

Installation Manual

licata THERM®
Thermal insulation
thermal insulation

ecofriendlyprotection

CSTB
DTA 7/18 - 1719_V1

SISTEMI APPROVATI
ETAG 004



BU
edilizia

Table of contents

Introduction	002
Certificates	014
Insurance Policy	016
The systems	018
Application	022
Accessories	040
Items specifications	048
licataTHERM STRONG	050
licataTHERM EPS	052
licataTHERM ROCK	054
licataTHERM WOOD	056
Component technical information	058
 ADHESIVES - SKIM PLASTERS	
Raso Top 800	060
Raso W 160	061
Raso Top Bio	062
Rasotherm 500 Plus	063
Rasotherm 400	064
 INSULATING PANELS	
licataTHERM EPS T 100/036	066
licataTHERM EPS Grey T 100/031	067
licataTHERM EPS T 100/036 CAM	068
licataTHERM EPS Grey T 100/031	069
licataTHERM Giano	070
licataTHERM Rock wool	071
licataTHERM Glass wool	072
licataTHERM Wood fibre	073
licataTHERM Skirting	074
licataTHERM Cork	075
licataTHERM rete 160	076
 ANCHORS	
licataTHERM TERMOZ CN 8	078
licataTHERM TERMOFIX PN 8	079
licataTHERM TERMOZ CS 8	080
DT fixing washer for insulators	081
licataTHERM ECOTWIST	082
 PRIMER	
LG Insulator	084
Primer Ogram	085
Siloxan LG	086
AcrilPrimer	087
AcrilPrimer Plus	088
 COATINGS	
Lericci	089
Besten Putz acrilico	090
LicataSil	091
Siloxan Color	092
Besten Putz silossanico	093
Besten Putz acril-silossanico	094
Silsan Color	095

living comfort

In the current context of increasing attention to the quality of living and health, living comfort plays an increasingly decisive role, both because we spend so much of our time in buildings and because it has significant effects on our health.

In addition to subjective factors such as aesthetics, a modern and human-scale building must guarantee a pleasant and constant internal temperature, air free from pollutants, and be protected from fungi, moulds and phytotrophic growth.

The **licataTHERM** thermal insulation systems are able to effectively improve the quality of life, keeping the internal temperature constant, humidity under control and increasing sound insulation.

A **licataTHERM** system makes any type of building, new or existing, comfortable and efficient, without interfering with the habits of the people who live in it. In addition, its use leads to significant economic savings and results in virtuous environmental behaviour.



energy efficiency and protection of the environment

Protection and respect for the environment presupposes necessary conditions such as energy efficiency and the rational use of non-renewable resources. To solve global environmental problems such as the greenhouse effect, the hole in the ozone layer and acid rain it is must first of all necessary to learn to manage energy resources in an intelligent manner. Each one of us can significantly contribute to the cause by reducing energy waste and losses.

For years now, the European Community directives and legislation in many countries have been promoting good energy efficiency practices in all sectors. Residential energy alone absorbs almost half of the national energy needs and, consequently, is responsible for most of the carbon dioxide produced. Most buildings, especially the older ones, have been constructed without due regard to energy efficiency criteria.

The **licataTHERM** insulation systems are an extraordinary solution for the energy efficiency of both new and existing buildings and are used to improve the eco-compatibility of a building and at the same time to obtain better living comfort and significant economic savings.



benefits

In practical terms, the **licataTHERM** systems not only improve the general thermal insulation of the building, but also allow the effective elimination of thermal bridges, preventing concentration of the heat flow in confined areas and hindering the formation of condensation and the accompanying mould stains.

For these reasons it is essential to use a continuous envelope such as the **licataTHERM**, systems, giving buildings the uninterrupted insulation necessary to reduce heat loss.

Added to this are further advantages in terms of building protection: the **licataTHERM** systems, in fact, minimise the dimensional variations of the structures caused by the thermal expansion of heterogeneous materials, reducing the risk of splits and cracks.

Finally, the use of **licataTHERM** systems allows significant savings on consumption, but not only this: by improving energy performance, it increases the economic value of the structure.

The **licataTHERM** system is amortised in just a few years thanks to the significant savings on the cost of energy.



aesthetics

The idea of applying an external insulation system is not just a choice of a technical and economic nature: the usefulness of making your home more efficient can be associated with the choice of cladding and the aesthetic renewal of the façades.

The **licataTHERM** system is easy to apply and allows the complete exterior renewal with only limited application efforts and minimum execution times.

licataTHERM ensures longevity to the building, decorating and protecting at the same time.



ecobonus

The thermal coat is one of the driving interventions envisaged by the Superbonus 110%. Specifically, the installation of an external or internal thermal coat helps to improve energy efficiency by exploiting the perimeter surfaces, such as the walls or roof, of a building or single house.

The Rilancio Decree, given the benefits brought, provides that if the intervention meets certain conditions (reported below) it is possible to take advantage of benefits during a period of a few years or access the immediate discount on the invoice or the assignment of the credit.

To take advantage of the 110% Bonus, the interventions must ensure the improvement of at least 2 energy classes of the building or the achievement of the best possible class and concern a dispersing surface greater than 25%. The expenditure ceilings for the thermal insulation of surfaces with a Thermal Insulation System are:

- 50,000 Euro for single-family buildings and functionally independent real estate units;
- 40,000 Euro for each real estate unit for buildings consisting of two to eight real estate units;
- 30,000 Euro for each real estate unit for buildings consisting of more than eight real estate units.

The Superbonus 110% is applicable to expenses related to interventions carried out on a maximum of two real estate units (for example first and second house) per person. For further information, please contact your trusted thermotechnicians.



Licata SpA and CORTEXA

For **Licata SpA**, joining the **Cortexa** consortium represented the natural evolution of a path with roots in façade cladding.

The Consortium aims to promote quality in thermal insulation, which in turn sees thermal cladding as one of the highest technological expressions.

Licata SpA embraces the constituent values and similar to what the company promotes in all its applications: quality as an essential element, of the components, processes and of interlocutors.

Promoting quality and proposing quality entails the intention to adhere to shared but firm guidelines, not to compromise but to uphold the principle of value.

This manual is the guide to meet all the requirements imposed by a certified system;

Licata SpA and all the members of **Cortexa**, each with its own specificity or peculiarities, are the only valid partners for the creation of a quality external.



certificates

The thermal insulating systems imply the subordination to the existence of a relevant European Technical Agreement (ETA). This European Technical Agreement consists of a favourable technical assessment of the suitability of a product for the intended use, founded on the correspondence to the essential requirements for works for which the product must be used, and linked to the results of examinations and tests contained in the specific Guidelines for European Technical Approval (ETAG) in this case the **ETAG 004** for which **licata THERM** is certified.



Insurance Policy**What is insured**

The insurance company insures all materials that are part of the **licataTHERM** External Thermal Cladding Insulation System.

Risk insured

The insurance company undertakes to compensate material and direct damage to "Quality products" caused by:

- calculation or design errors
- material faults or defects
- manufacturing errors

Warranty duration

10 years from the date of completion of the works resulting from the certificate of acceptance by the client.

Expenditure eligible for compensation

The insurance company covers, in addition to the value of the products:

- the costs of labour for the replacement of the products insured;
- the demolition / evacuation costs;
- the costs for the installation of scaffolding needed for the repair of the damage

POLICY ACTIVATION**AND DAMAGES**

Insulation systems insurance policy
licataTHERM external thermal cladding

*



**CERTIFICATO DI
GARANZIA E ASSICURAZIONE**

Polizza n.

CERTIFICATO N°

SCHEDA DI LAVORO N°

INIZIO GARANZIA:

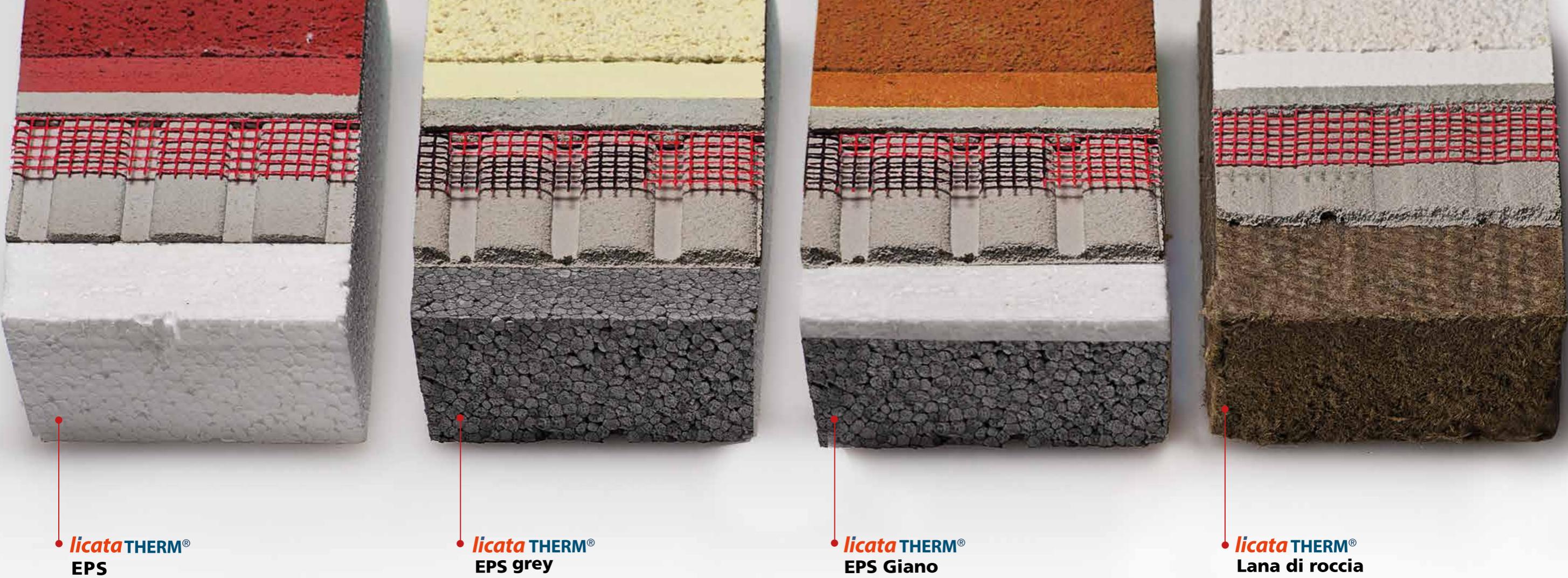
DURATA GARANZIA ANNI 10

COMMITTENTE

UBICAZIONE DEL CANTIERE:

GENERALI ASSICURAZIONI

Licata S.p.A.



systems

licata THERM®
Sistemi d'isolamento termico a cappotto
External thermal insulation systems

SISTEMI APPROVATI
ETAG 004



CSTB
Document Technique d'Application
DTA N° 7/18-1719_V1

THE SYSTEMS**licataTHERM EPS**

licataTHERM EPS is a simple and effective external in which white expanded polystyrene sheets are used. With over 50 years of history, it is extremely reliable, affordable and one of the most widely used systems.

Years of experience have greatly contributed to perfecting **licataTHERM EPS** from the technical and quality standard point of view.

CSTB
DTA 7/18 - 1719_V1SISTEMI APPROVATI
ETAG 004BBA
APPROVAL
INSPECTION
CERTIFICATION
UNIFORM TEST STANDARDS**licataTHERM EPS grey**

licataTHERM EPS grey is a thermal insulation system in which expanded polystyrene sheets with the addition of graphite are used in order to enhance the degree of effectiveness even at reduced thicknesses compared to the traditional EPS system. If **licataTHERM EPS grey** is combined with a siloxane finish, it guarantees excellent mechanical resistance to impacts, excellent breathability and high resistance to dirt.

CSTB
DTA 7/18 - 1719_V1SISTEMI APPROVATI
ETAG 004BBA
APPROVAL
INSPECTION
CERTIFICATION
UNIFORM TEST STANDARDS**licataTHERM Giano**

This system uses a bilayer insulator.

Internal layer composed of: Graphitized EPS with improved thermal conductivity to maximize the thermal insulation even at reduced thickness.

External layer composed of: High density white EPS to increase the mechanical resistance to impacts, to facilitate the laying of the mortar, and the sealing of the mechanical mounting. The 10 crossbar cuts, together with the light colour of the external surface of the panel, allow to reduce the tension induced by the thermal stresses due to irradiation.

The **licataTHERM EPS Giano** system is characterised by:

- excellent thermal-insulating characteristics
- high mechanical resistance to impacts

**licataTHERM Rock wool**

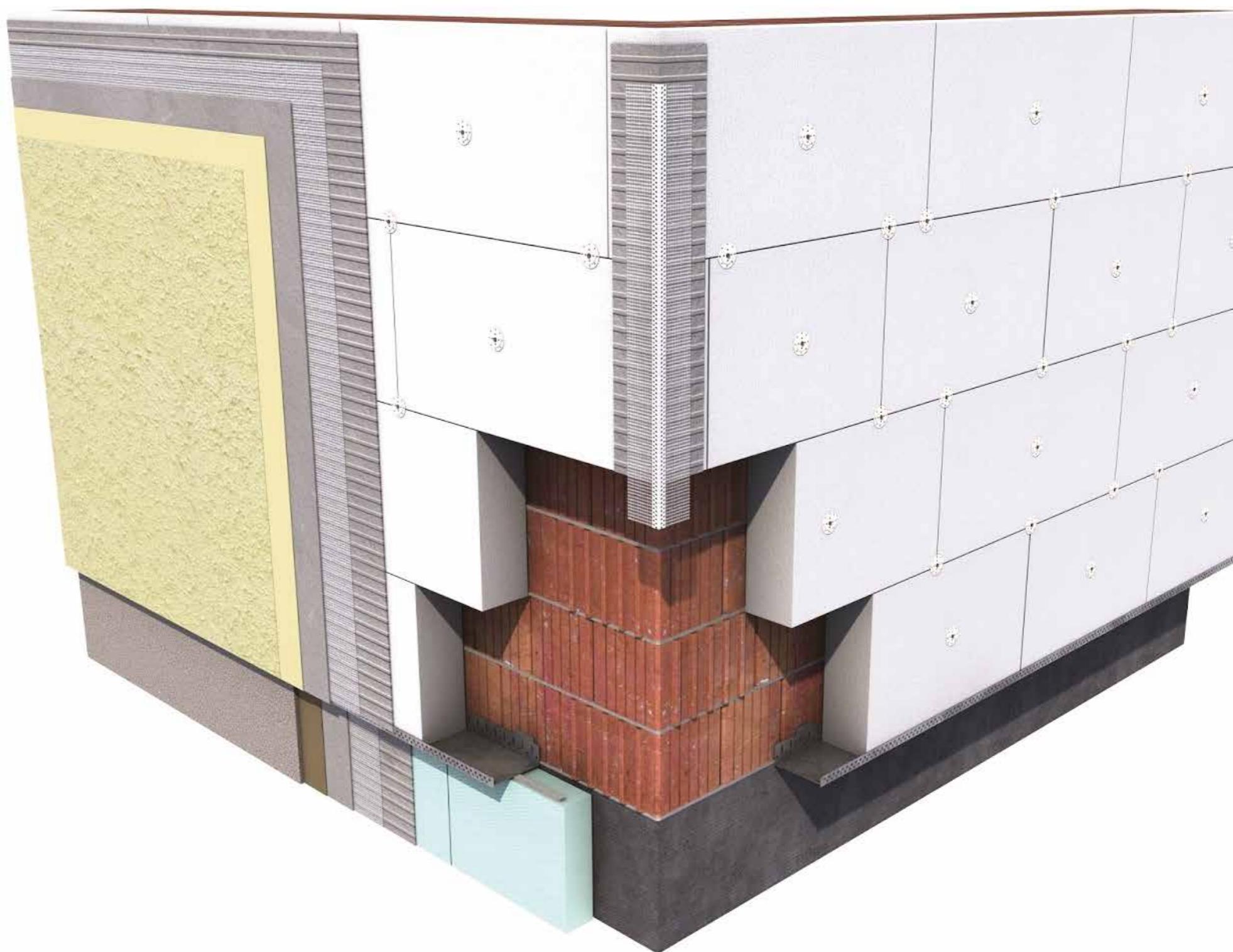
licataTHERM Rock wool is a thermal-acoustic insulation system consisting of mineral components such as the rock wool panel, adhesives-skim plasters and mineral coatings based on potassium silicate in compliance with **DIN 18363 LicataSil**.

licataTHERM rock wool is therefore an extremely breathable, strong, durable and totally fireproof system:

- joins the thermal-insulating characteristics to the acoustic ones
- excellent protection both from the cold and from the heat
- high breathability of the panel
- flame retardant system class **A2 - s1, d0**

SISTEMI APPROVATI
ETAG 004

application



Verification and preparation of the substrate

Use of the **licataTHERM** thermal insulation system is permitted on old and new buildings. It is suitable for various types of bases: masonry (concrete, blocks of cement concrete, bricks, porous concrete), fair-faced masonry, prefabricated (multilayer sheets).

The substrate for application must be analysed in order to verify its mechanical characteristics and its physical state.

- Check the flatness of the substrate and, if necessary, remove any protrusions greater than 1 cm.
- The application substrate must be completely dry and seasoned, clean, consistent, free from dust and oily substances, without moisture and salts. On old, reclaimed and absorbent substrates it is always necessary to use primers (**Acril Primer**, **Nano Primer**, **SilPrimer**) which also have the function to consolidate the surface of the substrate. With non-absorbent surfaces or smooth concrete or in the presence of release agent, before bonding apply **Tiles ecoprimer**, specially formulated to provide adhesion bridges and to increase the specific surface area.
- Substrates that have algae, fungus or lichen colonies always require special treatment. First of all the wall must be cleaned and then treated with a solution of active substances (**Sanus**) which should not be rinsed.
- Worn or rough parts in concrete must be reclaimed with special mortars for restoration.
- In case of old paints, plaster or ceramic coatings it is necessary to remove them and reconstruct the floor plan.
- The minimum temperature of the working substrate must not be less than + 5°C.
- Consider the correct working temperature and the degree of humidity of the building. Interventions like the realization of an internal plaster inside or of the screed, must be finished (drying included) before starting the application of the system.

Monitor the weather conditions in order to ensure a correct application and the maintenance conditions of the products connected to the system. Therefore do not apply on frozen bases, on bases in freezing phase or in if there is a possibility that the temperatures may fall within 24 hours below +3°C. Apply at a temperature between +5°C and +35°C with a relative humidity not higher than 70%. During application protect from direct sunlight and from a quick drying.

It will be the task of the designer to indicate in the project the systems to be adopted in order to prevent the infiltration of rain water inside the system (covers, waterproofing, seals, etc.) and the positions of specific elements manufactured and designed for ETICS insulation systems for suspended loads.

Fixing the profiles

The fixing of the insulating sheets occurs by means of universal starter profiles, base profiles. All the connections to the pavements, skirting and openings must be made with specific **licataTHERM** starter profiles aligned and level and fixed with anchors with a distance of less than 30 cm.

Apply the **licataTHERM** starter profiles at a height of at least 3 cm from the floor level in order to avoid contact with rainwater (see fig.1).



fig.1

For the skirting and for the areas subject to heavy rain (balconies, terraces, etc.) use the **licataTHERM** skirting panels, for a minimum height of 30 cm above the floor, applying the **Raso Top 800** adhesive on the entire surface of the panel with a notched trowel (see fig.2).



fig.2

Gluing and positioning of the insulating sheets

Mix the **Raso Top 800** adhesive adding 21-23% water (approximately 5.25-5.75 L per pack) needed for the mixture and stir together with a suitable drill with a low number of revolutions until reaching the desired consistency, leave to rest for 5 minutes and mix.

In case of a perfectly flat substrate, (the flatness of the surface must have a maximum tolerance of 10 mm on 4 m) the product must be applied on the entire surface of the insulating sheet with a notched trowel with an average consumption of 4 - 6 kg/m² per full surface (see fig.3).



fig.3

When the substrate is not perfectly flat and has irregularities that in any case do not exceed one centimetre of height difference, the panel will be glued according to the perimeter curb and by points method. (see fig.4). Average consumption 3 - 5 kg/m².

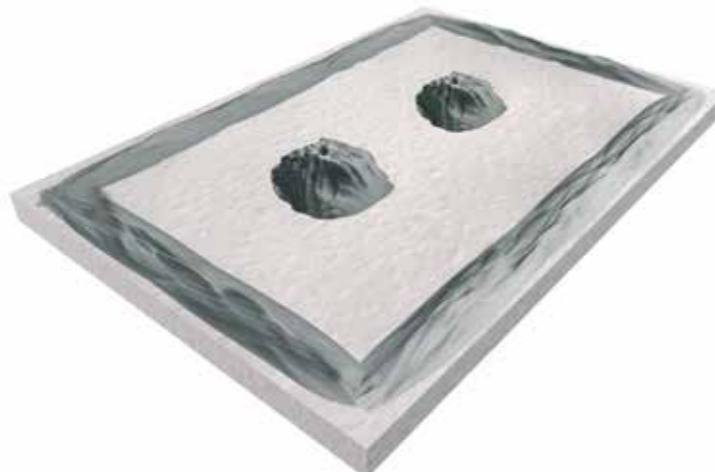


fig.4

Gluing can also be performed with **licataTHERM SP800** low-density polyurethane foam. (see fig.5)

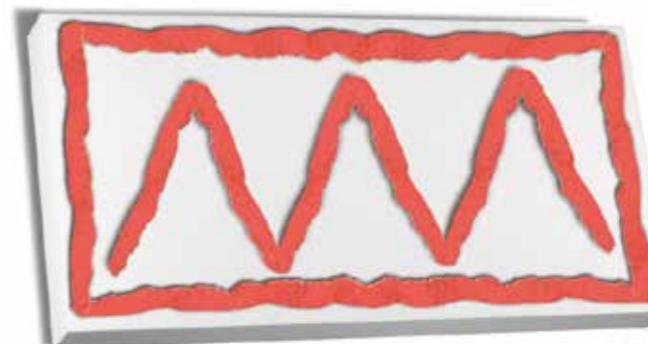


fig.5

The insulating sheets must be applied to the wall, from the bottom upwards, by staggering the joints, ensuring that there are no joints between the edges of the slabs (see fig.6).

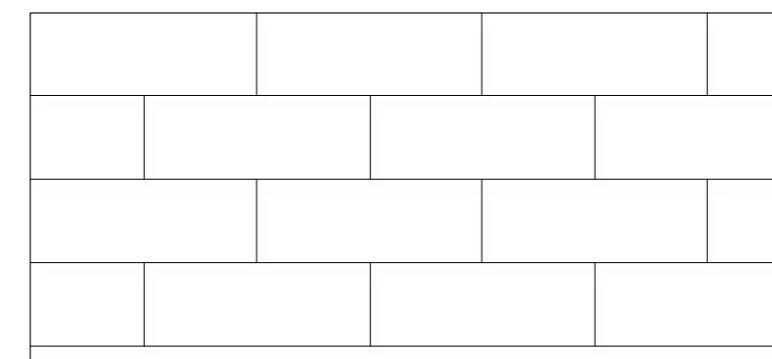


fig.6

After the plate has been pressed against the wall, the adhesive must cover at least 40 % of the entire surface (considering the material on the substrate , and the one on the plate). At the corners, the sheets must be rotated in such a way as to ensure an absorption of the tensions (see fig.7).

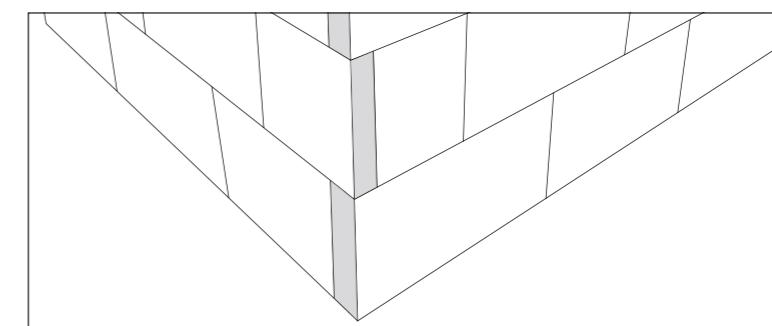


fig.7

All joints, due to tolerances (measurement or application), exceeding 2 mm must in any case be filled in all thickness with strips of insulating material, or with the suitable **licataTHERM SP800** low-density polyurethane foam Figure 7 and Figure 8. The need to fill joints of less than 2 mm must be assessed on a case-by-case basis: it is possible to intervene by widening the joint to allow its sealing. (see fig.8)



fig.8



fig.9

NOTE Immediately remove any traces of adhesive mortar between the joints of the plates or in the leakages, without leaving any residue to prevent the formation of thermal bridges.

Afterwards, the insulating sheets must be beaten with a wood or plastic trowel to make them adhere as far as possible to the substrate.

Also frequently check, the good flatness of the whole surface with a straight edge bar, and if not flat, hone it to prepare the surface for the next cycle - smoothing.

Fixing the insulating sheets

First of all:

- Thickness of insulating panel equal to or exceeding 10 cm must still be anchored.
- The holes for the anchors should be made only when the adhesive is cured (usually 3 days).
- Use punches or hammer drills only with concrete or solid bricks. On bricks, hollow blocks and cellular concrete use rotation drills and suitable tips in order not to damage the masonry artefacts.
- Adjust the stop depth of the drill to a length 10-15 mm greater than the anchor.
- The anchorage depth of the anchor on the substrate must be greater than 40 mm.
- The anchors must be inserted flush with the insulator by using percussion or screw hammer (according to the type of anchor).
- Bent or loose anchors (with poor sealing) must be removed and replaced with new anchors with new perforation not in the same hole. The empty holes must be filled with insulating foam.



Mechanical fixing

After minimum curing of three days, proceed with the mechanical fixing of the panels, by using suitable wall anchors with an anchoring depth of at least 4 cm.

The choice of the anchor must be made both according to the type of wall substrate on which the Insulating System is applied, and depending on the type of insulation used. The disc of the anchor has the task of pressing the insulating sheet against the substrate, while the stem has the function of adhesion to the substrate itself. The number of anchors depends on the height and position (central area, edges) and can vary from 6 to 8 per m² according to the height. They should be applied as in the diagrams shown in fig.1, fig.2, fig.3 and fig.4.

Buildings located in urban areas protected from the wind with a height **not exceeding 8 m** with flat, solid, absorbent, non crumbly surfaces, do not require anchoring.

Buildings located in urban areas, protected from the wind and with a height **of more than 8 m** require normal anchoring (see fig.1).

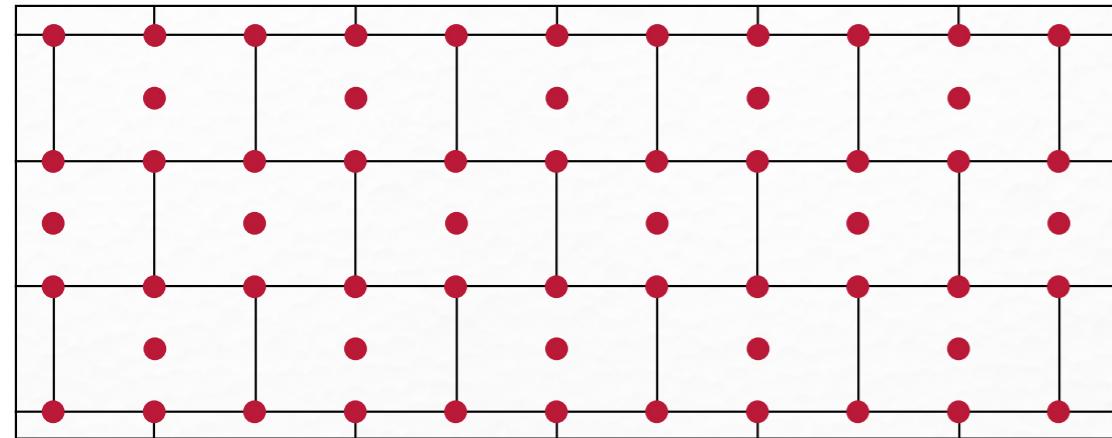


fig.1 | normal anchoring

Isolated buildings or in open urban areas, require normal anchoring on the whole surface up to 15 m and reinforced anchoring over 15 m (see fig.2).

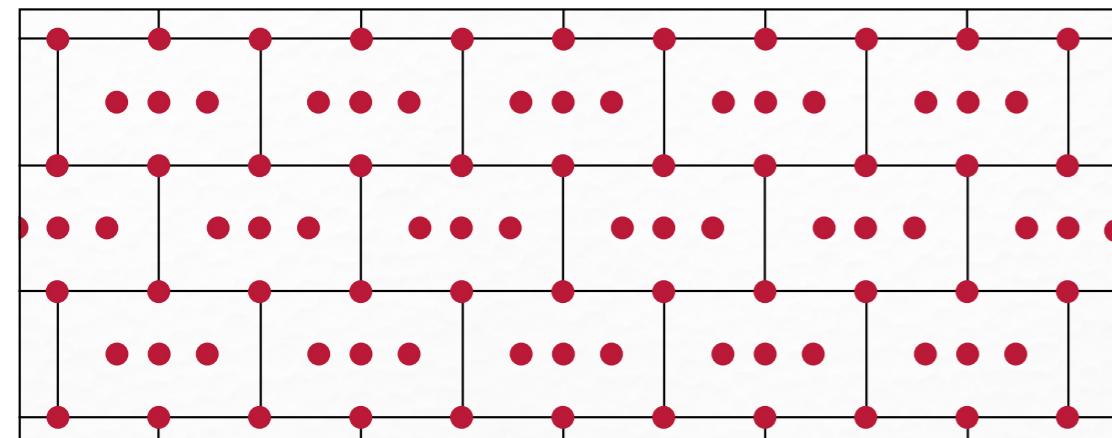


fig.2 | reinforced anchoring

Mechanical fixing rock wool

The mechanical fixing of rock wool panels, will take place according to a "W" pattern (see fig. 3), where the anchors are not located at the intersections of the panelling, but about 5 cm away from the edge of the panel.

The anchors must be coupled with the washer **Fischer DT** in order to increase the pressure surface.

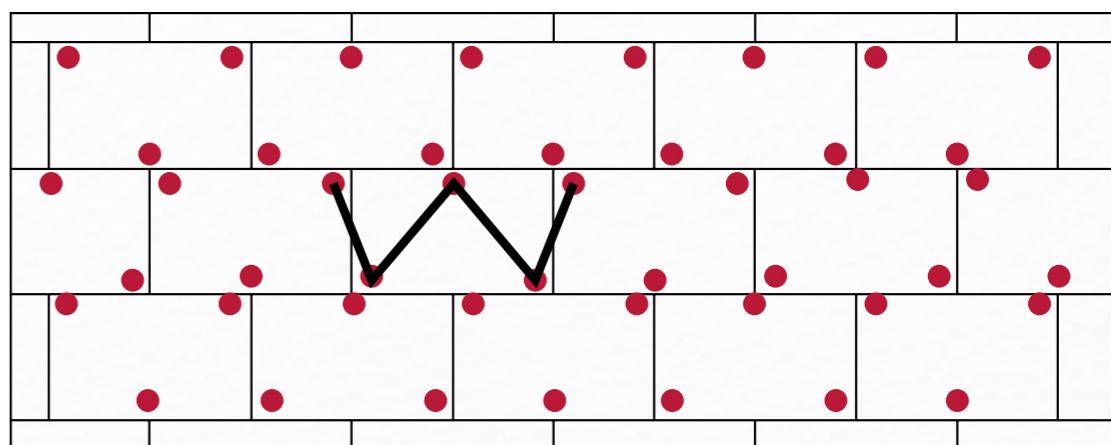


fig.3 | anchoring for rock wool panels



Washer for fixing panels DT

Edges anchoring

The edges at the corners in Etics systems mechanically fixed with extra adhesive, must always be strengthened like the outer vertical edges without continuity and the joints of the openings, windows, fixtures, expansion joints, etc., maintaining a maximum distance of 30 cm on the stiffeners and a distance of 10 cm from the edge.

See fig.4 for the positioning of the vertical reinforcements on corners, edges, opening vertical unions, windows, fixtures, expansion joints, etc.

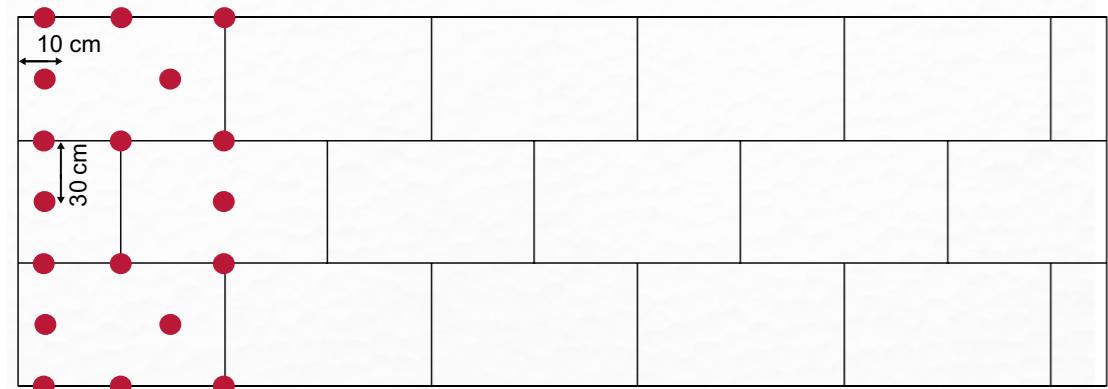


fig.4 | edge anchoring

Reinforcement arrows, edge protection and accessories

In correspondence with the corners of windows and doors, it is necessary to shape the insulating panels in such a way that their joints do not correspond to the edges of the openings. The cuts on the panels must be performed in a workmanlike manner at a right angle and to do so it is necessary to use appropriate tools such as saws or hot wire cutters (see fig.1).



fig.1

Before performing the reinforced smoothing it will be necessary to reinforce and counteract the cutting force, with transversal reinforcements that will be embedded in the plaster and secured to the panels. The edge of the strip of the mesh must be positioned directly on the corner at about 45°. The size of the mesh strips must be indicatively 20 x 40 cm (see fig.2).

Alternatively it is possible to use **licataTHERM reinforcing mesh for shoulders** (see fig.3).

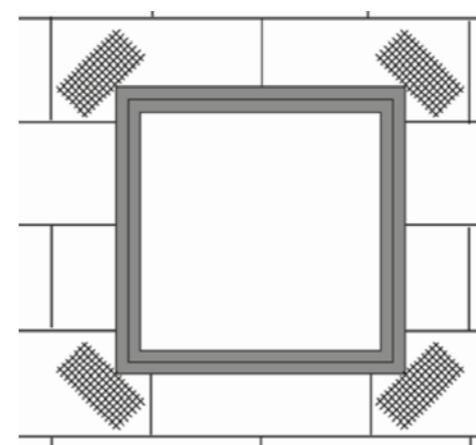


fig.2



fig.3

The appropriate **licataTHERM** steel angle with mesh will be applied with adhesive mortar on all edges (see fig.4 and fig.5) taking care to use in the points for the drainage of rainwater appropriate **licataTHERM** PVC angle with drip edge mesh with visible edge (see fig.6).



fig.4



fig.5



fig.6



fig.7

NOTE The structural expansion joints must be protected with **licataTHERM** PVC expansion joint (fig.7).

Smoothing and reinforcing mesh

Smooth using a metal trowel, average consumption 1,1 kg/m² for 1 mm thickness. Starting from the top downwards, insert and embed the **licataTHERM 160** fibreglass alkali-resistant reinforcing mesh superimposing it between one strip and another for at least 10 cm. Overlap the reinforcing mesh with the reinforcing mesh of the particular **licataTHERM** accessories such as PVC angles, expansion joints, mesh for ashlar panels, window reinforcing meshes, etc. In areas subject to impacts, it is possible to arm with a double layer of mesh. After finishing, all must dry for at least 1-2 days.

First coat of **Raso Top 800** skim plaster**licataTHERM rete 160**

Then proceed with the second coat of **Raso Top 800** skim plaster in order to completely cover the reinforcing mesh.

The final thickness of the two reinforced layer of mesh should be greater than 3 mm. The mesh must be positioned in the third external part of the skim plaster body.

Laying the finishing layers

After complete hardening of the skim plaster layer, approximately 3-6 days (depending on the climatic conditions), proceed with the application of the coloured primer **Isolante LG**, Primer **Ocram** or **Siloxan LG** with a wool roller or/and brush.



Subsequently, after at least 12-24 hours, the decorative coating must be applied:

Potassium silicate line
Licatasil

Acrylic line
Lericci

Siloxane line
Siloxan Color



The product must be applied in one coat with a stainless steel trowel and, with a layer not yet dry, finished with a plastic trowel until the desired aesthetic effect is obtained.

For the areas under balconies, gutters, etc., use the **Vitrea Quarzo** acrylic line paints, **Idrosil Exterior** potassium silicate line and the **Siloxan Paint** siloxane line.

NOTE Use light colours (reflection index greater than 20%-30% in relation to climatic conditions), do not interrupt the application on continuous surfaces and for at least 3-5 days, protect the surfaces from the sun, rain, etc.



licatacolore 2.0

NUOVE TECNOLOGIE DEL COLORE



licata colore 2.0
NUOVE TECNOLOGIE DEL COLORE

Tintometric systems are innovation made colour, because they combine technology with practicality of use and customisation of colour to the highest standards of quality. Wherever painting is required for both interiors and exteriors, the **licatacolore 2.0** tintometric system is ideal to obtain the desired result quickly, precisely and practically.



licata systemcolors



The **licatasystemcolors Exterior** system has been on the market for over 20 years, gaining irreplaceable experience in the development of dyes for tinting. The system offers a complete range of colours for finishes in bright and modern light resistant pastes. Through colour, brilliance, design, structure and different colour combinations they are able to completely change our perception of a building.

accessories

040





licataTHERM
starter profile
with aluminium drip tray



licataTHERM undersill



Comriband Tape
Black tape width 15 mm, application
area 2.6 mm - length 18 m.



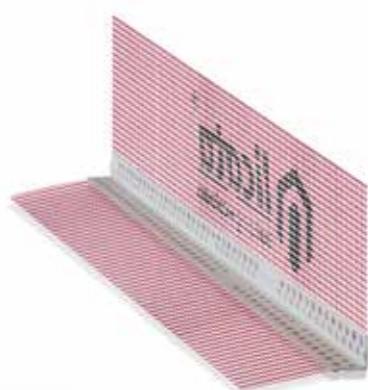
licataTHERM
CS 8/110 anchor



licataTHERM
Termofix Termoz 6H anchor



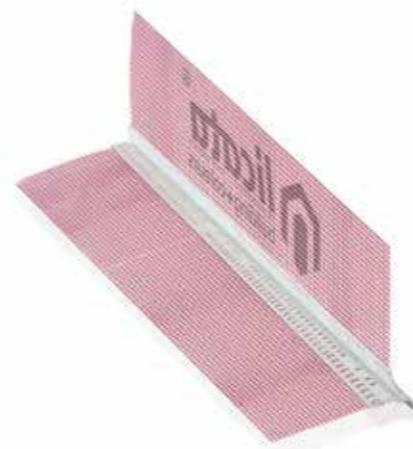
licataTHERM
Ecotwist anchor



licataTHERM
PVC angle with mesh



licataTHERM
expansion joint



licataTHERM PVC angle
with drip edge mesh



licataTHERM
anchor M6



licataTHERM
anchor M12



licataTHERM Fischer DT washers



licataTHERM rete 160



U-AL PVC Profile



ALU typ U Profile



licataTHERM
insulating cap in
EPS



licataTHERM
insulating cap in
EPS with graphite



licataTHERM
insulating cap in
Rock wool



ELDOLINE EPS Electrical Box



licataTHERM cutter 1000



licataTHERM cutter 500



licataTHERM cutter 100

Dosteba Accessories



K1PE HINGES AND GRATINGS SUBSTRATE

The K1PE brackets are made of high-density rot-proof PU (polyurethane) foam, completely coloured in black, CFC-free, reinforced by a steel insert integrated into the element for good adhesion to the substrate, an aluminium plate for screwing of the attached part, as well as a compact panel (HPL) that guarantees an optimal distribution of pressure on the surface of the element. Three anchors are included in the supply upon request.



UMP ALU TR PLATE

The UMP ALU heavy duty plates are made of rot-proof rigid polyurethane foam, solution dyed black, CFC-free, reinforced with four foam-injected steel consoles to ensure tight screwing to the base, an aluminium plate for the screwing elements fitted subsequently, and a compact plate (HPL), which ensures an optimal pressure distribution on the surface of the element. Fiber reinforced plastic tie rods (polyamide) ensure the necessary strength.



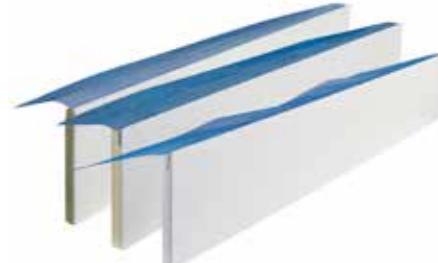
O VARIOQ® assembly bar

The VARIOQ® blocks are expansion molded, in EPS, with high specific weight. The VARIOQ® assembly blocks should be installed at the same time as gluing of the insulating panels. Cut the VARIOQ® assembly block with a hand saw or a hot wire cutting device customising its insulating thickness. Apply adhesive mortar to the bonding surface of the VARIOQ assembly block. The element must be glued covering the entire surface on the load-bearing base.



QUADROLINE PU ASSEMBLY BLOCK

The QUADROLINE PU assembly blocks are cut bricks made of rigid, rot-proof, CFC-free polyurethane foam.



LAI-SYS SHOULDERS IN EPS-MW-PU

The Lai-Sys intrados system consists of a filling element and a connection profile. The Lai-Sys shoulder elements are made of EPS, PU or mineral wool (LM) with a combined glued bracket, mesh and an intrados surface coating.





specification
items



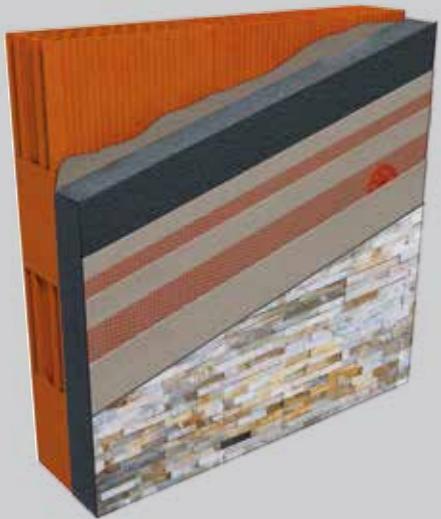
licataTHERM STRONG

Reinforced external thermal insulation system suitable for the surface laying of stone or ceramic cladding

INTRODUCTION

- The system is intended for buildings with a maximum height of 10 m
- The ceramic or stone cladding must have a reflection index greater than 20%
- The ceramic or stone cladding must have a weight $\leq 35 \text{ kg/m}^2$.
- The stone cladding must have a maximum thickness of 5 cm.
- The ceramic cladding must have a maximum thickness of 2 cm

The licataTHERM Strong will be created using panels in:



- EPS (sintered expanded polystyrene), compliant with the UNI EN 13163 standard with CE mark, with a thickness ranging from 40 to 200 mm and having the following characteristics:

- Thermal conductivity (λ) = 0.036 W/mK
- Tensile strength $\geq 100 \text{ kPa}$;
- Vapour diffusion resistance (μ) = 30/70

Or by using panels in EPS (expanded polystyrene sintered) added with graphite, according to UNI EN 13163, with EC mark, with thickness ranging from 40 to 200 mm having the following characteristics:

- Thermal conductivity (λ) = 0.031 W/mK
- Tensile strength $\geq 100 \text{ kPa}$
- Vapour diffusion resistance μ = 20/40

Or by using double layer panels, in EPS added with graphite and high density white EPS, according to UNI EN 13163, with EC mark, with thickness ranging from 40 to 200 mm having the following characteristics:

- Thermal conductivity (λ) = 0.030 W/mK
- Tensile strength $\geq 100 \text{ kPa}$
- Vapour diffusion resistance μ = 30/70

1. START AND SKIRTING

The insulating sheets will be perfectly aligned at the start using, if necessary, a suitable base profile, fixed by means of anchors which, in addition aligning, will help to contain the panels peripherally to the substrate.

2. BONDING

System adhesives:

Raso Top 800: cement-based mineral adhesive/skim plaster

In the case of a perfectly planar substrate, (the flatness of the surface must have a maximum tolerance of 10 mm on 4 m), the anchoring of the panels to the substrate (staggered installation), will be achieved by applying the full-bed adhesive on the panel with toothed trowel. Instead, when the substrate has irregularities, in any case not exceeding a height difference of one centimetre, the gluing of the panel will take place according to the perimeter curb and by points method.

Tips, attention to detail – notes

To eliminate thermal bridges, cracks must be filled with special polyurethane foam (**licataTHERM SP 800**). The corners will be protected in advance with PVC or aluminium protections with pre-assembled mesh. At the corners of windows and doors, before the reinforced smoothing, as reinforcement to the shear force, special reinforcing meshes or meshes with shoulders will be applied, embedding them on a layer of skim plaster. Other accessories and/or systems such as: expansion joints (if any), corner protector with drip catcher, skirting panel and relative waterproofing and drainage cycle, accessories for the fixing of suspended loads, etc. must be included in the project.

3. FIRST REINFORCEMENT SMOOTHING

After curing for a minimum of three days, the insulating panels will be coated on site with a thin layer of adhesive/mineral skim plaster **Raso Top 800** having a thickness of about 3 mm, in which will be embedded a glass fibre mesh, **licataTHERM rete 160** in ETAG 004 for External Thermal Insulation Composite System (ETICS). The laying of the mesh will be carried out by providing the overlap of the flaps for at least 10 cm.

4. DRILLING/MILLING

After curing for a minimum of three days, using a drilling machine with 8 mm drill, proceed to drilling down to a depth equal to the length of the anchor plus at least 10 mm. Then create with a suitable mill a circular crown of approximately 18 mm diameter, to allow screwing the anchor flush with the smoothing.

5. SECOND REINFORCEMENT SMOOTHING

Apply a second layer of **Raso Top 800** mineral glue/skim plaster with a thickness of approximately 3 mm, in which a glass fibre mesh, **licataTHERM rete 360** certified as **ETAG 004** for External Thermal Insulation Composite Systems (ETICS) will be embedded. The laying of the mesh will be carried out by providing the overlap of the flaps for at least 10 cm.

6. ANCHORING/MECHANICAL FIXING

Immediately afterwards, insert the special licatatherm **TERMOZ CS 8** anchors in the previously created holes, then tighten them with a screwdriver until flush with the surface. The anchors that do not grip should be removed and replaced. The surface arrangement of the anchors must follow a square grid of 40 cm on the side corresponding to 6.37 anchors/ m^2 ; in the perimeter areas (200 cm from the edge of the building). The number of anchors must be increased in order to reach 12.49 anchors/ m^2 . Always check their positioning according to the EN 1991-1 standard (guide for the determination of wind actions for the structural design of buildings and civil engineering works).

7. THIRD SMOOTHING

After curing for a minimum of two days, it will be possible to proceed with the laying of a third coat of **Raso Top 800**, to completely cover the anchor washer and the **licataTHERM rete 530** reinforcing mesh.

8. LAYING OF CERAMIC OR STONE CLADDING

After curing of at least 14 days (at T: $+20^\circ\text{C} \pm 1$ and RH: $70\% \pm 5$), proceed with the laying of stone or ceramic cladding. For this purpose, use high-performance deformable (or highly deformable) cement adhesives, classified as **C2TE-S1** or **S2** according to the UNI EN 12004 and UNI EN 12002 standards.

Recommendations/warnings

- Double coating is highly recommended. This operation becomes mandatory for ceramic or stone claddings with the larger side greater than 30 cm.
- For ceramic or stone claddings larger than 30 x 30, the designer must evaluate the need for the use of a mixed fixing system (adhesive/mechanical safety fixing), to be chosen according to the design/layout, height of the building and environmental climatic conditions
- The installation must be carried out with wide joints, the amplitude of which must be evaluated according to the local climatic conditions and the size of the tiles.
- The designer must provide for the creation of elastic joints at the corners, edges, windows and all the architectural elements that constitute a discontinuity of the surface.

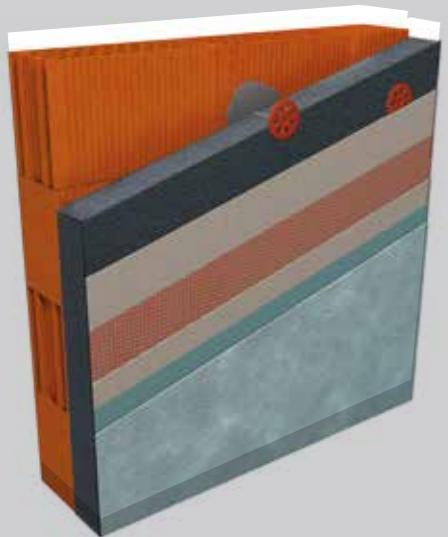
licataTHERM EPS

ETICS system with high insulating power in EPS, in the variants: white, graphite, or double layer

licataTHERM EPS will be made using panels in:

- EPS (sintered expanded polystyrene), compliant with the UNI EN 13163 standard with CE mark, with a thickness ranging from 40 to 200 mm and having the following characteristics:

- Thermal conductivity (λ) = 0.036 W/mK
- Tensile strength \geq 100 kPa;
- Vapour diffusion resistance (μ) = 30/70



Or by using panels in EPS (expanded polystyrene sintered) added with graphite, according to UNI EN 13163, with EC mark, with thickness ranging from 40 to 200 mm having the following characteristics:

- Thermal conductivity (λ) = 0.031 W/mK
- Tensile strength \geq 100 kPa
- Vapour diffusion resistance μ = 20/40

Or by using double layer panels, in EPS added with graphite and high density white EPS, according to UNI EN 13163, with EC mark, with thickness ranging from 40 to 200 mm having the following characteristics:

- Thermal conductivity (λ) = 0.030 W/mK
- Tensile strength \geq 100 kPa
- Vapour diffusion resistance μ = 30/70

1. START AND SKIRTING

The insulating sheets will be perfectly aligned at the start using, if necessary, a suitable base profile, fixed by means of anchors which, in addition aligning, will help to contain the panels peripherally to the substrate.

2. BONDING**System adhesives:**

- **Raso Top 800**: cement-based mineral adhesive/skim plaster
- **Raso W 160**: cement-based mineral adhesive/skim plaster
- **Raso Top Bio**: mineral adhesive/skim plaster based only on natural hydraulic lime NHL 5

In the case of a perfectly planar substrate, (the flatness of the surface must have a maximum tolerance of 10 mm on 4 m), the anchoring of the panels to the substrate (staggered installation), will be achieved by applying the full-bed adhesive on the panel with toothed trowel. Instead, when the substrate has irregularities, in any case not exceeding a height difference of one centimetre, the gluing of the panel will take place according to the perimeter curb and by points method.

Tips, attention to detail – notes

To eliminate thermal bridges, cracks must be filled with special polyurethane foam (**licataTHERM SP 800**). The corners will be protected in advance with PVC or aluminium protections with pre-assembled mesh. At the corners of windows and doors, before the reinforced smoothing, as reinforcement to the shear force, special reinforcing meshes or meshes with shoulders will be applied, embedding them on a layer of skim plaster. Other accessories and/or systems such as: expansion joints (if any), corner protector with drip catcher, skirting panel and relative waterproofing and drainage cycle, accessories for the fixing of suspended loads, etc. must be included in the project.

3. ANCHORING

After complete hardening of the adhesive (min. 3 days), the next step is the insertion of specific **licataTHERM** anchors, applied with a T-shape for a minimum number of 6 perm², of variable length and type according to the type of substrate and the thickness of the panel.

4. REINFORCED SMOOTHING**System skim plasters:**

- **Raso Top 800**: cement-based mineral adhesive/skim plaster
- **Raso W160**: cement-based mineral adhesive/skim plaster
- **Raso Top Bio**: mineral adhesive/skim plaster based only on natural hydraulic lime NHL 5

- The insulating panels will be coated on site with a thin layer of adhesive/skim plaster with a thickness of approximately 3 mm in which the **licataTHERM rete 160** fibreglass mesh will be embedded. The laying of the mesh will be carried out by providing the overlap of the flaps for at least 10 cm.

- After a minimum curing of 2 days, a second coat of skim plaster/adhesive will be installed to completely cover the **licataTHERM rete 160** reinforcing mesh with subsequent finishing to a professional standard and planar, suitable to receive the decorative layer.

5. INSTALLING THE DECORATIVE COATING**System decorative coatings:**

- **Lericì**: acrylic paste coating
- **Besten Putz Acrílico**: acrylic coating in compact and filling effect paste
- **Silsan Color**: acrylic-siloxane paste coating
- **Besten Putz Acri - Silossanico**: compact effect acrylic-siloxane paste coating
- **Siloxan Color**: siloxane paste coating
- **Besten Putz Sirossanico**: siloxane paste coating with a compact and filling effect
- **Licatasil**: mineral coating in paste based on potassium silicate

- After curing the layer of reinforced smoothing (min. 3 days), after laying a coat of the respective primer, the desired decorative coating will be laid. The product must be applied in one coat with a stainless steel trowel and, with a layer not yet dry, finished with a plastic trowel until the desired aesthetic effect is obtained.

- The laying of the decorative coating that is not applied in a single working cycle, or applied in a non-homogeneous and discontinuous way, could easily create chromatic alterations or effects of "empty spaces" on the texture of the coating.

licataTHERM ROCK

ETICS system, in fire reaction class A1 (non-combustible), made with water-repellent and water-soluble rock wool

licataTHERM ROCK will be made using rock wool panels, with a thickness ranging from 50 to 200 mm, classified and CE marked according to the European standard EN 13163, with the following characteristics:

- Thermal conductivity (λ) = 0.034 W/mK
- Compressive strength \geq 20 kPa
- Tensile strength \geq 10 kPa
- Vapour diffusion resistance $\mu = 1$
- Fire reaction class - A1 (non-combustible)

**1. START AND SKIRTING**

The insulating sheets will be perfectly aligned at the start using, if necessary, a suitable base profile, fixed by means of anchors, with the function of aligning and containing the panels peripherally to the substrate.

2. BONDING**System adhesives:**

- **Raso Top 800**: cement-based mineral adhesive/skim plaster
- **Raso W 160**: cement-based mineral adhesive/skim plaster
- **Raso Top Bio**: mineral adhesive/skim plaster based only on natural hydraulic lime NHL 5

In the case of a perfectly planar substrate, (the flatness of the surface must have a maximum tolerance of 10 mm on 4 m), the anchoring of the panels to the substrate (staggered installation), will be achieved by applying the full-bed adhesive on the panel with toothed trowel. Instead, when the substrate has irregularities, in any case not exceeding a height difference of one centimetre, the gluing of the panel will take place according to the perimeter curb and by points method.

Tips, attention to detail – notes

To eliminate thermal bridges, cracks must be filled with special polyurethane foam (**licataTHERM SP 800**). The corners will be protected in advance with PVC or aluminium protections with pre-assembled mesh. At the corners of windows and doors, before the reinforced smoothing, as reinforcement to the shear force, special reinforcing meshes or meshes with shoulders will be applied, embedding them on a layer of skim plaster. Other accessories and/or systems such as: expansion joints (if any), corner protector with drip catcher, skirting panel and relative waterproofing and drainage cycle, accessories for the fixing of suspended loads, etc. must be included in the project.

3. ANCHORING

After complete hardening of the adhesive (at least 3 days), the next step is the insertion of specific **licataTHERM** anchors, applied with a W pattern for a minimum number of 5 per m², of variable length and type depending on the type of substrate and panel thickness.

4. REINFORCED SMOOTHING**System skim plasters:**

- **Raso Top 800**: cement-based mineral adhesive/skim plaster
- **Raso W160**: cement-based mineral adhesive/skim plaster
- **Raso Top Bio**: mineral adhesive/skim plaster based only on natural hydraulic lime NHL 5

- The rock wool insulation panels will be coated on site with a thin layer of adhesive/skim plaster with a thickness of approximately 4 mm in which the **licataTHERM rete 160** glass fibre mesh will be embedded. The laying of the mesh will be carried out by providing the overlap of the flaps for at least 10 cm.

- After a minimum curing of 2 days, a second coat of skim plaster/adhesive will be installed to completely cover the **licataTHERM rete 160** reinforcing mesh with subsequent finishing to a professional standard and planar, suitable to receive the decorative layer.

5. INSTALLING THE DECORATIVE COATING**System decorative coatings:**

- **Lerici**: acrylic paste coating
- **Besten Putz Acrilico**: acrylic coating in compact and filling effect paste
- **Silsan Color**: acrylic-siloxane paste coating
- **Besten Putz Acril - Silossanico**: compact effect acrylic-siloxane paste coating
- **Siloxan Color**: siloxane paste coating
- **Besten Putz Silossanico**: siloxane paste coating with a compact and filling effect
- **Licatasil**: mineral coating in paste based on potassium silicate

- After curing the layer of reinforced smoothing (min. 3 days), after laying a coat of the respective primer, the desired decorative coating will be laid. The product must be applied in one coat with a stainless steel trowel and, with a layer not yet dry, finished with a plastic trowel until the desired aesthetic effect is obtained.

- The laying of the decorative coating that is not applied in a single working cycle, or applied in a non-homogeneous and discontinuous way, could easily create chromatic alterations or effects of "empty spaces" on the texture of the coating.

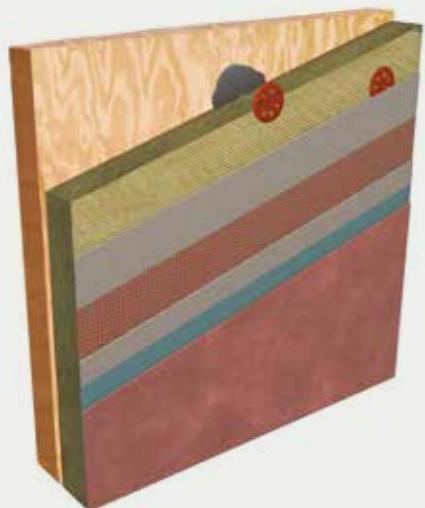
licataTHERM WOOD

ETICS system for wooden walls, aimed at improving their thermal, acoustic and fire-fighting performance

licataTHERM WOOD will be made using panels in:

- Rock wool, with a thickness varying from 50 to 200 mm, classified and CE marked according to the European standard EN 13163, having the following characteristics:

- Thermal conductivity (λ) = 0.034 W/mK
- Compressive strength \geq 20 kPa
- Tensile strength \geq 7.5 kPa;
- Vapour diffusion resistance (μ) = 1
- Fire reaction class - A1 (non-combustible)



Or by using wood fibre panels, with a thickness ranging from 40 to 180 mm, classified and CE marked according to the European standard EN 13163, with the following characteristics:

- Thermal conductivity (λ) = 0.040 W/mK
- Tensile strength \geq 10 kPa
- Compressive strength \geq 100 kPa
- Vapour diffusion resistance (μ) = 4

Or by using panels in EPS (expanded polystyrene sintered) in accordance with the standard UNI EN 13163 with EC mark, with thickness ranging from 40 to 200 mm having the following characteristics:

- Thermal conductivity (λ) = 0.036 W/mK
- Tensile strength \geq 100 kPa
- Vapour diffusion resistance μ = 30/70

Or through the use of EPS (sintered expanded polystyrene) panels added with graphite, compliant with UNI EN 13163, with CE mark, with a thickness ranging from 40 to 200 mm and having the following characteristics:

- Thermal conductivity (λ) = 0.031 W/mK
- Tensile strength \geq 100 kPa
- Vapour diffusion resistance μ = 20/40

Or through the use of double-layer panels, in EPS added with graphite and high-density white EPS, compliant with UNI EN 13163, with CE mark, with a thickness varying from 40 to 200 mm having the following characteristics:

- Thermal conductivity (λ) = 0.030 W/mK
- Tensile strength \geq 100 kPa
- Vapour diffusion resistance μ = 30/70

1. START AND SKIRTING

The insulating sheets will be perfectly aligned at the start using, if necessary, a suitable base profile, fixed by means of anchors, with the function of aligning and containing the panels peripherally to the substrate.

2. BONDING**System adhesives:**

- **RasoTherm 500 Plus:** ready-to-use fibreglass adhesive/skim plaster in aqueous dispersion

In the case of a perfectly planar substrate, (the flatness of the surface must have a maximum tolerance of 10 mm on 4 m), the anchoring of the panels to the substrate (staggered installation), will be achieved by applying the full-bed adhesive on the panel with toothed trowel. Instead, when the substrate has irregularities, in any case not exceeding a height difference of one centimetre, the gluing of the panel will take place according to the perimeter curb and by points method.

Tips, attention to detail – notes

To eliminate thermal bridges, cracks must be filled with special polyurethane foam (**licataTHERM SP 800**). The corners will be protected in advance with PVC or aluminium protections with pre-assembled mesh. At the corners of windows and doors, before the reinforced smoothing, as reinforcement to the shear force, special reinforcing meshes or meshes with shoulders will be applied, embedding them on a layer of skim plaster. Other accessories and/or systems such as: expansion joints (if any), corner protector with drip catcher, skirting panel and relative waterproofing and drainage cycle, accessories for the fixing of suspended loads, etc. must be included in the project.

3. ANCHORING

After complete hardening of the adhesive (min. 3 days), the specific anchors will be inserted (**licataTHERM Termofix 6H-NT**, applied with a T or W pattern (depending on the type of insulation) for a minimum number of 6 per m², of variable length depending on the type of substrate and the thickness of the panel).

4. REINFORCED SMOOTHING**System skim plasters:**

- **RasoTherm 500 Plus:** ready-to-use fibreglass adhesive/skim plaster in aqueous dispersion
- **RasoTherm 400:** ready to use skim plaster in water dispersion
- **Raso Top 800:** cement-based mineral adhesive/skim plaster
- **Raso W160:** cement-based mineral adhesive/skim plaster
- **Raso Top Bio:** mineral adhesive/skim plaster based only on natural hydraulic lime NHL 5

- The rock wool insulation panels will be coated on site with a thin layer of adhesive/skim plaster with a thickness of approximately 4 mm in which the **licataTHERM rete 160** glass fibre mesh will be embedded. The laying of the mesh will be carried out by providing the overlap of the flaps for at least 10 cm.

- After a minimum curing of 2 days, a second coat of skim plaster/adhesive will be installed to completely cover the **licataTHERM rete 160** reinforcing mesh with subsequent finishing to a professional standard and planar, suitable to receive the decorative layer.

5. INSTALLING THE DECORATIVE COATING**System decorative coatings:**

- **Elasto Render:** paste coating based on elastomeric acrylic resins
- **Lerici:** acrylic paste coating
- **Besten Putz Acrilico:** acrylic coating in compact and filling effect paste
- **Silsan Color:** acrylic-siloxane paste coating
- **Besten Putz Acr il - Silossanico:** compact effect acrylic-siloxane paste coating
- **Siloxan Color:** siloxane paste coating
- **Besten Putz Silossanico:** siloxane paste coating with a compact and filling effect
- **Licatasil:** mineral coating in paste based on potassium silicate

- After curing the layer of reinforced smoothing (min. 3 days), after laying a coat of the respective primer, the desired decorative coating will be laid. The product must be applied in one coat with a stainless steel trowel and, with a layer not yet dry, finished with a plastic trowel until the desired aesthetic effect is obtained.

- The laying of the decorative coating that is not applied in a single working cycle, or applied in a non-homogeneous and discontinuous way, could easily create chromatic alterations or effects of "empty spaces" on the texture of the coating.

components
technical
information



Raso Top 800

Fiber-reinforced, polymer-modified mineral adhesive/skim plaster, specific for the bonding and smoothing of heat-insulating panels in ETICS licatathermsystems certified according to ETAG 004.

Raso Top 800 is a fibre-reinforced mineral adhesive/skim plaster, modified polymer, based on hydraulic binders, selected aggregates and latest generation additives for both indoor and outdoor use. **Raso Top 800** is specific for the bonding and smoothing of thermal insulation panels in ETICS licatatherm systems, certified according to ETAG 004. The product boasts an excellent degree of adhesion on most of the cement substrates commonly used in construction, both on new and existing buildings, therefore also suitable for façade restoration interventions. Its particular formulation allows the professional to achieve extremely smooth application, creating high aesthetic level finishes, ready to receive thick decorative coatings (silicates, acrylic or siloxane) and painting cycles. The dimensional stability, guaranteed by controlled hygrometric shrinkage, allows the application in thicknesses varying from 1 and 10 mm per coat. **Raso Top 800** is also ideal as a skim plaster to restore flatness on horizontal or vertical substrates.



MAIN FIELDS OF USE

Raso Top 800 is used in External Thermal Insulation Composite Systems (ETICS), for the bonding and smoothing of insulating panels in:

- EPS, white and graphite, XPS, rock wool, wood fibre, cork, glass wool and styphelite.

Raso Top 800 can also be used as a skim plaster on most of the cement substrates commonly used in construction such as:

- Lime-based plasters, lime/cement-based plasters, brick, prefabricated or cast-in-place concrete, autoclaved aerated concrete and old paints and claddings provided they are clean, not deteriorated and firmly anchored to the substrate.

For applications on different substrates, please contact our technical department.



Raso W160

Fibre-reinforced, polymer-modified mineral adhesive/skim plaster, specific for the bonding and smoothing of heat-insulating panels in ETICS systems. Certified as GP mortar according to UNI EN 998-1, suitable for the reinforced smoothing of concrete and cement plasters.

Raso W160 is a fibre-reinforced mineral adhesive/skim plaster, modified polymer, based on hydraulic binders, selected aggregates and latest generation additives. **Raso W160** is specific for the bonding and smoothing of thermal insulation panels in ETICS systems. The product, for both indoor and outdoor use, boasts an excellent degree of adhesion on most of the cement substrates commonly used in construction, both on new and existing buildings, therefore also suitable for façade restoration interventions. Its particular formulation allows the professional to achieve extremely smooth application, creating high aesthetic level finishes, ready to receive thick decorative coatings (silicates, acrylic or siloxane) or painting cycles.



MAIN FIELDS OF USE

Raso W160 can be used in External Thermal Insulation Composite Systems (ETICS), for the bonding and smoothing of insulating panels in:

- EPS, both white and graphite, XPS, rock wool, wood fibre, cork, glass wool.

Raso W160 can also be used as a skim plaster on most of the cement substrates commonly used in construction such as:

- Lime-based plasters, lime/cement-based plasters, brick, prefabricated or cast-in-place concrete, autoclaved aerated concrete, old paints and claddings provided they are clean, not deteriorated and firmly anchored to the substrate.

For applications on different substrates, please contact our technical department.



Raso Top Bio

Fibre-reinforced mineral adhesive/skim plaster based only on NHL 5 natural hydraulic lime certified according to the UNI EN 459-1. The very high breathability and excellent adhesion characteristics make it ideal for the creation of biocompatible thermal insulation systems.

Raso Top Bio is a biocompatible adhesive/skim plaster, certified as GP mortar according to the UNI EN 998-1 standard, specific for applications requiring very high breathability. The particular formulation of **Raso Top Bio** gives the product excellent adhesion to most substrates commonly used in construction, combined with high smoothness during application. Thanks to the addition of pozzolanic reagents, selected sands and specific additives, **Raso Top Bio** meets the most stringent requirements for respecting the environment.

Raso Top Bio is suitable for the cycles of a **licata** external thermal insulation system and in most of the interventions aimed at the restoration/regeneration of the building heritage as a smoothing coat with high vapour permeability characteristics.



MAIN FIELDS OF USE

Raso Top Bio can be used on most of the substrates commonly used in the construction industry, for interventions both on new and existing buildings. Find its main destinations of use on:

- **licata** external insulating systems with natural breathable panels such as wood fibre, rock wool or cork
- Lime-based plasters
- Cement/concrete-based renders
- Masonry
- Prefabricated or cast-in-place concrete
- Autoclaved aerated concrete
- Old paint and coatings provided they are clean, thick and well anchored to the substrate

Raso Top Bio is also indicated on **licata** thermal finishing systems with classic panels such as EPS, graphite EPS or XPS (only for low baseboard). For applications on different substrates, please contact our technical department.



Rasotherm 500 Plus

Ready-to-use, synthetic polymer-based fibre-reinforced adhesive/render paste, with high adhesive power and excellent elasticity, ideal as an adhesive/render paste for use in **licatatherm**-type external insulation finishing systems and as a render paste in the reinforced restoration of façades with microcavillations.

Rasotherm 500 Plus is a ready-to-use, synthetic polymer-based inwater dispersion fibre-reinforced adhesive/render paste, ideal as an adhesive/render paste for insulating panels made of foamed polystyrene, glass wool, rock wool, cork and wood fibre panels, especially on deformable bases such as wood panels, fibre-cement panels etc. The careful selection of raw materials and the addition of selected synthetic polymers, give **Rasotherm 500 Plus** excellent elasticity, flexibility, mechanical resistance (classified cat. 2 according to EN 13498) and impermeability to water. Totally free of cement, **Rasotherm 500 Plus**, is also ideal as skim plaster for buildings subject to high accidental impact risk, for low-baseboard and in the restoration of façades with microcavillations or cracks.



MAIN FIELDS OF USE

Rasotherm 500 Plus is ideal as an adhesive/skim plaster of natural or other types of insulating panels such as:

- Rock wool
- Retro wool
- Wood fibre
- EPS

Rasotherm 500 Plus is formulated and designed for applications on:

- Wooden bases (even CLT type composite laminates)
- Pre-fabricated concrete panels
- Lime-cement based plasters and finishes
- Reinforced skim coatings in façade restoration cycles
- Concrete
- Old paint and coatings provided they are clean, thick and well anchored to the substrate

For the application on different substrates, please contact our technical department.



Rasotherm 400

Ready-to-use, synthetic polymer-based smooth render paste, with high adhesive power and excellent elasticity, ideal for use in licatatherm-type external insulation finishing systems and in the reinforced restoration of façades with microcavillations.

Rasotherm 400 is a ready-to-use skim coating paste, based on fine synthetic polymers in water dispersion for reinforced skim coatings of façades. The careful selection of raw materials and the addition of selected synthetic polymers, give **Rasotherm 400** excellent elasticity and flexibility, impermeability to water and mechanical resistance (classified **cat. 2** according to EN 13498).

Totally free of cement, **Rasotherm 400** is also ideal as skim plaster for buildings subject to high accidental impact risk, for low-baseboard and in the restoration of façades with microcavillations or cracks.



MAIN FIELDS OF USE

Rasotherm 400 is formulated and designed for applications on:

- Lime or lime/cement-based renders
- Thermal renders
- Wooden substrates (X-Lam)
- Insulating panels, both natural and otherwise (mineral wool, glass, wood fibre, EPS, etc.)
- Reinforced skim coatings in façade restoration cycles
- Concrete
- Pre-fabricated concrete panels

For the application on different substrates, please contact our technical department.

licataTHERM EPS T 100/036

EPS plate with block cut

licataTHERM EPS T 100/036 is a thermally insulating sheet in sintered expanded polystyrene.**licataTHERM EPS T 100/036** is classified and **Ce marked** according to the European standard **EN 13163**.Compliance with the essential requirements is binding: only products that offer and guarantee the performance described in the **EN 13163** can be placed on the market and must be used in the **licataTHERM** system certified according to **ETAG 004**.**CHARACTERISTICS**

- **Good insulating power:** **licataTHERM EPS T 100/036** is characterised by reduced thermal conductivity and is therefore ideal for the insulation of both internal and external walls and for the construction of systems with **licataTHERM** cladding
- **Excellent mechanical performance:** **licataTHERM EPS T 100/036** is characterised by excellent dimensional stability and high mechanical resistance both to traction and compression.
- **Durability:** the high resistance to ageing, moisture and rotting phenomena, makes the **licataTHERM EPS T 100/036** panel a stable and durable solution.

licataTHERM EPS Grey T 100/031

EPS sheet with block cut graphite

licataTHERM EPS Grey T 100/031 is a thermally insulating sheet in sintered expanded polystyrene, additive with graphite. **licataTHERM EPS Grey T 100/031** is classified and **CE marked** according to the European standard **EN 13163**.Compliance with the essential requirements is binding: only products that offer and guarantee the performance described in the **EN 13163** can be placed on the market and must be used in the **licatatherm** system certified according to the **ETAG 004**.**CHARACTERISTICS**

- **Excellent insulating power - lower thicknesses with equal insulating performance:** The low thermal conductivity value of the **licataTHERM EPS Grey T 100/031 sheet** ($\lambda = 0.031$), guarantees exceptional thermal insulation values, offering an insulating capacity that is almost 20% better than traditional EPS.
- **Excellent mechanical performance:** **licataTHERM EPS Grey T 100/031** is characterised by excellent dimensional stability and high mechanical resistance both to traction and compression.
- **Durability:** the high resistance to ageing, moisture and rotting phenomena, makes the **licataTHERM EPS Grey T 100/031** panel a stable and durable solution.

licataTHERM EPS T 100/036_CAM

Sheet in EPS cut from "de-stressed" block

licataTHERM EPS T 100/036_CAM is a thermally insulating sheet in sintered expanded polystyrene. Through a "de-stressing" process, the residual internal stresses of the cutting processes are eliminated, improving the precision on site and thus reducing ancillary processing. **licataTHERM EPS T 100/036_CAM** is classified and CE marked according to the European standard EN 13163. Compliance with the essential requirements is binding: only products that offer and guarantee the performance described in the EN 13163 can be placed on the market and must be used in the licatatherm system certified according to the ETAG 004.

The product complies with the Minimum Environmental Criteria (MEC) with the use of reused raw materials, as required by the Italian Environment Ministerial Decree of 11 October 2017, with ICMQ P264 certification.



CHARACTERISTICS

- De-stressed: through a "de-stressing" process, the residual internal stresses of the cutting processes are eliminated, improving the precision on site and thus reducing ancillary processing.
- Lightweight and 100% recyclable: **licataTHERM EPS T 100/036_CAM**: complies with the Minimum Environmental Criteria (MEC) with the use of reused raw materials, as required by Italian Environment Ministerial Decree of 11 October 2017, with ICMQ P264 certification.
- Good insulating power: **licataTHERM EPS T 100/036_CAM** is characterised by reduced thermal conductivity, therefore ideal for the insulation of both internal and external walls and for the creation of **licatatherm** insulating systems
- Excellent mechanical performance: **licataTHERM EPS T 100/036_CAM** is characterised by excellent dimensional stability and by high mechanical resistance both to traction and compression.
- Durability: the high resistance to ageing, humidity and rot phenomena makes the **licataTHERM EPS T 100/036_CAM** panel a stable and durable solution.

licataTHERM EPS Grey T 100/031_CAM

EPS sheet with graphite cut from "de-stressed" block

licataTHERM EPS Grey T 100/031_CAM is a thermally insulating sheet in sintered expanded polystyrene. Through a "de-stressing" process, the residual internal stresses of the cutting processes are eliminated, improving the precision on site and thus reducing ancillary processing. **licataTHERM EPS Grey T 100/031_CAM** is classified and CE marked according to the European standard EN 13163. Compliance with the essential requirements is binding: only products that offer and guarantee the performance described in the EN 13163 can be placed on the market and must be used in the licatatherm system certified according to the ETAG 004.

The product complies with the Minimum Environmental Criteria (MEC) with the use of reused raw materials, as required by Italian Environment Ministerial Decree of 11 October 2017, with ICMQ P264 certification.



CHARACTERISTICS

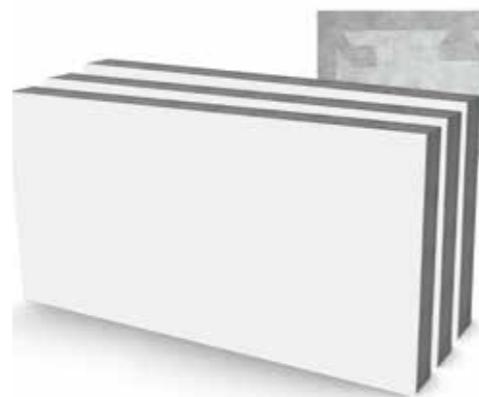
- De-stressed: through a "de-stressing" process, the residual internal stresses of the cutting processes are eliminated, improving the precision on site and thus reducing ancillary processing.
- Lightweight and 100% recyclable: **licataTHERM EPS Grey T 100/031_CAM**: complies with the Minimum Environmental Criteria (MEC) with the use of reused raw materials, as required by the Italian Environment Ministerial Decree of 11 October 2017, with ICMQ P264 certification.
- Excellent insulating power - lower thicknesses with equal insulating performance: The low thermal conductivity value of the **licataTHERM EPS Grey T 100/031_CAM** sheet ($\lambda = 0.031$), guarantees exceptional values of thermal insulation, offering a better insulating capacity of almost 20% compared to the traditional EPS.
- Excellent mechanical performance: **licataTHERM EPS Grey T 100/031_CAM** is characterised by excellent dimensional stability and by high mechanical resistance both to traction and compression.
- Durability: the high resistance to ageing, humidity and rot phenomena makes the **licataTHERM EPS Grey T 100/031_CAM** panel a stable and durable solution.

licataTHERM Giano

Dual layer printed technical sheet, high reflectivity

licataTHERM Giano is the new two-layered printed and calibrated sheet, made with the most innovative graphite additive raw materials, for greater absorption and heat reflection.

licataTHERM Giano can be used to achieve the best thermal insulation values. The panel consists of two layers: the inner one, in EPS with improved thermal conductivity, to maximise thermal insulation, the outer one, in white EPS with high density and constant thinness, to facilitate laying of the mortar as well as ensuring the surface mechanical strengths. The presence of 10 cm vertical cuts, together with the white colour of the external surface, reduce the stresses induced by thermal stresses due to radiation and, combined with the white colour of the external surface are used to reduce the stresses induced by thermal stresses due to radiation. The ground surface (on both sides) offers improved adhesion of the adhesive mortar, in addition to reduced consumption of the same.



070

071

licataTHERM Rock wool

Water-repellent panel in biosoluble rock wool

licataTHERM Rock wool is a water-repellent panel in biosoluble rock wool treated with thermosetting resins. **licataTHERM Rock wool** is classified and CE-marked according to the European standard EN 13163. Compliance with the essential requirements is binding: only products that offer and guarantee the performance described in the **EN 13163** can be placed on the market and must be used in the **licataTHERM** system certified according to **ETAG 004**.



CHARACTERISTICS

- Excellent insulating power: lower thicknesses with equal insulating performance: The low thermal conductivity value of the **licataTHERM Giano** sheet ($\lambda= 0.030$), guarantees exceptional thermal insulation values, offering an insulating capacity that is almost 20% better than traditional EPS.
- Excellent mechanical performance: **licataTHERM Giano** is characterised by excellent dimensional stability and by high mechanical strength both in terms of traction and compression.
- Resistant to thermal stresses due to radiation: the presence of vertical bridge-breaker cuts with 10 cm pitch, together with the white colour of the external surface, reduce the stresses induced by thermal stresses due to radiation.
- Durability: the high resistance to ageing, moisture and rotting phenomena, makes the **licataTHERM Giano** panel a stable and durable solution.

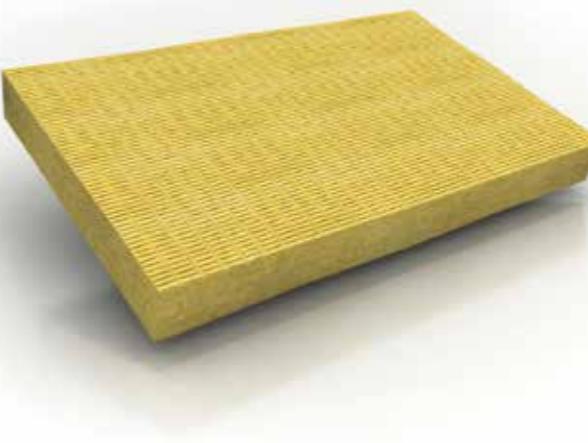
CHARACTERISTICS

- Non-combustible and: the panel, in class A1, if exposed to naked flames, does not generate smoke or drops and also helps to prevent propagation of fire.
- Biosoluble
- High vapour permeability: the panel, thanks to a value of μ equal to 1, allows the creation of "breathable" sealing packages.
- For excellent protection from cold and heat: the combination of thermal conductivity and medium density ensures excellent living comfort both in winter and summer.
- Acoustic absorption: the open cell structure of the rock wool significantly contributes to the improvement of the soundproofing performance of the wall on which the panel is installed.
- Dimensional stability: the panel does not undergo dimensional or performance changes as the thermal and hygrometric conditions of the environment vary, an extremely important feature for the durability of the insulating system.
- Ideal for the creation of passive buildings

licataTHERM Glass wool

Water-repellent fibreglass insulation panel

High density mineral insulation panel in crêpe fibre, water repellent. **licataTHERM Glass wool** is a high density insulation panel without coatings, produced in Italy with at least 80% recycled glass. The new generation thermosetting resin used, based on organic and vegetable components, minimises emissions into the air of pollutants such as formaldehyde and other volatile organic compounds (VOCs).



072



CHARACTERISTICS

- High durability of the system
- Dimensional stability with varying temperature and humidity
- Thermal and acoustic insulation
- Excellent reaction to fire
- Breathability
- Ease of cutting

073

licataTHERM Wood fibre

Wood fibre insulation panel

licataTHERM Wood fibre is an external insulation panel, with a single-layer density profile, homogeneous and plasterable, for the insulation of both internal and external walls. **licataTHERM Wood fibre** represents a valid natural alternative to traditional insulating materials.



CHARACTERISTICS

- A valid natural alternative to traditional insulating materials, **licataTHERM Wood fibre** is therefore ideal for green building.
- Excellent protection from cold and heat: the combination of thermal conductivity and medium density ensures excellent living comfort both in winter and summer.
- High breathability: **licataTHERM Wood fibre** ensures the creation of environments with high living comfort.

licataTHERM SKIRTING**EPS printed sheet with graphite for skirting and roofing**

licataTHERM Skirting is an EPS printed sheet with low moisture absorption graphite and high compressive strength. The absence of leather and the two punched and rough surfaces with straight side edges promote the adhesion of adhesives and smoothing mortars in the application of **licataTHERM** insulation system.

**CHARACTERISTICS**

- Good insulating power: **licataTHERM Skirting** is characterised by reduced thermal conductivity and is therefore ideal for the insulation of both internal and external walls and for the creation of skirting in the **licataTHERM** insulating systems.
- Excellent mechanical performance: **licataTHERM Skirting** is characterised by excellent dimensional stability, high mechanical strength both in traction and compression.
- Durability: the high resistance to ageing, moisture and rotting phenomena, makes the **licataTHERM Skirting** panel a stable and durable solution.

licataTHERM CORK**Cork insulation panel**

licataTHERM Cork is a 100% natural, rot-proof and moisture insulated cork cladding panel. **licataTHERM Cork** is suitable for all thermal and acoustic insulation operations, both indoors and outdoors and represents a valid natural alternative to traditional insulating materials.

**CHARACTERISTICS**

- A valid natural alternative to traditional insulating materials, **licataTHERM Cork** is ecological, therefore ideal for green building
- High acoustic insulating power
- Excellent protection from cold and heat: the combination of thermal conductivity and medium density ensures excellent living comfort both in winter and summer.
- High breathability: **licataTHERM Cork** ensures the creation of environments with high living comfort



licataTHERM rete 160

licataTHERM rete 160 (certified according to **ETAG 004**) in resistant fibreglass and alkalis, meets the highest requirements in terms of anti-crack safety and impact resistance.



MAIN AREAS OF USE

Strengthening reinforcement for:

- Thermal insulation with licatatherm cladding
- Protective smoothing of licata.finish façade **restorations**
- Protective smoothing with **Rasotherm 500 Plus** or **Rasotherm 400** paste skim plasters
- Split or micro-cracked plasters
- Waterproofing with **Hydro Monoelasto 100** or **Hydro Bielasto 200** of balconies, terraces, swimming pools, shower cabins, bathtubs etc. before cladding with ceramics or natural stones

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

APPLICATION METHOD

Once the insulating sheets have been assembled and the adhesive has dried, reinforced smoothing will be performed. Apply, with a toothed trowel, a first coat using the skim plasters of the **licata.finish** or **licata.coat** line. Starting from the top down, insert and embed the **licataTHERM rete 160** reinforcing mesh alkali-resistant fibreglass. The laying of the mesh will be carried out by providing the overlap of the flaps for at least 10 cm. In areas subject to impacts, it is possible to arm with a double layer of mesh. After a minimum curing of two days, with a non-toothed steel trowel, the next step is installation of a second coat of skim plasters of the **licata.finish** or **licata.coat** line including the reinforcement mesh cover.

NOTE At the edges, spread the fibreglass mesh over the entire wall and on the opening (door / window) pressing it into the reinforcing mortar. Using a sharp knife, cut the reinforcing mesh at an angle of 45° along the edge of the intrados. At the outer corners of the intrados, cut the reinforcing mesh with care and precision



076

077

TECHNICAL DATA

Characteristic	Value	Regulation
Mass per unit area (dressed mesh)	167.0 g/m ² ± 8%	ETAG 004
Dressed	Resistant alkali	-
Number of wires		DIN 53853
- warp	50.0 Fd(yarn)/10 cm	
- weft	21.0Fd(yarn)/10 cm	
Tensile strength (N/5 cm)		ETAG 004
- warp	2250 N/5 cm (±200)	
- weft	2350 N/5 cm (±200)	
Elongation %		ETAG 004
- warp	MD: 4.0 - 4.1	
- weft	CMD: 4.2 - 4.7	
Tensile strength after ageing (N/5 cm)		ETAG 004
- warp	MD: > 1400	
- weft	CMD: > 1400	
Elongation after ageing %		ETAG 004
- warp	MD: 2.6 - 2.8	
- weft	CMD: 2.4 - 2.6	
Organic content %	18% (±3)	EAD 040016-00-0404
Mesh thickness (mm)	0.50 (±0.20)	EAD 040016-00-0404
Mesh size (mm)	3.7 (±0.5) x 3.5 (±0.5)	EAD 040016-00-0404
Nominal width	100 ±1%	EAD 040016-00-0404
Nominal Length	50 m	-
Colour	White	-
Packaging	50 m ² roll - 1 pallet contains 33 rolls (1.650 m ²)	

WARNINGS

- Avoid the formation of bends and/or bubbles during application of the mesh.
- Protect from UV rays, humidity and pouring rain.

SAFETY

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

NOTES

The information contained in this data sheet is derived from the information provided by the manufacturer. The manufacturer reserves the right to make changes and variations due to technical requirements without prior notice. Data sheet ref.: 220/11.9

licataTHERM TERMOZ CN 8

DESCRIPTION

Fixing element for insulating panels.
High performance anchor with combined nail.

Benefits / Utilities

- Reduced anchoring depth reduces the perforation times.
- Metal/nylon plug, PP (polypropylene) body.
- Head diameter 60 mm according to ETAG 014.
- Time saving thanks to hammer insertion.
- Approved for material categories A, B, C, D.
- Possibility of assembly with DT discs for compressible materials.
- Head thickness 2.5mm. Greater adhesion on the insulation panel.

Type of installation

- Through.

Installation tips

- In calculating the useful length, it is also necessary to take into account unstable layers such as glues and old plasters.
- **licata THERM TERMOZ CN 8** is suitable for the fixing of insulating panels with thicknesses from 60 mm

MAIN FIELDS OF USE

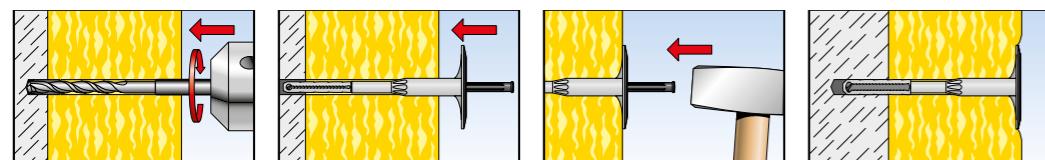
Suitable for:

- concrete
- solid bricks
- hollow bricks
- lightweight concrete block

For fixing:

- compression-resistant insulation materials
- polystyrene
- polyurethane
- cellular glass
- mineral wool (also with DT discs)

APPLICATION METHOD



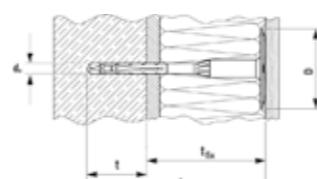
TECHNICAL DATA

Description	I	øf	t	t _{fix}	D	pc
licataTHERM anchor CN 8/110	108	8	45	60-70	60	100
licataTHERM anchor CN 8/130	128	8	45	90	60	100
licataTHERM anchor CN 8/150	148	8	45	110	60	100
licataTHERM anchor CN 8/170	168	8	45	130	60	100
licataTHERM anchor CN 8/190	188	8	45	150	60	100
licataTHERM anchor CN 8/210	208	8	45	170	60	100
licataTHERM anchor CN 8/230	228	8	45	190	60	100

Extraction resistance in from N

	Material class	
Concrete C 12/15	A	90
Concrete C 50/60	A	90
Full brick	B	90
Solid lightweight concrete brick	B	60
Perforated brick	C	60
Perforated light bricks (as per DIN 105)	C	60
Lightweight concrete block	D	60

Characteristic values of loadability according to ETA – Recommended safety coefficient $\gamma = 2$.



I = lunghezza tassello
 d_0 = diametro punta
 t = profondità minima foro
 t_{fix} = max spessore di fissaggio
 D = diametro disco
 pc = pezzi

The information contained in these data sheets is derived from the information provided by the manufacturer.
The manufacturer reserves the right to make changes and variations due to technical requirements without prior notice.
Data sheet ref.: 220/18.2

licataTHERM TERMOZ PN 8

DESCRIPTION

Hammer clamping element for external thermal insulation systems with fiber-reinforced plug.

Advantages

- Reduced anchoring depth reduces perforation times.
- Metal/nylon plug, PP (polypropylene) body.
- Head diameter 60 mm according to ETAG 014.
- Time saving thanks to hammer insertion.
- Approved for material categories A, B, C, D.
- Possibility of assembly with DT discs for compressible materials.
- Head thickness 2.5mm. Greater adhesion on the insulation panel.

Type of installation

- Through.

Installation tips

- Non-bearing layers such as adhesives and old plasters must be kept in mind for the calculation of the required useful length.

• **licataTHERM TERMOFIX PN 8** is suitable for the fixing of insulating panels with thicknesses from 60 mm.

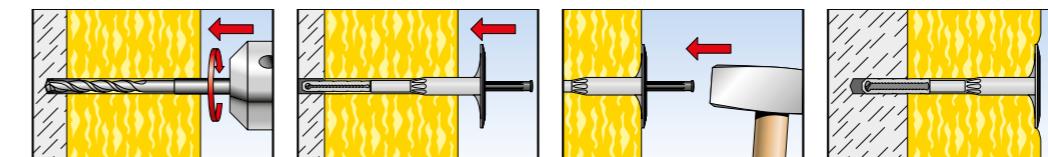
MAIN FIELDS OF USE

Suitable for:
• concrete
• solid bricks
• hollow bricks
• lightweight concrete block

For fixing:

- compression-resistant insulation materials
- polystyrene
- polyurethane
- cellular glass
- mineral wool (also with DT discs)

APPLICATION METHOD



TECHNICAL DATA

Description	I	øf	t	t _{fix}	D	pc
licataTHERM anchor PN 8/110	108	8	45	60-70	60	100
licataTHERM anchor PN 8/130	128	8	45	90	60	100
licataTHERM anchor PN 8/150	148	8	45	110	60	100
licataTHERM anchor PN 8/170	168	8	45	130	60	100
licataTHERM anchor PN 8/190	188	8	45	150	60	100
licataTHERM anchor PN 8/210	208	8	45	170	60	100
licataTHERM anchor PN 8/230	228	8	45	190	60	100

Extraction resistance in from N

	Material class	
Concrete R _c ≥ 16/20	A	50
Solid brick	A	60
Hollow brick	B	40
		<i>It is advisable to adopt an appropriate safety coefficient.</i>

The information contained in these data sheets is derived from the information provided by the manufacturer.
The manufacturer reserves the right to make changes and variations due to technical requirements without prior notice.
Data sheet ref.: 220/18.2



licataTHERM TERMOZ CS 8

DESCRIPTION

Fixing element for insulating panels. Particularly suitable for the execution of insulation system.

Benefits / Utilities

- Only one anchor for all insulating materials.
- Quick and easy installation with drill or screwdriver.
- 35mm fixing depth allows extremely quick installation.
- Concealed installation: the washer is covered by a hole cover disc, with the double advantage of creating an even insulating surface and allowing uniform smoothing.
- Co-moulded screw in plastic and metallic material minimises thermal bridge: very low heat losses.
- It is possible to customise the washer, according to the certification.

Type of installation

- Through.

MAIN FIELDS OF USE

Suitable for:

- concrete, masonry, natural stone, solid and hollow bricks in calcium silicate, semi-solid bricks (vertically drilled), solid and hollow blocks in lightweight concrete, lightened concrete, autoclaved aerated concrete (cellular)

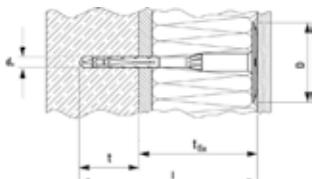
APPLICATION METHOD

- Concealed assembly with CS assembly tool.
- Wall mount flush with CS assembly tool.



TECHNICAL DATA

Description	I	\varnothing_f	t	t_{fix}	t_{nom}	t_{fix}	D	pc	Installation flush with the wall		Concealed installation	
									Installation flush with the wall	Concealed installation		
licataTHERM anchor CS 8/110	108	8	45	70			60	100				
licataTHERM anchor CS 8/130	128	8	45	90	60	90	60	100				
licataTHERM anchor CS 8/150	148	8	45	110	60	110	60	100				
licataTHERM anchor CS 8/170	168	8	45	130	60	130	60	100				
licataTHERM anchor CS 8/190	188	8	45	150	60	150	60	100				
licataTHERM anchor CS 8/210	208	8	45	170	60	170	60	100				
licataTHERM anchor CS 8/230	228	8	45	190	60	190	60	100				



I = lunghezza tassello
 d₀ = diametro punta
 t = profondità minima foro
 t_{fix} = max spessore di fissaggio
 D = diametro disco
 pz = pezzi

The information contained in these data sheets is derived from the information provided by the manufacturer.
 The manufacturer reserves the right to make changes and variations due to technical requirements without prior notice.

Data sheet ref.: 220/18.2

080



081

licataTHERM DT fixing washer for insulators

DESCRIPTION

The fixing washers for the **DT 90**, **DT 110** and **DT 140** insulators in plastic material, combined with the Fischer wall plugs with a 60 mm head, are the ideal accessory for the fixing of panels and insulating materials with low compressive strength.

Benefits / Utilities

- Easy to use for quick and easy installation.

MAIN FIELDS OF USE

Suitable for:

- can be combined with all the **licataTHERM** Termoz and Termofix anchors

For fixing:

- rock wool composite materials
- rock wool insulation panels
- reclaimed insulation materials

APPLICATION METHOD

Type of installation

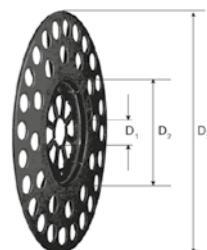
- Through.

Installation tips

- Place the chosen DTfixing washer on the **licataTHERM** Termoz or Termofix anchor and insert it to complete the assembly.



Description	Internal diameter D ₁ mm	Internal diameter D ₂ mm	Internal diameter D ₃ mm	pc
licataTHERM DT 90	16	60	90	100
licataTHERM DT 110	16	60	90	100
licataTHERM DT 140	16	60	90	100



The information contained in these data sheets is derived from the information provided by the manufacturer.
 The manufacturer reserves the right to make changes and variations due to technical requirements without prior notice.

Data sheet ref.: 220/18.2

licataTHERM ECOTWIST
Innovative fastening element for insulator fasteners on all building materials

Benefits / Utilities

- Reduced anchoring depth reduces perforation times.
- Metal/nylon plug, PP (polypropylene) body.
- Head diameter 60 mm according to ETAG 014.
- Time saving thanks to hammer insertion.
- Approved for material categories A, B, C, D.
- Possibility of assembly with DT discs for compressible materials.
- Head thickness 2.5mm. Greater adhesion on the insulation panel.

Type of installation

- Through.

Installation tips

- In calculating the useful length, it is also necessary to take into account unstable layers such as glues and old plasters.
- **Licata THERMTERMOZ CN 8** is suitable for the fixing of insulating panels with thicknesses from 60 mm

MAIN FIELDS OF USE
Suitable for:

- concrete
- solid bricks
- hollow bricks
- lightweight concrete block

For fixing:

- compression-resistant insulation materials
- polystyrene
- polyurethane
- cellular glass
- mineral wool (also with DT discs)

APPLICATION METHOD

TECHNICAL DATA

Description	I	øf	t	t _{fix}	D	pz
licataTHERM anchor CN 8/110	108	8	45	60-70	60	100
licataTHERM anchor CN 8/130	128	8	45	90	60	100
licataTHERM anchor CN 8/150	148	8	45	110	60	100
licataTHERM anchor CN 8/170	168	8	45	130	60	100
licataTHERM anchor CN 8/190	188	8	45	150	60	100
licataTHERM anchor CN 8/210	208	8	45	170	60	100
licataTHERM anchor CN 8/230	228	8	45	190	60	100

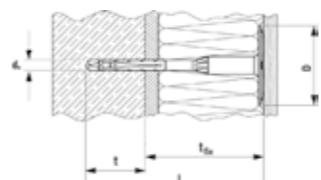
Extraction resistance in from N

	Material class	
Concrete C 12/15	A	90
Concrete C 50/60	A	90
Full brick	B	90
Solid lightweight concrete brick	B	60
Perforated brick	C	60
Perforated light bricks (as per DIN 105)	C	60
Lightweight concrete block	D	60

Characteristic values of loadability according to ETA – Recommended safety coefficient $\alpha = 2$.

The information contained in these data sheets is derived from the information provided by the manufacturer.
The manufacturer reserves the right to make changes and variations due to technical requirements without prior notice.

Data sheet ref.: 220/18.2



I = lunghezza tassello
d₀ = diametro punta
t = profondità minima foro
t_{fix} = max spessore di fissaggio
D = diametro disco
pz = pezzi

licataTHERM TERMOZ 6H
DESCRIPTION

The quick and efficient anchor for the flush or recessed installation of insulation panels on wooden structures and OSB panels.

Advantages

- Can be installed flush or concealed, by rotating the dedicated installation tool.
- The special geometry of the washer consumes and compacts the surface of the insulation without leaving dirt, allowing fast and high quality installation. Thanks to its shape, it requires 50% less force to be installed, saving the drill driver battery.
- No pre-drilled holes required and secure fixation from 30mm of insertion into the substrate for maximum installation speed.
- For insulation thicknesses up to 300 mm

Type of installation

- Through.

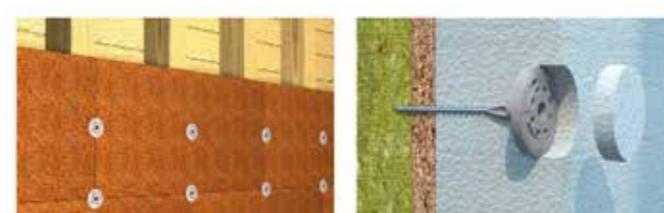
Installation tips

- Non-bearing layers such as adhesives and old plasters must be kept in mind for the calculation of the required useful length.

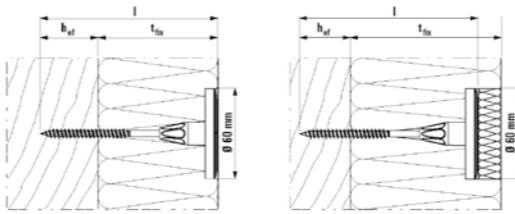
- **LicataTHERM TERMOFIX PN 8** is suitable for the fixing of insulating panels with thicknesses from 60 mm.

MAIN FIELDS OF USE
Suitable for:

- Fixing of ETICS external insulation panels on wooden structures and OSB and chipboard panels.
- Concealed installation in polystyrene and mineral wool panels.
- Flush installation on pressure-resistant materials.

APPLICATION METHOD

TECHNICAL DATA

Description	I (mm)	ø disc	ø screw	Anchoring depth h _{ef} (mm)	Max fixable thickness installation wire surface t _{fixed} (mm)	Max. thickness fixable concealed installation t _{fixed} (mm)	PC
licataTHERM THERMOZ 6H 60	60	60	6.0	30	60	30	100
licataTHERM THERMOZ 6H 80	80	60	6.0	30	60	65	100
licataTHERM THERMOZ 6H 100	100	60	6.0	30	60	85	100
licataTHERM THERMOZ 6H 120	120	60	6.0	30	60	105	100
licataTHERM THERMOZ 6H 140	140	60	6.0	30	60	125	100
licataTHERM THERMOZ 6H 160	160	60	6.0	30	60	145	100
licataTHERM THERMOZ 6H 180	180	60	6.0	30	60	165	100
licataTHERM THERMOZ 6H 200	200	60	6.0	30	60	185	100
licataTHERM THERMOZ 6H 220	220	60	6.0	30	60	205	100
licataTHERM THERMOZ 6H 240	240	60	6.0	30	60	225	100
licataTHERM THERMOZ 6H 260	260	60	6.0	30	60	245	100
licataTHERM THERMOZ 6H 280	280	60	6.0	30	60	265	100
licataTHERM THERMOZ 6H 300	300	60	6.0	30	60	285	100
licataTHERM THERMOZ 6H 320	320	60	6.0	30	60	305	100



I = lunghezza tassello
d₀ = diametro punta
t = profondità minima foro
t_{fix} = max spessore di fissaggio
D = diametro disco
pz = pezzi



LG Insulator

Pigmentable primer based on siliceous acrylic and inert copolymers, specific for outdoor use, with high covering power and excellent uniforming properties

Universal pigmentable primer based on inert acrylic silica copolymers. IT IS ideal as a fixative before each decoration cycle with micro-coatings or paste coatings based on synthetic binders. Specific for exteriors and suitable for interiors, its formulation is specially designed to obtain a high covering power both for imperfections of the substrate and in cases of overpainting on medium/strong colours. The high uniforming power ensures homogeneous absorption of the next decorative layer, enhancing coverage and surface effect of the micro-coating.



MAIN FIELDS OF USE

Isolante LG is suitable for the preparation of substrates in indoor / outdoor environments, new or existing, on residential, industrial or commercial buildings. IT IS advisable to use the product on cured substrates, i.e. after a curing time of at least four weeks. IT CAN be applied to substrates, such as:

- Smooth concrete
- Absorbent walls/substrates
- Existing plastered façades
- Pre-fabricated concrete panels
- Old organic or mineral paints and coatings
- Plaster board

For applications on different substrates, please contact our technical department.

Primer Oram

Pigmentable primer based on potassium silicates and siliceous aggregates, specific for outdoor use, with high breathability and excellent uniforming properties. With excellent adhesion strength, it is indicated in the cycles of the restoration of façades.

Universal pigmentable primer based on potassium silicates and siliceous aggregates. It is ideal as a fixative before each decoration cycle with micro-coatings or silicate-based paste coatings. The composition of **Primer Oram** gives the primer excellent adhesion properties as it reacts chemically with the mineral substrate by means of a natural process called silicatisation. Specific for exteriors and suitable for interiors, its formulation is specially designed to obtain a high covering power both for imperfections of the substrate and in cases of overpainting on medium/strong colours. The high uniforming power ensures homogeneous absorption of the next decorative layer, enhancing coverage and the surface effect of the micro-coating and enhancing the breathability characteristics typical of mineral decorative cycles.



MAIN FIELDS OF USE

Primer Oram is suitable for the decoration of indoor/outdoor, new or existing bases, on residential, industrial or commercial buildings. IT IS advisable to use the product on cured bases, i.e. after a curing time of at least four weeks. IT can be applied onto bases such as:

- Thermal insulation systems
- Thermal renders
- Lime or lime/cement-based renders
- Reinforced skim coatings in façade restoration cycles
- Concrete
- Pre-fabricated concrete panels

For applications on different substrates, please contact our technical department.

Siloxan LG

Pigmentable primer based on siloxane and inert siliceous copolymers; specific for outdoor use, with high breathability and excellent masking properties.

Universal pigmentable primer based on siloxane and inert copolymers of silica nature. IT IS ideal as a fixative before each decoration cycle with micro-coatings or paste coatings based on siloxane binders. **Siloxan LG** is specific for the exterior and suitable for the interior; its formulation is specially designed to obtain a high covering power both for imperfections of the substrate and in cases of overpainting on medium/strong colours. Ideal as a fixative for siloxane decorations on breathable cycles thanks to its high degree of vapour permeability. The high uniforming power ensures homogeneous absorption of the next decorative layer, enhancing coverage and surface effect of the micro-coating.

**MAIN FIELDS OF USE**

Siloxan LG is suitable for the preparation of substrates in indoor / outdoor environments, new or existing, on residential, industrial or commercial buildings. IT IS advisable to use the product on cured substrates, i.e. after a curing time of at least four weeks. IT CAN be applied to substrates, such as:

- Lime-based civil finishing
- Cement-based civil finishing
- Gypsum (after application of a primer in case of smoothing with very low absorption)
- Surfaces already painted, after carefully checking and cleaning the substrate
- Concrete

For applications on different substrates, please contact our technical department.

**Acril Primer**

Transparent primer fixative, acrylic copolymer-based in water dispersion, for interior or exterior use, high consolidating power and excellent coupling bridge for decorations of a synthetic nature.

Transparent primer based on acrylic copolymers in aqueous dispersion. IT IS ideal as a fixative before each decoration cycle with water-based paints of synthetic binders, wall enamels for interiors and coatings or synthetic micro coatings for exteriors. Its formulation is specially designed to obtain a high penetrating power both for regularisation of the absorption of new substrates, and in cases where it is necessary to create an adequate bonding bridge on smooth surfaces. The high smoothing power of **Acril Primer** ensures a homogeneous absorption of the next decorative layer by exalting the yield and the superficial effect of the finishing.

**MAIN FIELDS OF USE**

Acril Primer is suitable for the preparation of indoor/outdoor, new or existing bases, on residential, industrial or commercial buildings. IT IS advisable to use the product on cured bases, i.e. after a curing time of at least four weeks. IT can be applied on bases such as:

- Lime-based civil finishing
- Cement-based civil finishing
- Plasterboard
- Surfaces already painted, after carefully checking and cleaning the substrate
- Concrete

For applications on different substrates, please contact our technical department.



Acril Primer Plus

Transparent fixative primer based on acrylic copolymers in aqueous dispersion, for indoors and outdoors; with high penetrating power and excellent as a surface consolidant.

Transparent primer based on acrylic copolymers in aqueous dispersion, ideal as a preliminary treatment for most substrates, as a consolidant in the case in which the surface is "crumbly". Its formulation based on microemulsions equipped with nano particles, ensures a high penetration even on compact substrates, superficially restoring the right consistency before the start of any type of processing and/or decoration.

The high uniforming power of **Acril Primer Plus** also ensures homogeneous absorption of the next decorative layer, enhancing the coverage and surface effect of the finish.



MAIN FIELDS OF USE

Acril Primer Plus is suitable for the preparation of substrates in indoor/outdoor environments, new or existing, on residential, industrial or commercial buildings. It is ADVISABLE TO USE THE PRODUCT ON AGED SUBSTRATES , I.E. AFTER A CURING TIME OF AT LEAST FOUR WEEKS. It is applicable on substrates such as:

- Lime-based civil finishing
- Cement-based civil finishing
- Plasterboard
- Surfaces already painted, after carefully checking and cleaning the substrate
- Concrete

For applications on different substrates, please contact our technical department.

Lerici

Ready to use decorative paste coating, based on acrylic resins in aqueous dispersion, resistant to attacks of mould and algae, with high water repellency. Ideal as decorative protection in the aesthetic/functional restoration cycles of façades and in the ETICS licatatherm systems, certified according to ETAG 004.

Lerici is a ready-to-use decorative wall covering, based on acrylic resins in aqueous dispersion, resistant to attacks of mould and algae. Characterised by a high water repellency and adhesion force, Lerici maintains its properties for a long time, protecting substrates from rain and atmospheric agents. It is therefore ideal as a decorative for civil plaster façades, reinforced smoothing and in ETICS **licataTHERM**systems, certified according to **ETAG 004**. The special thixotropic agents and the latest generation additives used for its formulation make the installation of **Lerici** extremely quick and easy, effectively satisfying all the needs of site practice. Its particular granulometric curve allows the creation of compact and uniform finishes that guarantee a homogeneous result even in the presence of any imperfections of the underlying plaster. Available in all colours of the Licatasystemcolor **Exterior** and **Licata colore 2.0 Exterior** colours palette and in particle sizes 1 mm 1.2 mm and 1.5 mm and 2 mm.



MAIN FIELDS OF USE

Lerici is suitable for the decoration of exterior surfaces, interior, new or existing, on residential, industrial or commercial buildings IT IS applicable on substrates such as:

- **licataTHERM** thermal insulation systems
- Thermal renders
- Lime or lime/cement-based renders
- Reinforced skim coats
- Concrete
- Pre-fabricated concrete panels

For applications on different substrates, please contact our technical department.



Besten Putz Acrilico

Acrylic coating with compact and filling effect, water-repellent and resistant to mould and algae, thanks to specific additives for the protection against microorganisms. It boasts exceptional smoothness and ease of application even in critical climatic conditions. Its innovative formulation also includes latest generation additives that prevent the formation of micro pores, filming or spreading in the presence of excessive humidity during the drying phase.

BestenPutz Acrilico is a ready-to-use wall coating based on acrylic resins in aqueous dispersion, resistant to the attack of mould and algae. Characterised by high water repellency and adhesion strength, **BestenPutz Acrilico** maintains its properties over time, protecting the substrates from rain and atmospheric agents, therefore, it is ideal as decorative plaster of residential façades, of reinforced skim coats and in **licataTHERM** thermal insulation finishing systems. The special thixotropic agents and the latest generation additives used for its formulation, make the installation of BestenPutz **Acrilicoextremely** quick and easy, effectively satisfying all requirements of the construction practice and minimising waste and consumption of the product. The improved open time of **BestenPutz Acrilico** allows the easier and faster realisation of large surfaces of façades, allowing, during its application, an easier joining and a better incorporation of the subsequent coats. Its particular granulometric curve allows the creation of compact and uniform finishes that guarantee a homogeneous result even in the presence of any imperfections of the underlying plaster. Available in all colours of the **Licatasystemcolor Exterior** and **Licatacolore 2.0 Exterior** colour palette in the particle sizes 1.2 mm, 1.5 mm and 2 mm.



090



091

LicataSil

Mineral decorative coating paste based on potassium silicate, ready to use, based on siloxane resins in aqueous dispersion, resistant to attacks of mould and algae with high breathability and good water repellency. Ideal as decorative protection in the aesthetic/functional restoration cycles of façades and in the ETICS **licatatherm** systems, certified according to ETAG 004.

LicataSil is a paste mineral coating based on potassium silicates in aqueous dispersion, ready to use, pigmentable, specific as a decorative of civil plaster façades, reinforced smoothing and in **licataTHERM** ETICS systems, certified according to **ETAG 004**. The perfect balance between high water vapour permeability and good water repellency make **LicataSil** ideal as a final decorative layer in dehumidification operations and in highly breathable insulation system systems. Its particular granulometric curve allows the creation of compact and uniform finishes that guarantee a homogeneous result even in the presence of any imperfections of the underlying plaster. The normal properties of potassium silicate (PH 11) give **Licatasil** excellent natural protection against attacks of mould and algae. In compliance with the requirements of **DIN 18363** (organic component less than 5%), it is particularly suitable for the conservation restoration of buildings of historical interest. Available in various grain sizes and structures that give the product a compact and pleasantly rustic texture.



MAIN FIELDS OF USE

BestenPutz Acrilico is indicated for the decoration of new or existing external surfaces on residential, industrial or commercial buildings. IT IS applicable on substrates such as:

- **licataTHERM** thermal insulation systems
- Thermal renders
- Lime or lime/cement-based renders
- Reinforced skim coats
- Concrete
- Pre-fabricated concrete panels

MAIN FIELDS OF USE

LicataSil is suitable for the decoration of external surfaces, new or existing, on residential, industrial or commercial buildings. IT IS applicable on substrates such as:

- **licataTHERM** thermal insulation systems
- Dehumidifying plasters
- Thermal renders
- Lime or lime/cement-based renders
- Reinforced skim coatings in façade restoration cycles
- Concrete
- Pre-fabricated concrete panels

For applications on different substrates, please contact our technical department.



Siloxan Color

Decorative coating in ready-to-use paste, based on siloxane resins in aqueous dispersion, resistant to mould and algae attacks, with high water repellency and vapour permeability. Ideal as decorative protection in the aesthetic/functional restoration cycles of façades and in the ETICS licatatherm systems, certified according to ETAG 004.

Siloxan Color is a ready-to-use wall decorative coating, based on siloxane resins in aqueous dispersion, resistant to attacks of mould and algae. Characterised by a high water repellency and adhesion strength, **Siloxan Color** maintains its properties over time, protecting substrates from rain and atmospheric agents. It is therefore ideal as a decorative for civil plaster façades, reinforced smoothing and in ETICS **licataTHERM** systems, certified according to **ETAG 004**. The special thixotropic agents and the latest generation additives used for its formulation make the installation of **Siloxan Color** extremely quick and easy, effectively satisfying all the needs of site practice. Its particular granulometric curve allows the creation of compact and uniform finishes that guarantee a homogeneous result even in the presence of any imperfections of the underlying plaster. The perfect balance between high water repellency and permeability to water vapour, added values to which the **Licata SpA** R&D team has dedicated specific studies, make **Siloxan Color** ideal as a final decorative layer in dehumidification interventions and in highly breathable external insulation systems. Available in all colours of the **Licatasystemcolor Exterior** and **Licata colore 2.0 Exterior** colours palette and in the particle sizes 1 mm, 1.2 mm, 1.5 mm and 2 mm.



MAIN FIELDS OF USE

Siloxan Color is suitable for the decoration of external surfaces, new or existing, on residential, industrial or commercial buildings. IT IS advisable to use the product on cured substrates , i.e. after a curing time of usually four weeks. IT CAN be applied to substrates, such as:

- **licataTHERM** thermal insulation systems
- Dehumidifying plasters
- Thermal renders
- Lime or lime/cement-based renders
- Reinforced skim coatings in façade restoration cycles
- Concrete
- Pre-fabricated concrete panels

For applications on different substrates, please contact our technical department.

092



093

Besten Putz Silossanico

Siloxane coating with a compact and filling effect, result of the combination of siloxane resins with technical characteristics able to ensure excellent breathability and excellent water repellency, allowing the façades to remain clean and vibrant for long periods of time. It boasts exceptional smoothness, preventing the formation of micro craters, filming or spreading during the drying phase, excellent yield consumption per square metre. Thanks to the presence of specific additives, it guarantees protection against the formation of microorganisms such as mould and algae.

BestenPutz Silossanico is a ready-to-use wall coating, based on aqueous dispersion siloxane resins, resistant to the attack of mould and algae. Characterised by a high adhesion strength, **BestenPutz Silossanico** maintains its properties over time, protecting the substrates from rain and atmospheric agents, therefore, it is ideal as decorative plaster of residential façades, of reinforced skim coats and in **licataTHERM** thermal insulation finishing systems.

The special thixotropic agents and the latest generation additives used for its formulation, make the installation of **BestenPutz Silossanico** extremely quick and easy, effectively satisfying all the needs of the construction practice and minimising waste and consumption of the product. The improved open time of **BestenPutz Silossanico** allows the easier and faster realisation of large surfaces of façades, allowing, during its application, an easier joining and a better incorporation of the subsequent coats. Its particular granulometric curve allows the creation of compact and uniform finishes that guarantee a homogeneous result even in the presence of any imperfections of the underlying plaster. The perfect balance between high water repellency and water vapour permeability, added values to which the **R&D Licata SpA** team has dedicated specific studies, make **BestenPutz Silossanico** ideal as a final decorative layer in dehumidification interventions and in high breathability thermal insulation systems. Available in all colours of the **Licatasystemcolor Exterior** and **Licata colore 2.0 Exterior** colour palette in the particle sizes 1.2 mm, 1.5 mm and 2 mm.



MAIN FIELDS OF USE

BestenPutz Silossanico is indicated for the decoration of new or existing external surfaces on residential, industrial or commercial buildings. IT is applicable on substrates such as:

- **licataTHERM** thermal insulation systems with panels in EPS, rock wool, wood fibre etc.
- Dehumidification renders
- Thermal renders
- Lime or lime/cement-based renders
- Reinforced skim coats
- Concrete
- Pre-fabricated concrete panels

Besten Putz Acril-silossanico

Acrylic-siloxane coating with a compact and filling effect, result of the combination of the two technologies, both acrylic and siloxane. The siloxane component ensures optimal water repellency and high breathability of the coating, while the acrylic component ensures good adhesion and optimal mechanical resistance externally. It boasts exceptional smoothness, preventing the formation of micro craters, filming or spreading during the drying phase, excellent yield consumption per square metre. Thanks to the presence of specific additives, it guarantees protection against the formation of microorganisms such as mould and algae.

BestenPutz Acril-silossanico is a ready-to-use wall coating, based on aqueous dispersion siloxane resins, resistant to the attack of mould and algae.

Characterised by a high adhesion strength, **BestenPutz Acril-silossanico** maintains its properties over time, protecting the substrates from rain and atmospheric agents, therefore, it is ideal as decorative plaster of residential façades, of reinforced skim coats and in **licataTHERM** thermal insulation finishing systems. The special thixotropic agents and the latest generation additives used for its formulation, make the installation of **BestenPutz Acril-silossanico** extremely quick and easy, effectively satisfying all the needs of the construction practice and minimizing waste and consumption of the product. The improved open time of **BestenPutz Acril-silossanico** allows the easier and faster realisation of large surfaces of façades, allowing, during its application, an easier joining and a better incorporation of the subsequent coats. Its particular granulometric curve allows the creation of compact and uniform finishes that guarantee a homogeneous result even in the presence of any imperfections of the underlying plaster. The perfect balance between good water repellency and water vapour permeability, added values to which the **R&D Licata SpA** team has dedicated specific studies, make **BestenPutz Acril-silossanico** ideal as a final decorative layer in dehumidification interventions and in high breathability thermal insulation systems. Available in all colours of the **Licatasystemcolor Exterior** and **Licata colore 2.0 Exterior** colour palettes and in the particle sizes 1.2 mm, 1.5 mm and 2 mm.



MAIN FIELDS OF USE

BestenPutz Acril-silossanico is indicated for the decoration of new or existing external surfaces on residential, industrial or commercial buildings. It is applicable on substrates such as:

- **licataTHERM** thermal insulation systems with panels in EPS, rock wool, wood fibre etc.
- Thermal plasters
- Lime or lime/cement-based plasters
- Reinforced
- Concrete
- Prefabricated concrete

Silsan Color

Decorative coating in ready-to-use paste, based on acrylsiloxane resins in aqueous dispersion, resistant to mould and algae attacks, with high water repellency and good vapour permeability. Ideal as decorative protection in the aesthetic/functional restoration cycles of façades and in ETICS systems.

Silsan Color is a ready-to-use wall decorative coating, based on acrylsiloxane resins in aqueous dispersion, resistant to attacks of mould and algae. Characterised by an excellent water repellency and adhesion strength, **Silsan Color** maintains its properties over time, protecting substrates from rain and atmospheric agents. It is therefore ideal as a decorative element for civil plaster façades, reinforced smoothing and ETICS systems.

The special thixotropic agents and the latest generation additives used for its formulation make the installation of **Silsan Color** extremely quick and easy, effectively satisfying all the needs of site practice. Its particular granulometric curve allows the creation of compact and uniform finishes that guarantee a homogeneous result even in the presence of any imperfections of the underlying plaster. The perfect balance between high water repellency and good water vapour permeability are added values to which the **Licata SpA** R&D team has dedicated specific studies.

Silsan Color is ideal as a finish where a good degree of vapour permeability is required. Available in all colours of the **Licatasystemcolor Exterior** and **Licata colore 2.0 Exterior** colour palette and in particle sizes 1 mm, 1.2 mm and 1.5 mm and 2 mm.



MAIN FIELDS OF USE

Silsan Color is suitable for the decoration of external surfaces, new or existing, on residential, industrial or commercial buildings. It is applicable on substrates such as:

- ETICS Systems
- Thermal renders
- Lime or lime/cement-based renders
- Reinforced smoothings
- Concrete
- Pre-fabricated concrete panels

For applications on different substrates, please contact our technical department.

