



Ideal solution to qualify energetically responding to particular aesthetic needs in the most technically correct and safe: a natural stone casing rebuilt from the strong characterization, evocative of tradition but extremely modern.

The insulating plate of this system meets the requirements of the Minimum Environmental Criteria.

System reaction to fire: Euroclass B-s1,d0

COMPONENTS

ADHESIVE

Klebocem Ultra

INSULATION

EPS 35 – 100 Fix R - λ 0,035 W/(m·K)

EPS 31 G-100 Fix R - λ 0,031 W/(m·K)

Convento 31 BW Fix R - λ 0,031 W/(m·K)

SKIM COAT

Klebocem Ultra

MESH

Armatex C1 M

ADHESIVE FOR CLADDING

Glueflex ULTRA

GROUT

Parastuck MF - Sigil Tow FL

MODULAR CLADDING

Reconstructed natural stone

Maximum tile size: 30x30 cm

Maximum coating weight: 35 kg/m² (for larger sizes refer to the Modular Big cycle by limiting the coating weight to the limit weight required by the Modular Big cycle)

ACCESSORIES

Depending on the type, structural configuration of the surfaces and the project



After any specific and appropriate preparation of the substrate, to be evaluated on a case-by-case basis according to the condition and type of surface, all external surfaces of the façade are to be clad on site using the Termok8 BIOSTONE process. The Termok8 Modulare Biostone system, certified with ETA no. 23/0221. During the entire application, drying, and hardening phase, the ambient, substrate, and material temperatures must be between +5°C and +35°C, and wind or direct sunlight can change the application characteristics. In such cases, it is necessary to take additional precautions such as shading with meshes.

STARTING ZONES / BUILDING PLINTH AREA

If the operation allows it, the setting-out and retention of the insulation system is to be achieved by mechanical application of an aluminium alloy section (base profile) along the ground floor perimeter of the building, sized to suit the thickness of the insulation to be protected, fixed by means of expansion anchors. For other starting options, please refer to the Termok8 Technical Manual or contact the IVAS Technical Department.

INSULATING LAYER

The thermal insulation will consist of EPS 35-100 FIX R or EPS 31 G-100 FIX R special panels made of sintered expanded polystyrene (EPS), the latter with the addition of graphite, CE marked in accordance with UNI EN 13163:2017, ETICS certified in compliance with ETAG EAD 040083-00-0404 already 004:2013 guidelines and standard UNI EN 13499:2005, with thickness depending on design calculation. The panels feature, on both sides, a unique 5 mm deep grooved pattern, so as to increase the surface area of the panel when skimming and to form continuous horizontal "V section beams", designed to strengthen the system. The outside application surface of the panels also has 3 lowered transversal grooves specially created for bonding the insulating substrate with the reinforced skim coat. Insulation panels must be applied at the connection point between vertical elements (entrances, reception area, common rooms, etc.) with which the insulation panel would come into contact, and at the connection point of horizontal structures such as gutters or cantilevered stringcourses, by inserting

an elastic separating element to compensate for the expansion and contraction, e.g. Self-expanding Sealant Tape (BG1). This joint, in which the tape is inserted, will then be sealed with Sigil Pol elastic polyurethane sealant after the application of the reinforced skim coat; it can then be finished with a topcoat. The panels are to be fastened to the surface of the façade by spreading Klebocem Ultra synthetic resin-based high-resistance adhesive mortar in ribbons along the perimeter of the panel and in dabs in the centre with an adhesion surface \geq 40% of the surface of the panel, ensuring that the insulation panel is perfectly flat. If the substrate is particularly flat, use a serrated spatula to apply the adhesive over the entire surface. The insulation panels are to be applied to the substrate in horizontal bands starting from the bottom and with the vertical joints staggered by at least 30 cm and perfectly aligned; the joints must not be visible. Fill any openings greater than 2 mm with some dry insulation of the same type or using Termok8 Foam polyurethane sealant. At the openings, the joints between the panels must not be aligned with the stiles, lintels, or edges of the openings themselves. Therefore, the insulation panels must be cut in an "L" shape in order to surround and contain the stresses caused by the movement of different materials. At all edges, the heads of the insulation panels must be alternated in order to ensure the proper distribution of stresses.

MECHANICAL FIXING

About 48 hours after gluing the panels and, in any case, after the adhesive has dried, secure them with suitable percussion anchors or screw anchors depending on the type of substrate and the type of building, with EAD Certification 330196-01-0604, using at least 6 per square metre following a "T" pattern. The anchors can be

TECHNICAL
SPECIFICATIONS

termok8
MODULAR BIOSTONE

In collaboration with

BIOPIETRA



installed using a specific tool for both "flush" and "recessed" installation, with the same length for both types of installation. For "flush" installation, the anchors require a "Tappo in EPS" cap for the steel screw insulation, whereas for "recessed" installation they require a "copritassello in EPS" cap. Depending on the environmental conditions, position, orientation and shape of the building, condition of the substrate, and height of the building, it might be necessary to consider a reinforced anchoring system on all the insulated surfaces and especially in the perimeter areas of the building (area between a minimum of 1 metre and a maximum of 2 metres from the corner). The length of the anchor must be sized according to the thickness of the insulation panel, the layering of the wall, and the depth of the anchor (see the anchor's technical data sheet). Approximately every 3 metres in height, horizontal gaps should be left as joints to compensate for thermal expansion and contraction of the system. These gaps consist of suitable aluminium alloy "modular cladding profiles", mechanically fixed with expansion anchors at intervals to be determined at the design stage. The gap section is to be separated from the insulation panels below by inserting Self-expanding Sealant Tape (BG1) which will also act as a substrate for the sealant to be applied after installation of the cladding using a suitable over-paintable polyurethane sealant Sigil Pol. The movement joints of the building (expansion joints) must be considered and protected with suitable joint cover profiles; for their implementation, please refer to the TermoK8 Technical Manual or contact the IVAS Technical Department. Before skimming the insulation panels, it is essential to fit corner guards on all the corners to protect the whole system and any other profile fittings by spreading adhesive on the panels (galvanised or painted iron profiles are not acceptable). Diagonal reinforcement meshes (20x40 cm) must be applied to all corners of doors and windows; it must be applied in the base plaster before the application of the reinforced skim coat and secured so that the edges of the strips lie directly on the corner at an angle of about 45°. Particular care is recommended when installing the insulation layer so as to minimise as far as possible any sanding of surfaces to correct minor irregularities.

BASE PLASTER

Cover the panels on site with Klebocem Ultra skimming mortar, applied vertically (parallel to the grooves in the EPS) using a 10 mm serrated spatula at an inclined angle, in order to obtain a thickness of at least 5 mm, so that the grooves in the insulation are completely filled. When the layer is completely dry (at least one day), apply a second coat of Klebocem Ultra, in which the sized, anti-alkaline, unravel-proof Armatex C1 "M" glass fibre mesh is to be embedded while the mortar is still fresh. The mesh will be laid from top to bottom with an overlap of at least 10 cm in both directions, avoiding the formation of blisters and creases, and an overlap of 15 cm near corners if they are protected by corner profiles with no mesh embedded. The mesh should be completely covered by the mortar and, in any case, not visible. The next day and, in any case, when the layer is completely dry, the anchoring phase will be completed by inserting 2 CT 2G screw anchors (4 anchors per m²) in the centre of the panel at the point where the adhesive was applied, following the reinforced anchoring pattern: A total of 8 CT 2G anchors are to be applied per square metre in the manner and sizing described above. In this last phase the anchors must only be installed "flush" and combined with the "TAPPO EPS" cap for the steel screw insulation. The reinforced layer is to be completed with a third and final skim coat, fully covering the anchors' mesh, once the first two coats are completely dry. The overall thickness of the resulting reinforced skim coat should not be less than 8 mm. The reinforcement mesh will be located in the outer third of the base plaster. Seal with suitable overpaintable polyurethane sealant (Sigil Pol) to cover resilient packing previously fitted to compensate for expansion and contraction of the system.

MODULAR CLADDING

When the reinforced layer is completely dry (3-4 weeks depending on weather conditions), apply the cladding with the one-pack cement-based adhesive Glueflex Ultra, using the double-spreading technique, i.e. spreading the adhesive both on the substrate and on the back of the slip with a suitable 10 mm serrated spatula and ensuring that the entire surface of the slip is evenly covered with the adhesive, paying particular attention to the corners. Every 4-5 courses, using a levelling bar, check

that the cladding is perfectly aligned and flat. A reconstituted natural stone cladding will be applied, which must necessarily be evaluated together with the IVAS Technical Support Department. In any case, they must be stable with regard to humidity and not susceptible to staining and have technical characteristics suitable for application on external vertical opaque surfaces. The sizing of the joint between one tile and another must necessarily be evaluated together with the IVAS Technical Support Department. After at least 48 hours, and in all cases after checking that the cladding has adhered to the substrate (adhesive has fully set), fill the joints with waterproofing grout Parastuk MF (IVAS) using a grouting gun or grout bag. Apply enough product to fill the joints correctly and, at the end of the plastic phase (15-30 minutes after installation), score the joints with a special tool, exerting adequate pressure. In case of rain, to prevent the onset of efflorescence, protect the joints until the grout has set completely. After final drying, if necessary, use a stiff bristle brush to wash the façade to remove any encrustations. A light-coloured tile is recommended or, in any case, one with a IR greater than 20%.

ACCESSORIES

Any other functional and/or decorative components depend on the complexity of the design.

N.B. Drafting of the Specification requires particular attention to the condition of the substrate and resolution of the various "critical issues" of the building, so it must be customised for each individual project.

A strato armato completamente asciutto (3-4 settimane in base alle condizioni atmosferiche), verrà applicato il rivestimento con l'apposito adesivo cementizio Glueflex Ultra monocomponente, posato con la tecnica della doppia spalmatura, stendendo cioè il collante sia sul sottofondo che sul retro del listello con idonea spatola dentata da 10 mm e garantendo che tutta la superficie del listello sia omogeneamente bagnata dal collante, facendo particolare attenzione agli angoli. Ogni 4-5 corsi verificare, mediante staggia il corretto allineamento e planarità del rivestimento.