X-Plan® 1-20

Technical specifications

Quick-setting, self-curing structural self-leveller, quartz-reinforced, with controlled anti-fracture expansion, highly fluid and self-compacting with very low cement content, designed to level and fill thicknesses from 1 to 20 mm

Product description

Quick-setting, self-curing structural self-leveller, quartz-reinforced, with controlled anti-fracture expansion, highly fluid and self-compacting with very low cement content.
X-Plan 1-20 levels and fills thicknesses from 1 to 20 mm in new or existing substrates and creates a smooth finish (Superflat finish).
It is suitable for levelling existing flooring, and substrate levelling in electric and hot water underfloor heating.

Classified CT C30 F6 - EN 13813

Certifications

CT C30 F6 EN 13813
EC1 Plus Gev Emicode
A+ Emissions dans l'air interieurs
EPD Environmental Product Declaration

X-Plan® 1-20 and the Environment

LCA results for Global Warming Potential – Greenhouse Gas GWP-GHG

Impact category	Unit	A1-A3	C1	C2	C3	C4	D
Climate change GWP-GHG	kg CO2 eq	3.20 10^{-1}	4.38 10^{-3}	1.08 10^{-2}	0	4.92 10^{-3}	-5.53 10^{-3}

Substrates

Screeds
Self-levellers
Levellers
Existing tiles
Underfloor heating systems
Concrete and reinforced concrete
Fibre cement slabs
Lightweight panels

Uses

Interiors
Floors
Overlaying
Heating screeds
Sulphate/anhydrite-based screeds
SPA and Hammam
Indoor wet areas (bathrooms, showers)
Industrial floors
Residential, public, commercial building

Limitations

Do not add too much water when mixing: too much water may result in longer setting times and increase the risk of cracks and flaking, powdery and crumbly surfaces
Do not mix excessive quantities of product: the pot life is about 40 minutes at a temperature of +23°C. Be sure to mix only the quantity of product that can actually be used within this period of time
Do not apply the product on damp surfaces or surfaces subject to rising damp
Do not apply the product in the presence of strong air currents
Do not add lime, cement or other foreign materials to the product

Product specifications

Appearance	Powder
Colour	Grigio
Responsible packaging	20 kg recyclable bag
Customs code	38245090
Shelf life	12 months in original packaging in a dry place.

Specifications for application

Mix ratio	Water = 24% (4.8 litres of water per 20 kg bag)
Consistency of mix	Self-levelling fluid
Mix curing time	3 minutes
pH of mix	13
Specific gravity of mix	2.10 kg/dm^3
Pot life	Approx. 40 minutes
Applicable thicknesses	From 1 to 20 mm
Application	Trowel or spiked roller
Application temperatures	From +5°C to +35°C
Ready for light foot traffic	3 hours
Waiting time for installation of ceramic and porcelain tiles and natural stones	3 hours
Waiting time for installation of resilient and wood flooring	12 hours

Temperature of use	From -30°C to +90°C
How to clean equipment	With water when product is fresh. Mechanically when product has set.
Consumption	1.7 kg/m^2 per mm of thickness

Technical specifications

Compliance	EN 13813	CT C30 F6
Flexural strength after 28 days	≥ 6.0 N/mm^2	EN 1348
Compressive strength after 28 days	≥ 30.0 N/mm^2	EN 1348
Adhesion to concrete after 28 days	≥ 1.0 N/mm^2	EN 1348

Substrate preparation

In accordance with Standard UNI 11493-1, the substrates must be mechanically resistant and free of friable parts, and clear of grease, oils, paints, waxes and rising damp. Cement plasters must have a curing time of at least one week per cm of thickness. Cementitious screeds must have a total curing period of at least 28 days or be made with the innovative anti-fracture screeds, X-Floor and X-Floor Pro. Particularly dusty, porous and absorbent substrates must be treated with X-Prime®, an innovative primer and consolidating product. Smooth and compact substrates such as polished concrete, old ceramic or marble tiles, must be treated with the latest-generation adhesion promoters, X-Activator® or X-Activator® Grip, after thorough cleaning with the specific detergent X-Cleaner® Scrub. In anhydrite screeds, check for the presence of a suitable vapour barrier in order to prevent rising damp. Use a carbide hygrometer to check that the residual humidity is less than 0.5% and 0.3% for heating screeds. The surface must be sanded and isolated with X-Prime®. Any cracks or fissures must be sealed with CrackRepair. In any case, the respective technical data sheets must be consulted for correct use of the indicated products.

Expansion joints

Check that the perimeter, expansion, divider and structural elastic joints have been correctly designed and prepared. Usually, control joints should be provided for sections of 50 m^2 or 25/30 m^2 in the case of underfloor heating. For rooms with surfaces of less than 50 m^2, insert expansion joints in line with thresholds.

Preparing the mixture

Pour the right quantity of water, depending on the application, into a clean container and slowly add the powder, stirring with an electric drill with mixing paddle until a consistent mix is obtained without lumps. Let the mixture rest for about 5 minutes, during which the polymeric Gel development is completed: the hydraulic binders, fillers and cellulose hydrate uniformly, air micro-bubbles incorporated during mixing are eliminated, and the polymers begin their activation process. The pot life is about 40 minutes at a temperature of +23°C, therefore it is advisable to mix only the quantity of material that can be applied within this period of time. Do not use quantities of mixing water greater than those indicated to avoid product shrinkage during curing and the lowering of the final mechanical properties. Do not add more water to the mix once setting has begun. If the product is applied with a plastering pump with vertical mixer, the quantity of mixing water must be the same as for manual preparation, and mixing must continue until complete homogenisation before spreading the mix.

Application

Pour the mix directly onto the substrate.
Spread the product using a smooth steel trowel or a rubber floor squeegee to obtain the required thickness.
The product can also be applied using a plaster pump.
Ceramic and porcelain tiles, wood, resilient or textile flooring can then be installed after about 3 hours depending on the applied thickness and ambient temperature.
When installing wood flooring, apply a minimum thickness of at least 3 mm and check the humidity using a carbide method hygrometer before bonding (maximum humidity = 2%).
Underfloor heating: at least 4 days after installing the screed, it is possible to start the heating system with a supply water temperature between +20°C and +25°C, keeping it constant for at least 3 days, then set it to the maximum design temperature, keeping it constant for 4 more days.
At the end of this cycle, bring the screed back to ambient temperature and install the covering (see standard EN 1264-4).

Covering installation

Coverings can be installed after at least 3 hours have passed. The installation of ceramic tiles, natural stones or mosaics will be carried out with ultra-high performance science-based Gels by Litokol, which ensure the complete transfer of forces, continuous system performance and total safety. To ensure the perfect adhesion of the adhesive Gel, apply a scratch coat of the mixture using the smooth side of the trowel, and then straight after apply the desired thickness with the notched side. In accordance with Standard UNI 11493-1, use the back-buttering technique, applying the Gel also on the back of the tiles to ensure complete wetting during installation in environments where the substrate might be subject to movements or expansion, outdoors, in swimming pools or in particularly stressed areas. In accordance with Standard UNI 11493-1, the tiles must be installed with joint widths suitable for their size (at least 2 mm). For grouting in humid environments and in the Litokol High Adhesion Anti-Fracture System, it is recommended to use Starlike® Pro or Starlike® Easy. Respect any control or structural joints and create adequate expansion, separation and perimeter joints.

Warnings

Apply the product at temperatures between +5°C and +35°C
In warm climates, keep the packaged product in a cool and dry place away from the sun before use
Due to its high adhesion, it is advisable to wash tools and any product residues from the surfaces with water before the product hardens. Once the product has hardened, it can only be removed mechanically.
Underfloor heating: at least 4 days after installing the screed, it is possible to start the heating system with a supply water temperature between +20°C and +25°C, keeping it constant for at least 3 days, then set it to the maximum design temperature, keeping it constant for 4 more days.
At the end of this cycle, bring the screed back to ambient temperature and install the covering (see standard EN 1264-4).
Do not use the product for applications not indicated in this technical data sheet
For further information, contact the Litokol Technical Help Service at

Safety information

For the safe use of our products, refer to the latest version of the Safety Data Sheet, available on the website www.litokol.com
PRODUCT FOR PROFESSIONAL USE

Legal notes

The information and provisions contained in this technical data sheet reflect our best experience. Given the impossibility of directly intervening on the conditions of the work site and execution of the works, they represent indications of a general nature, which are in no way binding for our Company. It is therefore recommended to perform a spot test in order to check the suitability of the product for the intended use. In any case, those who intend to use the product must establish whether or not it is suitable for the intended use, and in any case assume all liability for any consequences resulting from such use. Always refer to the latest updated version of the technical data sheet, available on the website www.litokol.com

Item specification

High-strength substrate rectification in thicknesses from 1 to 20 mm will be carried out with a quartz-reinforced, super-fluid structural levelling compound, with controlled anti-fracture expansion properties, fast-setting and self-curing with very low cement content, conforming to class CT C30 F7 according to EN 13813, specifically X-Plan 1-20 by Litokol Lab SpA.

Data sheet **n. 122**
Revision **n. 0**
Date: **04 25**

Litokol

Litokol Lab Spa Via G. Falcone 13/1 42048 Rubiera RE Italy
Tel. +39 0522 622811 info@litokol.com www.litokol.com