MAPEI

CE
EN 13813

GEV-EMICODE EC 1 PLUS very low emission

CT LEVELLING COMPOUNDS C20-F5 A1FL MAPEI IN COMPLIANCE WITH EUROPEAN STANDARDS EN 13813

Uniplan Eco LC

Fibre reinforced, self-drying self-levelling, cementitous screed

PRODUCT DESCRIPTION

Uniplan Eco LC is a fibre reinforced, cement-based and pumpable smoothing compound.
Uniplan Eco LC is suitable for thicker floor layers such as building up silent floors in combination with Mapei's **Mapesilent** system.
Uniplan Eco LC is also suitable for coarse levelling concrete floors, elements and wooden floors with sufficient stiffness.
Uniplan Eco LC is supplied as dry mortar and only needs the addition of water. It can be laid in thicknesses from 10 - 80 mm.
Uniplan Eco LC is CE approved and classified as CT-C20-F5 in accordance with EN13813.

AREA OF USE

Uniplan Eco LC is suitable for coarse levelling of concrete substrates. The area of use is floors in dry rooms in homes, offices and institutions. **Uniplan Eco LC** is suitable for building up silent floors and is part of Mapei's **Mapesilent** soundproofing system, see separate brochure. The product can also be used for embedding electrical or waterborne underfloor heating in dry rooms.
Uniplan Eco LC is not suitable as a top layer, and must be covered by a suitable floor covering as soon as conditions permit. The finished, hardened compound will be a suitable substrate for most floor covering types, e.g. soft coverings, carpets, wood or tiles, and must be prepared according to the covering manufacturer's recommendations.
Uniplan Eco LC is ONLY intended for indoor use. Some sanding can be expected before a soft floor covering can be laid.

INSTRUCTIONS FOR USE

Substrate

Uniplan Eco LC can be used on substrates of concrete, lightweight concrete, cavity decking, tiled surfaces and others with a surface density of > 0.5 N/mm^2. Concrete surfaces must be free of cement slurry and other loose particles, and free of dust. Other substrates must be cleaned of all materials which can reduce adhesion.

Floor temperature

Floor and room temperature must be between +10 °C and +25 °C when the compound is laid. Measure and note on the inspection form. The temperature must be kept above 10 °C for the first few hours after laying. Drafts from doors and windows - plus direct sunlight - can affect the binding properties of smoothing compounds and their final quality.
Uniplan Eco LC should not be laid on concrete floors with a humidity level higher than 90% RH.

Pretreatment

Substrate should be clean. Weak and porous concrete should be removed. Finish off by thoroughly vacuuming the floor.

Priming

The substrate must always be primed with **Primer Eco** before laying the smoothing compound. Good priming is

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a necessity for a pore-free and level floor, with good adhesion to the substrate. Priming can be applied with a brush or spray. When spraying, smooth out the primer using a brush. Primer should ideally be applied a day in advance or as early as possible, to ensure it is dry before smoothing starts. Pores are usually the result of insufficient, thin or over-diluted priming, low substrate temperature or a combination of the above. A concrete floor will usually be completely dried out after years of use, and have achieved a relative humidity close to that of the building/room. When an old covering material is removed from a concrets surface, the surface will be highly absorbent. Primer must always be dry before applying smoother. This is to give the primer chance to form a complete film. The time it takes before the primer is dry (transparent) varies according to temperature and humidity, and can be from 2 hours and up. Please note that if it takes more than 4 hours for the primer to dry, this an indicate that the hummidity level in the floor or room is too high. This can give undesired quality of the funiture of the funitures floors. Always ensure good ventilation in the room and that the substrate is dry. When laying smoothing compound, the substrate will absorb humidity which causes the air from the concrete's pore system to be released and rise to the surface through the compound. If the substrate is highly absorbent, air channels can form in the smoothing compound late in the setting process, which will not seal up. The result can be formation of craters. Similarly, a highly absorbent substrate can cause rapid drying of the smoothing compound, which can result in plastic cracking. It is important to consider priming twice.

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Preparation

Smoothing can be performed on certain types of soundproofed systems, such as the **Mapesilent** system. The compound layer must be laid as a floating floor, and the substrate should not be primed. The layer must never be less than 30 mm, and glass fibre reinforcement net should always be used. Before smoothing, it is necessary to establish the correct height for the top of the finished floor.

NB! The compound must not come into direct contact with walls/columns.

Mixing

The dry compound should be at room temperature when mixing (approx. +20 °C). The temperature of the mixed compound must be > +10°C. Mix with an automatic mixer pump, special pump with mixer or drill and whisk. Mix to a smooth consistency. Normal mixing time is 2 - 3 minutes. **Uniplan Eco LC** is also suited for automatic mixers and pump systems. Checking the water level and consistence of the compound according to the manufacturer's instructions should always be done on the site (ref. check form). The fully mixed compound must be used within 20-30 min. For professional laying of smoothing compounds using automatic machinery, measureing the flow can normally be performed correctly at the end of the hose, and should indicate how the compound will behave on the floor with regard to viscosity and fluidity. The correct amount of water from the hose gives the best result – especially for viscosity. Maximum outflow of **Uniplan Eco LC** (measured using a 50 mm flow ring, h = 22 mm, at +20 °C) is 150 mm. Too much water will reduce the compound's density, cause separation and give an uneven and less attractive surface, and imply a risk of separation.
For thickness above 25 mm, the lowest amount of water is recommended in order to achieve the best surface quality.

Laying

Using the hose, spread the compound across the floor. Check the correct amount of water regularly by flow test. We recommend treating the surface immediately after laying with a serrated edge trowel to achieve the best possible result. Prime between each layer when laying several layers. Scratch protection is needed for large areas, at door openings etc.

In order to obtain the best result we suggest the following maximum length of application:

- for applications up to 30 mm max 10 meters.
- for applications over 30 mm max 8 meters.

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Post-treatment

The surface must be finished with **Primer Eco** 1:3 as soon as the compound can

PRIMER GUIDE - Primer Eco			
Substrate:	**Mixing ratio:**		**Comments:**
	Primer:	**Water:**	
Concrete floors	1	3	
Highly absorbent substrates	1	2	consider priming twice
Lightweight concrete	1	3	
Wood/linoleum	consentrated		

TECHNICAL DATA (typical values)

PRODUCT IDENTITY	EN 13813 CT-C20-F5-$A1_{fl}$
Colour:	grey
Type:	powder
Bulk density (kg/m³):	1800
Dry solid content %:	100
EMICODE:	EC1 Plus – very low emission
Grain size (Dmax):	1.0 mm
APPLICATION DATA (at +20 °C and 50% R.H)	
Layer thickness per layer:	from 10-80 mm
Mixing ratio:	16.5 -17.5 % (3.3-3.5 liter per 20 kg bag) depending on layer thickness
Viscosity at 17.5% water (SS 923519) :	130-150 mm
Viscosity at 17.5% water (EN 12706):	120-135 mm
Density of mixture (kg/m³):	2120
pH:	approx. 12
Application temperature:	from +10 ° to +25 °C
Application time:	approx. 30 minutes
Binding time EN 13454-2:	NPD
Set to light foot traffic :	5-6 hours
Ready for use:	6-7 days (depending on thickness)
FINAL PERFORMANCE	
Reaction to fire (EN 13510-1):	$A1_{FL}$
Compressive strength after 1 day (N/mm²) (EN 13892-2):	10
Compressive strength after 28 days (N/mm²) (SS 923519):	22.0 (C20)
Tensile strength after 28 days (N/mm²) (SS 923519):	5.5 (F5)
Cohesive strength (N/mm²):	> 1.5
Shrinkage < 10 mm (EN 13454-2/EN 13872):	< 0.5 mm/m
Consistency (EN 12706):	NPD
Adhesion (EN 13892-8:2004):	NPD

Production is controlled according to NS EN ISO 9001 and NS EN ISO 140001.

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be walked on to reduce the danger of rapid drying-out with subsequent risk of contraction, cracks and rising edges. Strong heating for the first few days after laying must be avoided. Draughts during and after laying accelerate drying out and can cause drying-out cracks. Propane heating in the same room while the compound is fresh can cause a white film (lime compounds) to form on the surface. Low temperatures have a significant effect on setting speed.

Constructive actions
The compound should be allowed to expand and contract against abutting structures to allow shrinkage without damage being caused.

Indoor climate effect
The product does not emit particles, gases or radiation which have a negative effect on the indoor climate, or which are hazardous to health. **Uniplan Eco LC** satisfies the requirements of EMICODE EC1 Plus, very low emissions of volatile organic compounds.

Disposal/recycling
Uniplan Eco LC can be deposited at a, public disposal site.

Product certificate
We issue a product certificate for every production run. This contains details of what has been inspected and approved for each production run, including details of flow properties and binding time, date of production and production number/ batch number. This is also your proof that the product has the prescribed quality when it leaves our factory. The product certificate is available upon request.

PACKAGING
Uniplan Eco LC is available in 20 kg bag, 1200 kg big-bag and bulk.

STORAGE
Six months when stored in a dry place in unopened original packaging.

SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION
For further information about the safe use of our product, please refer to the latest version of our Safety Data Sheet, to be found on our website, www.mapei.no

PRODUCT FOR PROFESSIONAL USE.

WARNING
Although the technical details and recommendations contained in this product data sheet correspond to the best of our knowledge and experience, all the above information must, in every case, be taken as merely indicative and subject to confirmation after long-term practical application; for this reason, anyone who intends to use the product must ensure beforehand that it is suitable for the envisaged application. In every case, the user alone is fully responsible for any consequences deriving from the use of the product.

Please refer to the current version of the Technical Data Sheet, available from our website www.mapei.no

LEGAL NOTICE
The contents of this Technical Data Sheet ("TDS") may be copied into another project-related document, but the resulting document shall not supplement or replace requirements per the TDS in force at the time of the MAPEI product installation. The most up-to-date TDS can be downloaded from our website www.mapei.no ANY ALTERATION TO THE WORDING OR REQUIREMENTS CONTAINED OR DERIVED FROM THIS TDS EXCLUDES THE RESPONSIBILITY OF MAPEI.

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This symbol is used to identify Mapei products which give off a low level of volatile organic compounds (VOC) as certified by GEV (Gemeinschaft Emissionskontrollierte Verlegewerkstoffe, Klebstoffe und Bauprodukte e.V.), an international organisation for controlling the level of emissions from products used for floors.

All relevant references for the product are available upon request and from www.mapei.no

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