Fortedur

Screeding mix for concrete floors with fibres (**CRACK STOP** finish) and **ASA** additive

1011,1021,1026,1031,1041

Product characteristics
The ***Fortedur Wet*** screeding mix contains special kinds of cements, aggregates, fibres, chemical additives including **ASA.**

Intended use
The ***Fortedur Wet*** screeding mix is intended for the preparation of the wear layer in the industrial concrete floors, with heavy-duty characteristics, where an extreme abrasion resistance, impact resistance and an increased seepage resistance (oil, solvents, and others) is required. The screeding mix is applied as a surface finish of the fresh-laid concrete mix or an older concrete underlayer. If the application conditions are met, the system can also be used with outdoor surfaces.
Functional reliability is guaranteed in the recommended **system**, which consists of the ***Fortedur Wet*** powder mixture and a special hardening coat ***Fortecoat 1425, 1426*** (water based)..

System specific features
- **ASA** (Anti-Shrinkage Agent) is a special additive contained directly in the dry mixture, which significantly reduces the formation of plastic cracking on the surface of the finished floor by providing a higher volume stability. This also improves the resultant appearance and mechanical properties of the finished floor.
- **CRACK STOP** finish. The product contains highly resistant zirconic fibres which ensure three-dimensional (omnidirectional) reinforcement of the material during the ageing process and subsequently help to increase the resistance against a high local load.
- ***Fortecoat 1425, 1426*** – is a specially designed coat with an absolute compatibility with the dry component of the system together forming an ideal unity demonstrated in a perfect curing of the floor layer and its sealing against oil and water.
- By adding the **highly abrasion-resistant micro-particles**, which become part of the uppermost top layer in the finished system, surface resistance is significantly increased.
- Using the hyper-fine spherical particles in the dry component of the system, the **SILICA EFFECT** helps reduce porosity and seepage, increase freeze resistance and corrosion resistance, and provides better physical and mechanical properties (compression, bending tension, abrasion) and improved compactness.

Advantages
- Extra-long life time of the floor in comparison with the conventional concrete screeds, at a minimum extra cost.
- High productivity and simplicity of laying
- High operational load resistance
- Increased impact resistance
- Increased seepage resistance against aggressive substances (oils, solvents, etc.)
- Limited dust formation and surface slip resistance

Technical parameters

Product type	1011	1021	1026	1031	1041
Aggregate Specific contents in the dry mixture	Siliceous sands 66.42%	Sintered oxide based 55.42%	Sintered oxide + metallic 27,71%+27,71%	Metallic aggregates 56.5%	Silicon carbide 30%
Compression strength after 28 days	min. 65 MPa	min. 70 MPa	min. 80 MPa	min. 80 MPa	min. 80 MPa
Böhm resistance	5 cm^3 / 50 cm^2	2 cm^3 / 50 cm^2	1,5 cm^3 / 50 cm^2	1 cm^3 / 50 cm^2	1 cm^3 / 50 cm^2
BCA abrasion resistance	0.05 mm	0.035 mm	0.025 mm	0.02 mm	0.02 mm
Consumption (kg / mm / m^2)	1.8	1.9	2.1	2.3	2.35
Layer thickness	5-20 mm	5-20 mm	5-20 mm	5-20 mm	5-20 mm
Mixing water (l / 25 kg)	3.0 - 3.5	4.0 - 4.5	4.0 - 4.5	4.0 - 4.5	3.5 – 4.0
Colour	Based on pricelist	Based on pricelist	Based on pricelist	Based on pricelist	Based on pricelist

Packaging
Fortedur Wet screeding mix: 25 kg paper bags with a polyethylene insert
Fortecoat 1425, 1426: 20-litre container

Storage life
12 months from the date of manufacture, if stored in original sealed package. Bags on wooden pallets. Keep away from moisture and frost.

Test certificates
Initial tests were performed on the product, along with the assessment of compliance with Directive 89/106/EEC (CPD - Construction Products Directive) as amended.

Application procedure for a fresh-laid concrete
The concrete, on which the material is to be applied, shall be suitable for screeding application. Before applying the first layer, remove the excess water from the concrete surface, the surface is now levelled and prepared for foot traffic (pressed with hand into a depth of 3-5 mm). The concrete surface is freshened up by means of a roto-trowel. The „***wet to wet***" method : a dry screeding mix is agitated in a continuous mixer or in a mixer with forced circulation with a required amount of water and subsequently the ***Fortedur Wet*** is evenly spread and levelled with a tamper (screed) on the surface of the concrete slab in a total quantity of 10 - 12 kg / m^2 (i.e. 25 kg pack may be used for preparation of 2.0 - 2.5 m^2 wear layer).

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After application, the material surface is mechanically flattened by roto-trowels with combined and final blades which ensure a high degree of surface finish.
The process of screeding with an increasing slope of the roto-trowel blades is repeated several times depending on the progress of hardening of the concrete and screeding mix. Prior to the application of ***Fortedur Wet*** the concrete surface must be free of any pits, puddles or pools and must not be over-dried either.
Immediately after flattening, the surface is sprayed with a treating and hardening coat ***Fortecoat 1425, 1426***, which increases mechanical hardening of the top layer, reduces the seepage, eliminates dust formation and prevents the wear layer from over-drying.

Application procedure for an older concrete underlayer
The concrete, on which the material is to be applied, shall be suitable for screeding application. Application can be performed on seasoned, mechanically cohesive and all contaminations free concrete surfaces. Concrete base must have sufficient pressure strength (min. 25 N/mm2) and minimum tensile strength 1,5 N / mm2. Prior to the application, the concrete underlayer must be free of any loose parts, impurities and if necessary the smooth surface or local irregularities must be roughened and flattened (milling). This prepared underlayer must be saturated with water **at least 18 hours before the application itself.** The surface saturation with water must be maintained as much as possible before and mainly throughout the application. Over-dried spots or puddles must be avoided. The wet-out underlayer is applied a binding element ***Fortedur 1091*** based on the instructions given in the technical datasheet. Immediately after the application of ***Fortedur 1091*** , this **wet binding element** is evenly topped with a layer of ***Fortedur Wet*** in a thickness of 5-20 mm, using the „***wet to wet***" method : a dry screeding mix is agitated in a continuous mixer or a mixer with forced circulation with a required amount of water and subsequently the ***Fortedur Wet*** is evenly spread and levelled with a tamper (screed) on the surface of the concrete slab in a total quantity of 9 - 36 kg / m^2. **At this stage, it is vital to reduce the over-drying of the floor or the binding element caused by even a slight or local draught or direct sunlight.**
Once the screeding mix starts to harden (minimum compressibility of the layer), its surface is freshened up by means of a roto-trowel.
Subsequently, the surface is mechanically flattened by roto-trowels with combined and final blades which ensure a high degree of surface finish.
The process of screeding with an increasing slope of the roto-trowel blades is repeated several times depending on the progress of hardening of the screeding mix.
Immediately after flattening, the surface is sprayed with a treating and hardening coat ***Fortecoat 1425, 1426***, which increases mechanical hardening of the top layer, reduces the seepage, eliminates dust formation and prevents the wear layer from over-drying.
During use of the floor, after using of laitance, one can see aggregates of the respective dry shake mixture which keeps the composition of the dry shake layer.

Maintenance and cleaning
For cleaning and maintenance procedures, see the ***Fortedur*** Instructions for cleaning and maintenance.

Please note

- Prior to the application of the screeding mix, the concrete surface must be free of any pits, puddles; the concrete underlayer and the *Fortedur 1091* binding element must not be over-dried either.
- Do not apply outside the scope of the allowed application thickness.
- Air draught, direct sun light and premature drying must be avoided prior and after the laying.
- Do not sprinkle the surface with water during application.
- Composition and properties of concrete (plasticiser, air entrainment) can affect the screed layer.
- Anti-skid properties of the surface depend mainly on material application.
- Adding binding elements or other additives or sieving the mix is not permitted.
- The mix may only be applied within temperatures from +5°C to +30°C.
- Contaminated waste disposal - to be classified as "other waste".
- Any other coat may be applied without the prior consent of the manufacturer at your own risk and exclusive responsibility.
- Fortedur Wet 1026 and Fortedur Wet 1030 contain metallic filling protected by a special surface layer but still it may corrode in wet conditions.
- Before the application please check our web page www.fortemix.eu to be sure that you have the latest technical documentation.

Health and Safety
Fortedur Wet contains cement. Appropriate protective devices and gadgets should be used (clothes, gloves, goggles). For more information, see the ***Fortedur*** Safety data sheet and label information.