Biocalce® Collaflex

Certified, eco-friendly, natural adhesive containing pure NHL 3.5, EN 459-1 compliant lime, for the highly breathable laying of natural stone and ceramics of all sizes, ideal for use in GreenBuilding and Historical Restoration. Contains raw materials of only natural origin. Low CO₂ emissions and very low volatile organic compound emissions. Provides natural ventilation to improve indoor air quality, natural bacteriostatic and fungistatic effect. Recyclable as an inert material at the end of its life.

Biocalce® Collaflex is suitable for laying up to 15 mm thick, also for bonding on heating screeds. Internal, external.

**GREENBUILDING RATING®**

- High efficiency (A+)<br>- IAQ<br>- No development of dust or fungi<br>- Very low VOC emissions<br>- 0.15 kg CO₂ emission per kg of NHL 3.5

**PRODUCT STRENGTHS**

- Natural and breathable, allows floors or walls to breath
- High evaporation capacity, low capillary draw
- Ideal for the natural laying of low water absorption coverings

**NATURAL INGREDIENTS**

- Pure NHL 3.5 certified natural lime<br>- Natural micronized casein<br>- Pine vegetable resin

**AREAS OF USE**

**Use**

Breathable laying of majolica and ceramic tiles, porcelain tiles, natural stone not subjected to deformation or staining due to water absorption, or natural insulating panels for internal and external use, on floors and walls. Up to 15 mm thickness.

Materials: cotto, majolica and ceramic tiles, porcelain tiles, natural stone not subjected to deformation or staining due to water absorption, and natural insulating panels for internal and external use.

Substrates:
- Biocalce® Massetto ready-to-use screed
- mineral screeds made with natural hydraulic lime-based binders
- normal screeds
- lime or cement-based plasters, cement-lime mortar and cementitious substrates
- screeds and heat-radiant slabs

**Do not use**

On gypsum or anhydrite-based substrates without the use of Primer A Eco, surface insulation water-based concentrate, with very low VOC emissions; on plasterboard; on old ceramic floors, marble tiles, natural stone; on highly flexible substrates, plastic or resilient materials, metals and wood; on wet substrates or substrates subjected to moisture rising; in environments where water is always present.

**INSTRUCTIONS FOR USE**

**Preparation of substrates**

In general, substrates must be free from dust, oil and grease, dry and free from any rising damp, with no loose, flaky or imperfectly anchored parts such as residual traces of cement, lime and paint, which must be totally removed. The substrate must be stable and without cracks, must have already completed the hygrometric shrinkage curing period and must present suitable mechanical resistance levels. Uneven areas must be corrected in advance with suitable finishing products.

Substrates with weak surface consistency: screeds and plasters which present a weak crystalline structure in the initial mm of thickness and which can be easily abraded must be consolidated by means of Biocalce® Silicati di Sodio, the water-based depth consolidant, to be applied with one or more coatings and according to the instructions, until a surface has been obtained which is still absorbent but compact.

*ÉMISSION DANS L’AIR INTÉRIEUR (Information sur le niveau d’émission de substances volatiles dans l’air intérieur, présentant un risque de toxicité par inhalation, sur une échelle de classe allant de A+ (très faibles émissions) à C (fortes émissions).
INSTRUCTIONS FOR USE

High-absorbency substrates: on screeds and plasters which are compact but highly absorbent, in warm climates and with direct ventilation, it is advisable to apply in advance Primer A Eco, rated for its very low VOC emissions, with one or more coatings according to the instructions, to reduce water absorption and to improve spreadability of the adhesive.

Preparation
Prepare Biocalce® Collaflex in a clean container, first of all pouring in a quantity of water equal to approximately 3/4 of that which will be required. Gradually add Biocalce® Collaflex to the container, mixing the paste from the bottom upwards with a low-rev (≈ 400/min) helicoidal agitator. Add more water until the desired consistency is obtained. The mixture must be of smooth consistency and without any lumps. For best results, and to mix larger quantities of adhesive, a stirring device with vertical blades and slow rotation is recommended. The amount of water to be added, indicated on the packaging, is an approximate guide. It is possible to obtain mixtures with consistency of variable thixotropy according to the application to be made. Adding extra water does not improve the workability of the adhesive, and may cause shrinkage in the plastic phase of drying and result in less effective final performance with a reduction in compressive strength and adhesion to the substrate.

Application
Biocalce® Collaflex should be applied with a suitable toothed spreader, to be chosen according to the size and characteristics of the rear surface of the tiles. It is best to use the smooth part of the trowel to spread a fine initial layer, pressing down hard so as to obtain maximum adhesion to the substrate and to regulate water absorption, after which the thickness can be adjusted as required by tilting the spreader at an angle. Spread the adhesive over a surface area which will allow for the laying of the surface materials within the indicated open time, and check for suitability at regular intervals. The open time may vary considerably even during the application, depending on various factors such as exposure to sunlight, air currents, absorbency of the substrate, temperature and relative air humidity. Press down each tile to allow for complete, uniform contact with the adhesive. In general, ceramic tiles do not require preliminary treatment, however these materials should be checked to ensure there are no traces of dust, dirt or surface coatings of any kind that are not properly anchored to the substrate or which may modify the absorbency characteristics of the tiles.

Cleaning
Biocalce® Collaflex is a natural product and tools can be cleaned using water before the product hardens.

SPECIAL NOTES

Elastic joints: insert desolidarisation and elastic fractionizing joints every 20/25 m2 in internal applications, every 10/15 m2 in external applications and every 8 metres in length, narrow applications.

ABSTRACT

In Edilizia del Benessere® (Building for Wellness), in Greenbuilding and Historical Restoration the laying of cotto, majolica and ceramic tiles, porcelain tiles, natural stone not subjected to deformation or staining due to water absorption, and natural insulating panels for internal and external use are done using a highly breathable and with reduced capillary water absorption adhesive, made of pure 3.5 natural hydraulic lime, inert siliceous sand and Dolomitic limestone materials, that provides natural ventilation to improve indoor air quality, natural bacteriostatic and fungistatic and GreenBuilding Rating® Bio 4 (such as Biocalce® Collaflex). The required characteristics, obtained exclusively through the use of raw materials of all-natural origin, guarantee very high breathability of up to 15 mm in thickness. Substrates must be compact, with no loose, flaky material, clean and fully cured, having already completed the curing period for hygrometric shrinkage. A ____ mm toothed spreader must be used for an average coverage of approx. ___ kg/m2. Existing joints must be respected, create elastic fractionizing joints every ___ m2 of continuous surface. Covering must be laid with joint-gap spacers with a width of ____ mm. Coverage Biocalce® Collaflex ≈ 1.2 kg/m2 per mm of thickness.

TECHNICAL DATA COMPLIANT WITH KERAKOLL QUALITY STANDARD

| Appearance | Pre-mixed, natural lime coloured |
| Chemical nature of binder | pure Natural Hydraulic Lime NHL 3.5 EN 459-1 |
| Mineralogical nature of inert material | silicate - crystalline carbonate |
| Apparent volumetric mass | ≈ 1.2 kg/dm3 UEAtc |
| Grading | ≈ 0 – 1000 μm UNI 10111 |
| Shelf life | ≈ 12 months in the original packaging in dry environment |
| Pack | 25 kg bags |
| Mixing water | ≈ 7.7 l/ 1 25 kg bag |
| Specific weight of the mixture | ≈ 1.52 kg/dm3 UNI 7121 |
| Temperature range for application | from +5 °C to +35 °C |
| Maximum thickness obtainable | ≤ 15 mm |
| Open time | ≈ 20 min. |
| Adjustability | ≈ 20 min. |
| Foot traffic | ≈ 48 hrs |
| Gruoting | ≈ 48 hrs on walls / ≈ 3 days on flooring |
| Interval before normal use | ≈ 14 days |
| Coverage | ≈ 1.2 kg/m2 per mm of thickness |

Values taken at +23 °C, 50% R.H. and no ventilation. Data may vary depending on specific conditions at the building site, i.e. temperature, ventilation and absorbency level of the substrate and of the materials laid.
### PERFORMANCE

<table>
<thead>
<tr>
<th>VOC INDOOR AIR QUALITY (IAQ) - VOLATILE ORGANIC COMPOUND EMISSIONS</th>
<th>GEV certified 1647/11.01.02</th>
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### WARNING

- **Product for professional use**
- **abide by any standards and national regulations**
- **Do not use the adhesive to correct substrate irregularities greater than 15 mm**
- **lay and press down the tiles while the adhesive is fresh, and check that it has not formed a surface film**
- **protect from direct rainfall and frost for at least 48 hrs**
- **the temperature, ventilation and absorption of the substrate and covering materials, may vary the adhesive workability and setting times**
- **use a toothed spreader suitable for the format of the tiles**
- **if necessary, ask for the safety data sheet**
- **for any other issues, contact the Kerakoll Worldwide Global Service +39 0536 811 516 - globalservice@kerakoll.com**

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**HIGH-TECH**

- **Tensile adhesion** high
- **Tile wettability** Excellent
- **Shear strength** Excellent
- **Compression strength** Good
- **Working temperature** from -30 °C to +80 °C

Values taken at +20 ± 2 °C, 65 ± 5% R.H. and no ventilation. Data may vary depending on specific conditions at the building site.

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**ACTIVE INDOOR AIR QUALITY (IAQ) - DILUTION OF INDOOR POLLUTANTS**

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**SAFETY**

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