

Flex HM

High-performance, Class C2TE cementitious adhesive, according to the UNI EN 12004 standard, no vertical slip and extended open time, specifically for thin layer bonding of ceramic tiles and stone material.

Flex HM is a high-performance, polymer-modified adhesive based on high-strength hydraulic binders, selected aggregates, latest-generation additives, for both interior and exterior use. It complies with **EN UNI 12004**, cementitious adhesive (**C**) with improved characteristics (**2**), no vertical slip (**T**) and extended open time (**E**).

Flex HM is specifically for thin layer bonding of ceramic tiles and stone material, including large formats. Formulated at the **R&D laboratories of Licata SpA**, **Flex HM** is characterised by easy workability, high binding power and good wettability.



MAIN FIELDS OF USE

Flex HM should be applied in a thin layer, both outdoors and indoors, on walls and floors, made of:

- Mosaics,
- Marble or natural stone provided they are resistant to humidity, staining and efflorescence
- Any type of ceramic (double-fired, single-fired, porcelain stoneware, clinker, terracotta, etc.), with low absorption, even in large formats,
- On traditional substrates with cement-based plaster,
- Standard cement-based screeds
- Bonding of EPS, extruded and cork panels, etc.
- Laying on top of old existing floors (ceramic, porcelain stoneware, marble, etc.)
- Anhydrite screeds and gypsum plaster, primed beforehand with **Aggrappante LG**
- Cementitious waterproofing (**licata.waterproofing range**)
- Fibre cement panels,
- Expanded cellular cement.

To apply to different substrates, please contact our technical department.

CHARACTERISTICS

- Extended open time **E**. The special formulation of **Flex HM** gives the product an open time of >30 min
- No vertical slip **T**. The high thixotropy also allows tiles to be laid vertically.
- High binding power **C2**. **Flex HM** is a polymer-modified mortar. The high binding values obtained after exposure to extreme conditions, such as freezing and thawing, immersion in water, thermal ageing, etc. are proof of its reliability.
- In class **C2TE**. Certified according to **UNI EN 12004 standard**.
- Good wettability. The latest-generation additives in **Flex HM** make this adhesive high wettable, so it is ideal for bonding low-absorption ceramic tiles as well as laying on top of existing floors.



APPLICATION METHOD

Preparation of substrate

Mechanically remove any flaking or easily detached parts. Thoroughly clean the application area so that it is free of dust, residue from surface treatments, such as detergents, oily substances, mineral or organic grease, wax, traces of chalk or salt.

Damp substrates can significantly slow down the setting of **Flex HM**, so gypsum plaster and anhydrite substrates or plasterboard must always be treated with the **Aggrappante LG primer**.

When laying on top of old existing floors, we recommend:

- Priming with **Aggrappante LG**, or alternatively, using mechanical abrasion or washing with caustic soda.
- Ensure that the existing floor is solid, clean, perfectly flat and anchored to the substrate.
- Spread the adhesive on the back of the tile as well (back-buttering method).

Preparing the mixture

You need 6.75 - 7.5 litres of clean water (UNI EN 1008) for every 25-kg bag (or 27-29% density).

Pour the product into a clean container with $\frac{3}{4}$ of the mixing water. Mix for about 3 minutes with a low-speed mixer, gradually adding the remaining water until you obtain a thixotropic, uniform, lump-free mixture. The use in combination with **Licalatex**, in a 1:1 ratio with the mixing water, in addition to enhancing the natural qualities of this adhesive (such as excellent flexibility, adhesion, resistance to abrasion) increases its watertightness and resistance to corrosive agents, therefore it is recommended for use in specific conditions (e.g. swimming pools, cold storage rooms, etc.). Do not divide the packages up into partial mixtures.

If the product is stored in open, partially used sacks, it may not meet the technical characteristics outlined in this document.

Application

Wait 10 minutes before applying. Remix and spread the adhesive with a 6-10 mm notched trowel. We recommend choosing a trowel that will allow the tiles to be covered at least 65% for indoor lining and 100% for floors outdoors, keeping in mind, however, that the maximum thickness must not exceed 5 mm. In the event of challenging applications, such as applications subject to frost (outdoors), in tanks, laying of floors subject to heavy loads or honing, laying large format, thick tiles or anyway over 900 cm² (30 cm x 30 cm), according to **UNI 11493**, to ensure full covering, spread the adhesive on the back of the tile as well as on the substrate (back-buttering method). It is not necessary to wet the tiles before laying; if there is dust on the backs, the tiles should be washed by immersing them in clean water.

Normally, the tiles are laid by applying enough pressure to ensure contact with the adhesive. In normal temperature and humidity conditions, the open time of the mixture is about 30 minutes; unfavourable conditions or very absorbent substrates may drastically decrease this time.

Do not apply **Flex HM** on substrates that have a film of water on the surface, are completely dry or in extreme conditions, such as dry wind, high temperatures, walls exposed to full sun or frozen.

Constantly check that the adhesive has not skinned over. If necessary, freshen the adhesive by spreading it on the surface again. Do not remix the adhesive with water because the water would form an anti-adhesive film.

Make sure that the ambient temperature, that of the substrate and product during application is between +5 °C and +35 °C.

PRODUCT INFORMATION

Appearance	Grey or white powder
Particle size	<0.5 mm
Powder consumption	From 2.5-5 kg/m ²
Mixing water	27%-29% of weight of powder
Workability time at 20 °C	>30 minutes
Application thickness per coat	2-5 mm
Application temperature	From +5 °C to +35 °C
Foot traffic resistant	24/36 h
Usable	14 days
Storage	9 months (grey) and 12 months (white) in a dry, protected place in unopened package at temperatures between +5 °C and +35 °C
Packaging	25 kg
Density	1250-1350 kg/dm ³
pH of mixture	approx. 12

PERFORMANCE

Characteristic	Test method	Legal requirement	Performance
Initial tensile adhesion strength	8.2 of EN 1348:2007	≥1 N/mm ²	≥1 N/mm ²
Tensile adhesion strength after water immersion	8.3 of EN 1348:2007	≥1 N/mm ²	≥1 N/mm ²
Tensile adhesion strength after thermal ageing	8.4 of EN 1348:2007	≥1 N/mm ²	≥1 N/mm ²
Tensile adhesion strength after freeze-thaw cycles	8.5 of EN 1348:2007	≥1 N/mm ²	≥1 N/mm ²
Slip	EN 1308	<0.5 mm	<0.5 mm
Extended open time: tensile adhesion strength	EN 1346	≥0.5 N/mm ² after not less than 30 min	≥0.5 N/mm ² after not less than 30 min

WARNINGS

- Product for professional use.
- Do not add water or more powder to the product once mixed.
- Alkaline material: protect eyes and skin during application.
- After use, wash tools with water while the mixture is still fresh.
- The ambient temperature and humidity rate influence the workability, setting and drying times.
- Take care of the product's curing period for at least 24 hours after applying, protect the fresh mortar from rapid drying, direct sunlight, strong wind and heavy rain.

SAFETY

Please consult the safety data sheet for information about product disposal, storage and usage.

NOTES

This data sheet replaces and voids all previous versions.

The indications and specifications given in this document are based on our current technical and scientific knowledge. They should, however, be considered as purely indicative because we have no control over the conditions in which the product will be used. The purchaser must, therefore, check that the product is suitable for his specific requirements. Our sales and technical network guarantees rapid consultancy services and is at your disposal for any clarifications and questions you may have about the use and application of **Licata SpA** products.

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