Fornivel

Cement-based self-levelling screeds with additives **ASA** and **CRYX.**

1110, 1111 CS, 1120, 1121 CS, 1130, 1131 CS

Product characteristics
Fornivel is commercially produced dry one-component cement-based powder mixture with aggregates and chemical additives, including **ASA** a **CRYX**.

Intended Use
The self-levelling mixture ***Fornivel*** is intended for preparation of the levelling or finish layer of concrete floors where excellent flatness and adhesion to the concrete underlayer is required. The product may only be applied to the matured underlayers.
Functional reliability is guaranteed in the recommended system, which consists of the ***Fornivel*** powder mixture and special underlayer coat ***Fortecoat 1410*** or the finishing coat ***Fortecoat 1430*** ***Protect+***.

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 while improving the final appearance and mechanical properties of the material. In addition, it facilitates the laying of the self-levelling screeds.
- The **CRYX** additive makes a so-called crystallization effect which binds the mixing water into a crystallization structure of the substance being generated, which prevents it from escaping to the ambient environment, reduces the hardening time and primarily reduces the formation of micro-cracks.
- ***Fortecoat 1410*** – is a specially designed priming coat which perfectly prepares the underlayer before application of the dry component.
- ***Fortecoat 1420, 1421*** – are a specially designed coats with an absolute compatibility with the other components of the system together forming an ideal unity demonstrated in a perfect curing of the floor layer and its sealing against oil and water.
- **Crack Stop** (CS) fibres. 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.
- 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 to achieve a decreased porosity and consequently a decreased seepage, increased freeze resistance, and corrosion resistance, increased physical and mechanical properties (compression, bending tension, abrasion), an improved compactness.

Advantages
- Extra-long lifetime of the floor in comparison with the conventional concrete*.
- High operational load resistance*.
- No dust formation and surface slip resistance*.
- Simple and fast laying.
- High fluidity.
- High adhesion to the concrete underlayer.
- Fast hardening.
- High compatibility with the ***Fortecoat*** coating substances.

*if used as a final layer

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

Statement of Properties
The properties of the Fortedur product are in accordance with the set of declared properties listed in the declaration of properties number ED 322 according to EN 13813:2002. The declaration of properties is in accordance with Regulation (EU) No. 305/2011.

Packaging
25 kg paper bags with a polyethylene insert.

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

Application
The mixture may only be applied to the matured, mechanically coherent and all contaminations free concrete surfaces... Concrete base must have sufficient pressure strength (min. 25 N/mm^2) and minimum tensile strength 1.5 N / mm^2. Prior to the application of the self-levelling screed, pots and cracks must be grouted with ***Fortegrout 1210*** or ***1220***. The grouting should correspond with the crack depth. The priming coat ***Fortecoat 1410*** thinned with water at a ratio of 1:3 is applied to a dry and clean layer by means of a roller or a brush. For common porous surfaces, use the thinning ratio of 1:3. If no shiny surface film is formed to seal the concrete underlayer, the primer coat must be re-applied. Before the actual application, the bonding primer must be dry.

The manual agitation of the mixture is made in plastic vessels where the appropriate amount of water is metered into and while pouring the powder inside, the mixture is homogenised by means of a slow-speed mixer. Mix the substance for approximately 2 minutes, then wait for 1 minute and re-mix for another 1 minute. The final mixture must be of homogenous nature (no clots and sediments). ***Fornivel*** is evenly poured on the concrete underlayer, to achieve the required thickness, it is spread by means of notched trowels. To allow for proper de-aeration of the mixture, use needle rollers with a height exceeding the thickness of the applied self-levelling mixture. The prerequisite for successful application is speed and continuity of laying, which provides minimization of defects. Immediately after the application, clean and rinse all the tools and personal protective equipment.

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

Please note
- Do not use in outdoor applications.
- The applied layer should not exceed the allowed thickness.
- Air draught, direct sun light and other influences which may result in premature drying must be avoided after the laying.
- Adding binding elements or other additives or sieving the mix is not permitted.
- The laying may be carried out with the underlayer temperature +5 °C to +25 °C and the ambient temperature from +10 °C to +25 °C.
- The mixing water must comply with ČSN EN 1008 or use drinking water.
- 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 only.
- Before the application, please check our web page www.fortemix.com to be sure that you have the latest technical documentation.

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Technical parameters

Product type	**1110**	**1111 CS**	**1120**	**1121 CS**	**1130**	**1131 CS**
Intended use	Underlayer for **light** load		Underlayer and **finish** layer for **medium** load		**Finish** layer for **heavy** load	
Reinforcement	-	Zirconic fibres	-	Zirconic fibres	-	Zirconic fibres
BCA abrasion resistance (mm)	-		0.050		0.040	
Böhm resistance (cm^3/50 cm^2)	-		max. 5.5		max. 4.5	
Compression strength after 28 days (MPa)	> 25		> 35		> 45	
Bending tensile strength after 28 days (MPa)	> 6		> 7		> 8	
Layer thickness (mm)	1-10		4-15		4-15	
Consumption (kg/mm/m^2)	1.5		1.7		1.7	
Mixing water (l/25 kg)	6.0-6.5		4.75-5.25		4.75-5.25	
Workability at 20 °C (min.)	20		15		15	
Preparedness for foot traffic at 20 °C (hours)	2-4		2-4		2-4	
Full load (days)	1		7		7	
Spreading test – ring Ø 45 mm x ↕ 96 mm (cm)	26-28		23-25		23-25	
Colour	light grey		based on pricelist		based on pricelist	

Fortemix company is not liable for damages resulting from failure to comply with instructions and recommendations of manufacturer.