N/mm²**

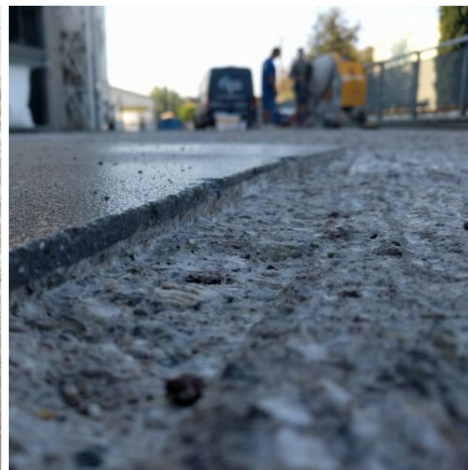
CONSUMPTION

Approximately 21 kg/m² of Floor Tenax for every centimetre of thickness to be implemented (approximately 2100 kg per cubic metre).

STORAGE AND CONSERVATION

Store the product in its original packing, in a fresh and dry environment, avoiding frost and direct sunlight. Inadequate storage of the product may result in a loss of rheological performance. Protect from humidity.

PHOTO GALLERY



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ADDITIONAL CONTENT



Floor Tenax Family characteristics and selection criteria

	Floor Tenax	Floor Tenax Speedy
workability	castable mortar	castable mortar
fibers, maximum size	6 mm	6 mm
Workability time	approximately 120 minutes	approximately 40 minutes
Resistance to compression at 6 hours	0	8 MPa
Resistance to compression at 12 hours	8 MPa	20 MPa
Resistance to compression at 1 day	>35 MPa	>50 MPa
Resistance to compression at 28 days	> 95 MPa	> 95 MPa
Tensile strength	4 MPa	4 MPa
Restoration of industrial flooring: selection criteria	Thickness 10-20 mm Walkability at 12 hours approx. Light trucks at 24 hours approx. Drive over at 48 hours approx.	Thickness 10-20 mm Walkability at 6 hours approx. Light trucks at 12 hours approx. Drive over at 24 hours approx. With a team of two men, finish areas of max 12-16 square meters at a time
Restoration of industrial flooring: aesthetic performance	possible inhomogeneity of colour and light halos	possible inhomogeneity of colour and light halos
Other fields of application	Structural restorations in general with casting within formwork _ thicknesses from 15 to 30 mm	Structural restorations in general with casting within formwork _ thicknesses from 15 to 30 mm

Physical-mechanical values obtained at 20°C in laboratory conditions; workability and agility may vary depending on the temperatures present at the application



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WARNINGS AND PRECAUTIONS

It is always important to carry out preliminary tests to check the appropriateness of the product, depending on specific requirements. It is recommended to treat carefully the curing of the shotcrete for a few days, through continuous flushing of water or covering the same with a length of cloth made of polyethylene (winter period) or awning in non-woven fabric impregnated with water (spring/summer). The general information, along with any instructions and recommendations for use of this product, including in this data sheet and eventually provided verbally or in writing, correspond to the present state of our scientific and practical knowledge.

Any technical and performance data reported is the result of laboratory tests conducted in a controlled environment and thus may be subject to modification in relation to the actual conditions of implementation.

Azichem Srl does not assume any liability arising from inadequate characteristics related to improper use of the product or connected to defects arising from factors or elements unrelated to the quality of the product, including improper storage.

Those wishing to utilise the product are required to determine prior to use whether or not the same is suitable for the intended use, assuming all consequent responsibility.

The technical and characteristic details contained in this data sheet shall be updated periodically. For consultation in real time, please visit the website: www.azichem.com. The date of revision is indicated in the space to the side. The current edition cancels out and replaces any previous version.

Please note that the user is required to read the latest Safety Data Sheet for this product, containing chemical-physical and toxicological data, risk phrases and other information regarding the safe transport, use and disposal of the product and its packaging. For consultation, please visit: www.azichem.com.

It is forbidden to dispose of the product and/or packaging in the environment.

