

# Ceresit



## Ceretherm Systems

Advanced and durable solutions



Quality for Professionals

## Content

- 2 About Henkel Group
- 4 Why buildings should be thermally protected
- 14 Facade Designer software
- 16 Selection of insulation materials and systems
- 20 Ceresit Ceretherm Systems
- 42 Ceresit Plasters
- 54 Ceresit Paints
- 59 Ceresit Colour palettes
- 80 Design and construction recommendations
- 82 What are the most common mistakes?
- 84 Renovation Systems for ETICS
- 90 Specific technical solutions
- 101 Ceresit Ceretherm Systems – Product by product



## About Henkel Group

Henkel Group is a leader with brands and technologies that make people's lives easier, better and more beautiful. As many as 50,000 people in 125 countries worldwide work for Henkel Group in strategic business sectors: Adhesive Technologies, Laundry & Home Care and Cosmetics/Toiletries. With Adhesive Technologies, Henkel is the world's market leader in adhesives, sealants and surface treatments for consumers, craftsmen and industrial partners. An integral part of the Adhesive Technologies business sector is the Henkel Building Systems department. With our core categories – Tiling, Flooring, Waterproofing and Thermal Insulation – we provide an internationally acclaimed range of special products and system solutions to meet the needs of the construction industry and professional craftsmen. To build with Henkel Building Systems means to build with products, solutions and support based on "Quality for Professionals".

### Environmental awareness

Henkel has been committed to sustainability ever since its foundation. The Company's steady stream of innovations therefore combines immediate benefits for the environment and climate with invaluable benefits for health, safety and social welfare.

- The Company's optimization of energy and water use combined with less raw material waste reduces resource consumption and minimizes CO<sub>2</sub> emissions during the production cycle.
- Specific product solutions, such as external thermal insulation systems for facades, enable the end-user to save on energy costs and actively contribute to environmental protection.
- Henkel not only offers comprehensive technical training for construction workers, but commits itself to responsible and ethically correct business practice.

### Innovations

Henkel's extensive research and development generates a constant flow of innovative products and system solutions based on new technologies.

- The newly opened International Innovation Centre for Construction Chemicals Ceresit (IICCC Ceresit) is dedicated to support and conduct Henkel's construction research. IICCC is a state of the art technology centre, specializing in the modern thermo

insulation of buildings and also in dry mix products. Fully equipped laboratories and extend cooperation with academic centers in Europe provide scientific success and further technological discoveries.

- Henkel bases its activities on a research and development approach whereby experienced chemists and engineers translate all pertinent market research findings into customized products that make hands-on work easier, faster and healthier.
- The Company has implemented internal processes that specifically foster an innovative thinking process. The result: technologies are protected worldwide by more than 8,000 patents, with an additional 5,000 patents pending.

### Professional know-how

Henkel's strength is its wealth of know-how. The Company products and technologies provide professional users with tangible added value.

- Knowledge of Henkel's products and solutions is a major key to success on site, therefore the Company offer courses for knowledge transfer in its Training Centres worldwide.
- Dedicated project management teams provide support from the design phase right through to the final project execution on site.
- The Company's technical experts are always able to support and provide solutions throughout project realizations. Whenever a question or problem arises, technical advisors are there to offer help.

### ETICS competence

- Henkel's ETIC Systems are available to customers in more than 30 countries.
- On average over 20 mln m<sup>2</sup> of facades is insulated yearly with our products.
- 20 factories are involved in producing products for ETICS System.
- Our network of laboratories is committed to the development and quality control of our products.
- Over 1500 colour mixing tinting stations for plasters and paints in the CEE region.
- We are proud of thousands of reference buildings successfully insulated with Ceresit Ceretherm ETICS Systems.

# Why buildings should be thermally protected



The thermal protection of buildings is a complex challenge which requires a profound analysis of the following aspects: building physics, economy of execution, use of the building and ecology. Typical for a moderate climatic zone, temperature range and air humidity do not provide conditions that allow comfortable living without a need to be protected against them (e.g. against low temperatures in winter, a considerable amount of rainfall or strong winds).

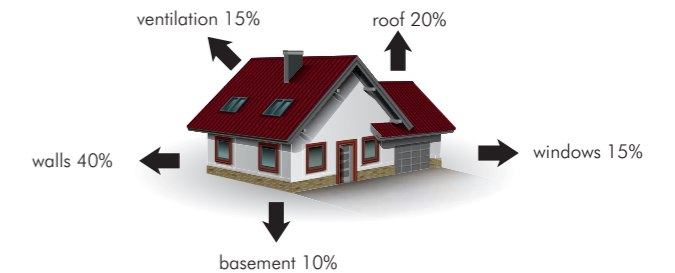
Buildings which we live and work in need to have a safe and pleasant climate, independent of the actual weather conditions outside. We expect the walls that surround us to ensure lasting protection against the direct influence of the surrounding conditions such as temperature and moisture and also against noise. With insulating buildings, one should also bear in mind the principles of sustainable development (e.g. EPD environmental declarations) concerning materials used and their utilisation conditions.

The operating costs of the building depend considerably on its energy performance – the heating effectiveness and hot water supply. The quality of this performance is indicated by the building’s annual energy consumption that is used to provide comfortable conditions indoors. Thanks to introducing the obligatory energy certification for each building, it is possible to determine its annual running costs. These in turn directly influence the market value of the building. High energy consumption in most cases is caused by extensive heat loss through the building walls.

Building walls separate the conditions between the inside and the outside. Therefore the walls become an area subject to processes of heat and moisture transition and transport. Heat always permeates from areas of higher temperature to cooler zones, so in winter, it flows from the heated inside to the cold outside. In summer, it works in reverse – the heat flows to the inside of the building.

It is not only the walls that are responsible for the heat loss. In single-family housing it is 40% of all the losses that ‘escape’ through the walls. The remaining 15% goes via ventilation, 20% via the roof, 15% via the windows and door frames and 10% via the basement and floors.

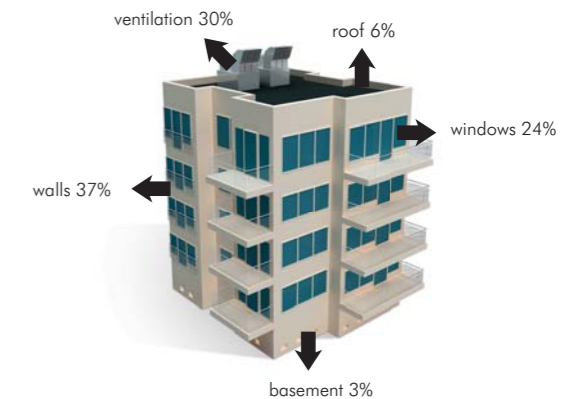
## Single-family house



In multi-family housing the heat loss goes as follows: 37% via the walls, 24% via the windows and door frames, 6% via the roof, 30% via ventilation and 3% via the basement and floors.

## Multi-family house

(10-floor blocks of flats built of large precast concrete slabs)



Both diagrams clearly show that the building’s external walls contribute significantly to its total heat loss, regardless of the type and size of the building. For this reason, efficient thermal insulation of the facade walls is absolutely essential, resulting in the largest reduction of heat loss and in turn reducing the energy demand needed to heat up the rooms. This gives the obvious savings in heating costs.

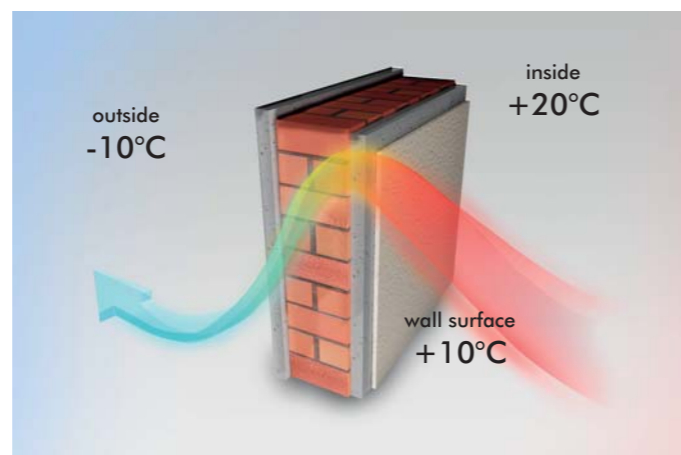
The bigger the difference between the wall surface temperature and the air temperature in the interior, the less intensive the air convection current. That is why, to obtain optimal warmth, it is recommended that the surface wall temperature differs by no more than 3°C in relation to the air temperature. This way the risk of vapour condensation and mould development is limited.

The amount of energy needed to maintain the required temperature inside the building is much higher in the case of standard, not insulated walls. In thermally insulated walls the biggest temperature differences appear inside the insulated material.

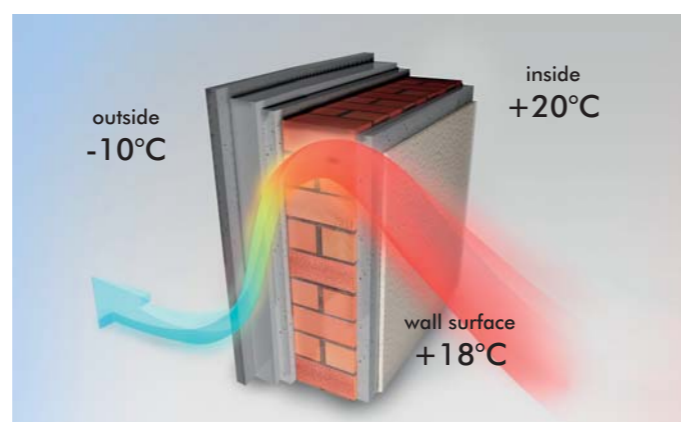
Whether you heat the building or cool it down – both processes are invariably associated with costs. The amount of these costs depends on actual fuel prices and energy sources, the costs of the heating or cooling system installation and its maintenance. By applying complex thermal insulating systems, the building's demand for energy consumption is significantly decreased which directly translates into heating or cooling costs reduction. What is more, the decrease in fuel consumption adds to the positive ecological effects. The consumption of non-renewable energy sources is reduced so the level of CO<sub>2</sub> emissions into the atmosphere, responsible for the progressive greenhouse effect, is also lower.

As seen, the building's external walls contribute significantly to its total heat loss, regardless of the type and size of the building. For this reason, efficient thermal insulation of the facade walls is absolutely essential, especially of projecting parts (such as balconies), by making use of external thermal insulation compound systems. ETICS are able to reduce the intensity of the heat flow through the walls. They can also limit and compensate temperature changes within a building and – of equal importance – within the structural layers of the wall itself.

If the temperature on the wall surfaces is kept as constant as possible, this will result in a higher level of comfort inside – not only by reducing the moisture (no vapour condensation and thus no chance for mould to grow), but also by decreasing the intensity of convection current inside rooms.



The quick escape of heat via a wall with no thermal insulation causes a cooling down of the internal wall surface.



The limited heat flow via a wall with an exterior side thermal insulation causes an increase in temperature of the internal wall surface.

**First diagram shows the temperature range for a wall without thermal insulation: inside the building the air temperature is +20°C, whereas the outdoor temperature is a frosty -10°C. As seen, the internal wall surface has a temperature of +10°C, which is much lower than the temperature inside the room. This causes a perceptible, unpleasant air movement and the amount of energy needed to maintain a sufficiently high temperature inside the room is significant.**

**In the case of a thermally insulated wall (2<sup>nd</sup> diagram), these problems do not occur. The difference between the air temperature and that of the internal wall surface is much lower. In a thermally insulated wall a rapid drop in temperature takes place in the area where the insulation material has been installed.**



## Why ETICS

The optimum solution to the aforementioned problems is a seamless thermal insulation system called ETICS, which has been applied and proven for over a dozen years. The name ETICS stands for External Thermal Insulation Composite Systems. Within ETICS a thermal insulation material such as EPS-boards or mineral wool is fixed to the outside wall with a special adhesive mortar, then the surface reinforced with a glass fibre mesh and finally coated with a decorative plaster.

### Buildings thermally insulated with ETICS offer the following qualities:

- lower energy demand required for heating the rooms,
- improved thermal comfort of the interiors,
- aesthetic and long-term appearance of the building.

Thermal insulating helps reduce CO<sub>2</sub> emissions, thus protecting the environment. The insulation efficiency of the building depends on the technology with which the

outside walls were built, and it is expressed by the heat flow ratio, U-value. The lower the U-value, the lower the heat losses. A low U-value, however, does not always imply successful insulation. But it is not the only factor that reveals the insulation efficiency. The performance of the insulation is negatively influenced by the presence of so called thermal bridges, which come from contact points of construction elements, quoins, balcony and terraces slabs 'cutting' through the walls or the presence of lintel beams. All these 'disturbing' elements disrupt the single-direction flow of the heat and need special attention by choosing adequate insulating technology beforehand and later during the application process.

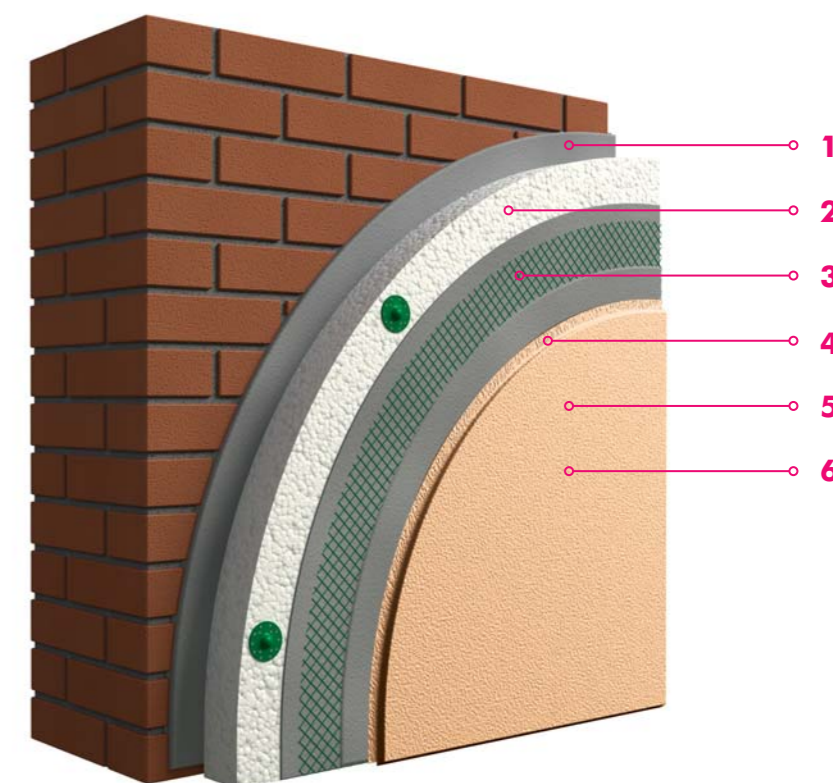
The easiest and at the same time the most efficient way of insulating the buildings in the above mentioned difficult areas, is with ETIC systems.

Costs incurred for installing an insulation system with the light-wet method (ETICS) pays off after only a few years since the heating bills for the building may go down by as much as 30%. Together with the ever rising costs of energy fuels, it gives significant savings in every heating season.

## ETIC systems advantages

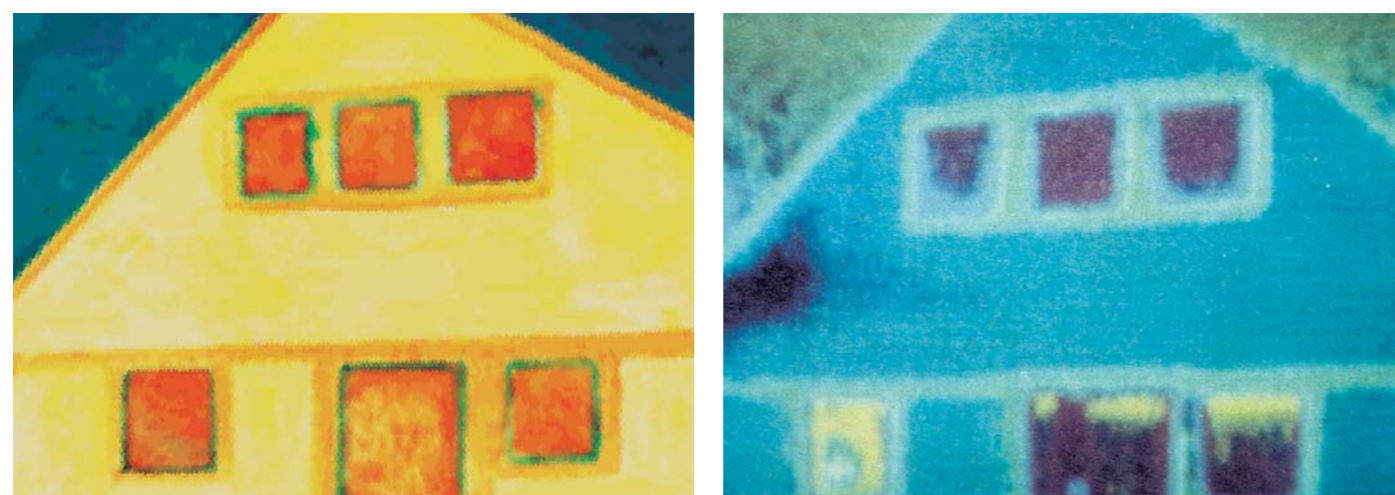
The key advantages of ETIC systems are:

- the effective increase of wall insulation and the elimination of thermal bridges,
- the complete renovation of the facade and maintaining or changing the building's appearance,
- a lightweight system which, as a rule, does not affect the building's structure so that it can be applied on almost every facade (especially important while insulating buildings constructed from pre-fabricated concrete panels),
- the easy workability of the thermal insulation material facilitates the imitation of rustication, the decoration of window frames etc.,
- the increase in property value coming from both the attractive appearance and the low energy consumption of the building,
- the vast number of possibilities of surface finish forms and colours.



1. Fixing
2. Insulation material
3. Reinforced layer
4. Priming point
5. Plaster
6. Paint

Ceresit Ceretherm System Structure



The effect of thermal insulation on a building's external walls is visible in the two thermographic pictures above. In the left picture, the colours yellow and orange mark areas of visible heat loss that can be avoided. Heat flows from the inside of the building, thus raising the temperature of the facade walls. The right picture shows a building whose facade has been thermally insulated. The areas are identical, but they now appear in a blue colour, i.e. they have a much lower temperature due to their thermal insulation. Heat is prevented from flowing from the inside to the outside.



## Thermography – images of heat loss

Buildings erected in the past, as well as those being built currently, are based on one of a few envelope types. They may be single, double or triple-layered walls with insulation between those layers plus all kinds of modified systems. Each of the possible variants is effective when there are no thermal bridges. As regards non-insulated walls, the differences in the intensity of heat flow are visible even between particular building materials, such as cement mortar and ceramic brick. A thermal imaging



camera is a tool that enables us to see the heat flux density and the related temperature distribution on the surface of the partitions.

Henkel's technical department team, equipped with this device, carry out several dozen structure inspections a year, which enables them to assess an envelope's thermal performance. The thermographic pictures below illustrate the condition of same analyzed buildings. On the temperature scale visible on each of the images, lighter areas indicate places with a higher temperature, and darker areas show areas with a lower temperature.

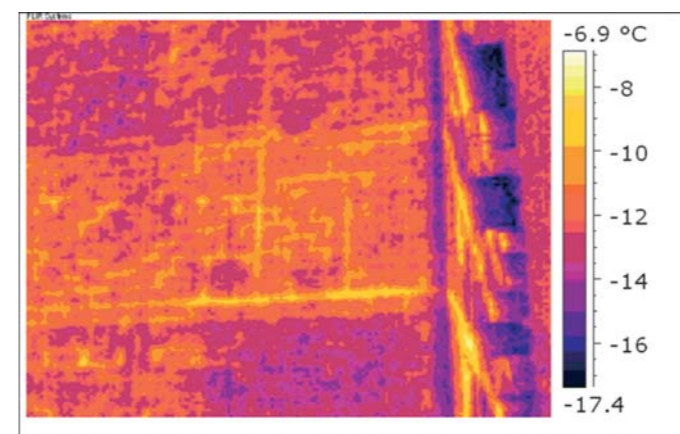
When photographed from the outside, a heated building should ideally have a stable and homogeneous facade temperature. All lighter-coloured areas in a thermogram indicate spot-like and linear thermal bridges. These are the places where excessive amounts of heat are released and thus the potential of vapour condensation occurs.

Three-layer walls perform similarly to the single-layer buildings. The only difference is that with this type of wall construction, increased heat transmission takes place not across joints or tie beams, but across structural nodes. An additional source of thermal transmission are connections between layers, the so called steel anchors.

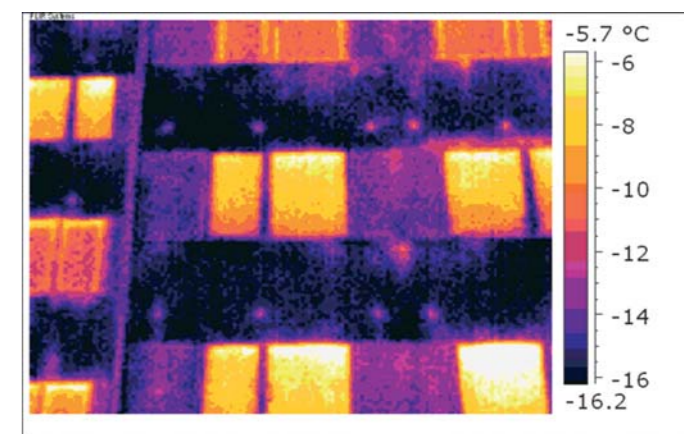
Both one-layer and three-layer walls have one thing in common: a considerable part of the wall mass is exposed to significant changes in temperature and humidity plus thaw cycles that are repeated several times.

Concerning buildings with double-layer wall construction (insulated while a structure is erected or insulated subsequently), you get the optimum possible temperature distribution on the facade. The entire section of the wall has a temperature above zero and there is no risk of water vapour condensation.

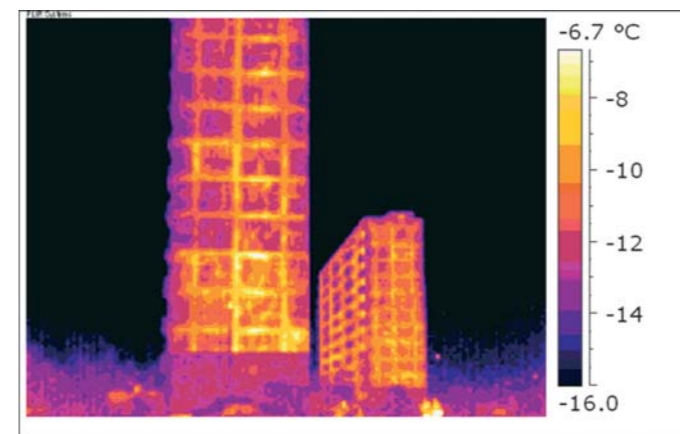
Obviously, the proper method of thermal insulation execution is the main condition in which the wall performs sufficiently in terms of building physics. In practice, there are a lot of mistakes that lead to discontinuities in thermal insulation or thermal bridge occurrence. These thermographic images illustrate some of the common mistakes.



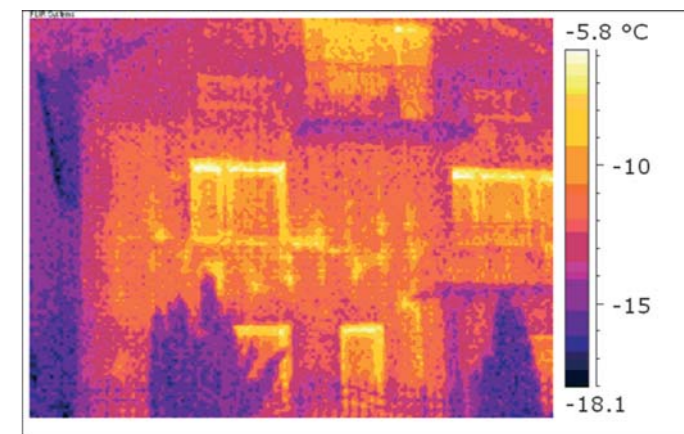
Single-layer wall of cellular concrete blocks with an intense visible heat outflow through the joints.



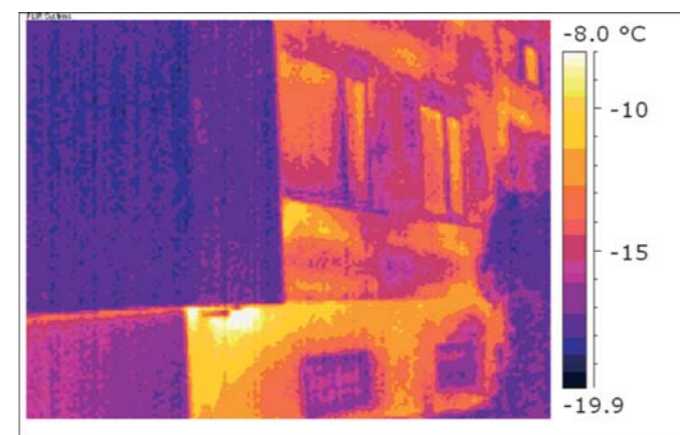
Three-layer wall of a building made of large prefabricated concrete slabs with an intense visible heat outflow through interlayer fasteners.



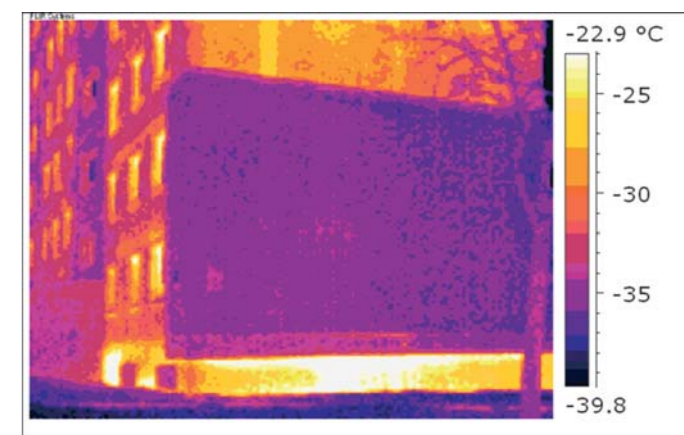
Three-layer wall of a building made of large prefabricated concrete slabs with an intense visible heat outflow through the structural joints.



Two-layer wall with thermal insulation produced by using dry technology, with an intense visible heat outflow caused by air flowing through the insulation layer – ineffective wind insulation.



Gable walls of buildings made of large prefabricated concrete slabs. The picture clearly shows that the installed external thermal insulation system has a strong impact on the heat outflow.



## Why use Ceresit thermal insulation systems?

Henkel has over 50 years of experience with Ceresit ETIC Systems. Already, thousands of buildings all over the world have been insulated with the help of our systems. That is an excellent reference for our products, which proves the superb quality of the solutions offered. All this time the Henkel Research and Development team has been working on new solutions and formulas and also on constant improvements to the existing products. We introduce more and more types of adhesive mortars, plasters and paints as well as offer an extensive colour range plus different textures.

Our products and systems are constantly supervised for their compliance with international standards such as ISO 9001, ISO 14001, ISO 18001, AQUAP by the Quality Control Department at our own Central Research Laboratory. The Laboratory has been certified according to ISO/IEC 17025, which means the highest European standards both in terms of functionality and security are met.



In addition to offering high quality products, Ceresit promotes awareness in the use of the products in the building industry. For this purpose a team of Technical Experts were appointed, whose task is providing advice to designers, contractors and users at every stage of the construction process (starting from design, through execution, to the use and revitalization).



Ceresit cares about the quality of the products, as well as their correct application, therefore the company invests in knowledge transfer and the training of construction companies, and thus constantly increases the level and quality of the work.

High quality products combined with the execution at a high level are the basis for granting warranties for using Ceresit thermal insulation system solutions.



### European Technical Assessment

European Technical Assessments (ETAs) are granted after proving a thermal insulation system meets the requirements of ETAG 004 (European Technical Approval Guidelines for External Thermal Insulation Composite Systems with Rendering). The system must conform to the following six Essential Requirements (specified in accordance with the European Parliament and Council Regulation (EU) No. 305/2011, called also the Construction Products Regulation CPR):

- mechanical resistance and stability,
- safety in case of fire,
- hygiene, health and environment,
- safety in use,
- protection against noise,
- energy, economy and heat retention.

In this way the high quality, functionality and durability of the thermal insulation system is proved on the basis of ETAG 004 test procedures, reflecting 25 years of its performance on a building's facade.

## ETICS influence on natural environment

For many years the external environment has been affected by the dynamic development of the world economy and many industries that have been overusing more and more unstable natural resources. Pollution and hazardous waste are generated as a result of civilization growth and get into the environment. Mankind is fully responsible for this situation.

The excessive exploitation of natural resources and the irresponsible consumption of electric energy has led to the so-called energetic crisis, which has resulted in a significant increase in energy carriers. In order to reduce the negative effects of the energetic crisis (and economic crisis on a global scale) on 19<sup>th</sup> of May 2011 the European Parliament issued the 2010/31/EU Directive on the energy performance of buildings. This document aims mainly to reduce the energy consumption and to use the energy from renewable sources, which is a part of the implementation of the Kyoto Protocol (EU's commitment to maintain the level of temperature rise below 2°C and to reduce total greenhouse gas emissions by at least 20% by 2020).

ETICS technology should play an extremely important role in this process - as buildings are consuming 40% of the total energy in the EU. The main reasons for this are the growth of this sector as well as the poor technical

condition of most of the buildings which results in significant energy loss.

Proper building insulation, with the use of ETIC system, is one of the most effective ways to save energy consumption (though it may be a compromise between functionality and aesthetics). It allows you to achieve savings of approximately 30% per year. Moreover, it translates directly into natural environment protection through reduced greenhouse gas emissions (including CO<sub>2</sub>), which arise during the processes of energy generation and has an extremely devastating influence on ecosystems. An eco trend can also be visible in the process of ETICS production, viewed as a comprehensive solution. More and more companies attach great significance to ecological production (that generate smaller amounts of waste), and also to recycling, the use of natural components etc.

When properly applied, ETICS has numerous benefits – it is an excellent 'mechanical' protection for a building, as well as improving the microclimate inside a house and the health of its residents by reducing the risk of fungi and mould development, and finally, improving the living comfort of inhabitants - if we are likely to consider these facts, then we obtain the full image of ETICS' comprehensive beneficial influence on the natural environment.





## Facade Designer software

To meet the needs of our clients (e.g. designers and investors), Henkel offers program supporting the design of the facade colour. Use the application 'Facade Designer'– for easily designing the facade's appearance using decorative tools offered by Ceresit. One can simulate the appearance of the facade with **Colours of Nature**, **VISAGE**, **Ceresit Intense Colour System** and **Mosaics of the World** palettes.

Henkel also provides **Colours of Nature**, **VISAGE**, **Ceresit Intense Colour System** and **Mosaics of the World** colours and textures libraries for AutoCAD®, ArchiCAD® and Autodesk® 3ds Max® programs.

Using these tools is a great help in making a choice, giving the possibility to see an initial preview of the facade design and it helps selecting individual components.

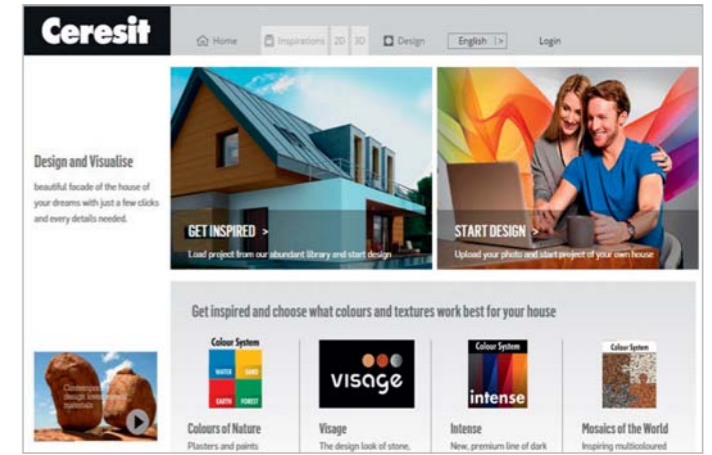
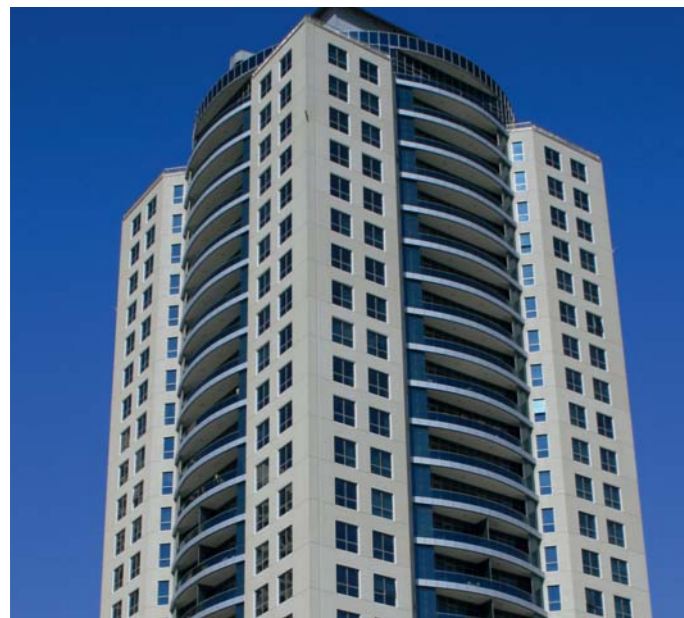
Visit [www.ceresit.com](http://www.ceresit.com) to visualize your favourite effects on the facade!



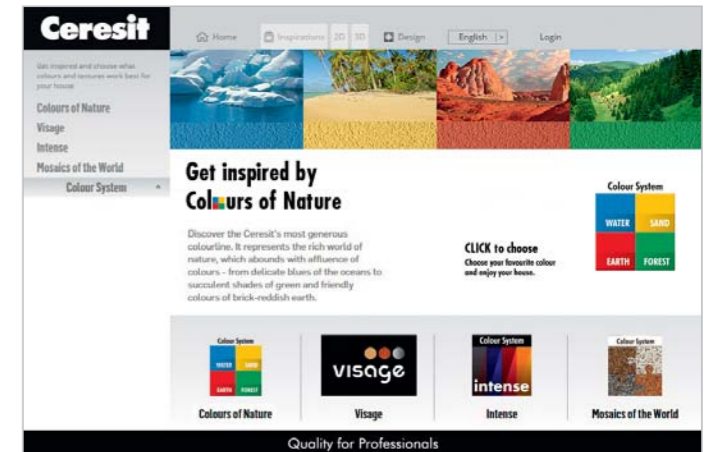
for Android



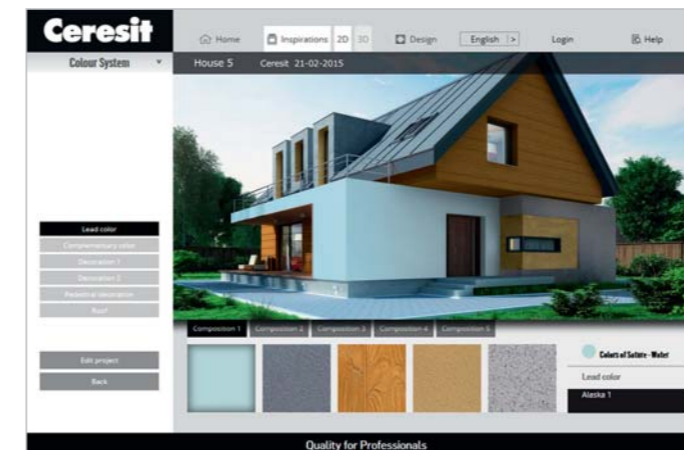
for iOS



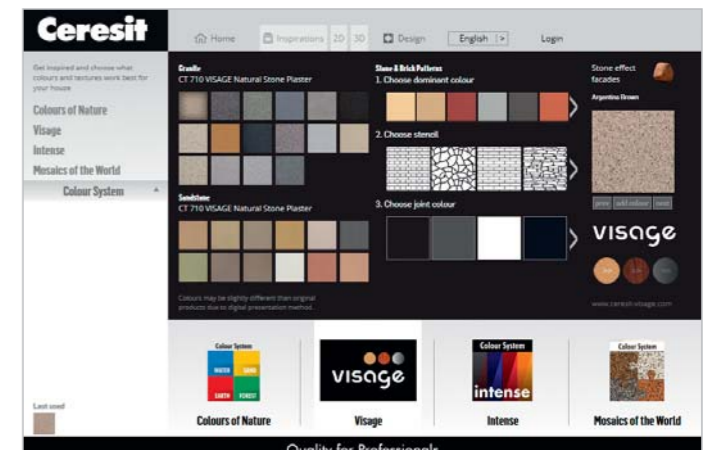
Use of the new application 'Facade Designer' enables the visualization of your house.



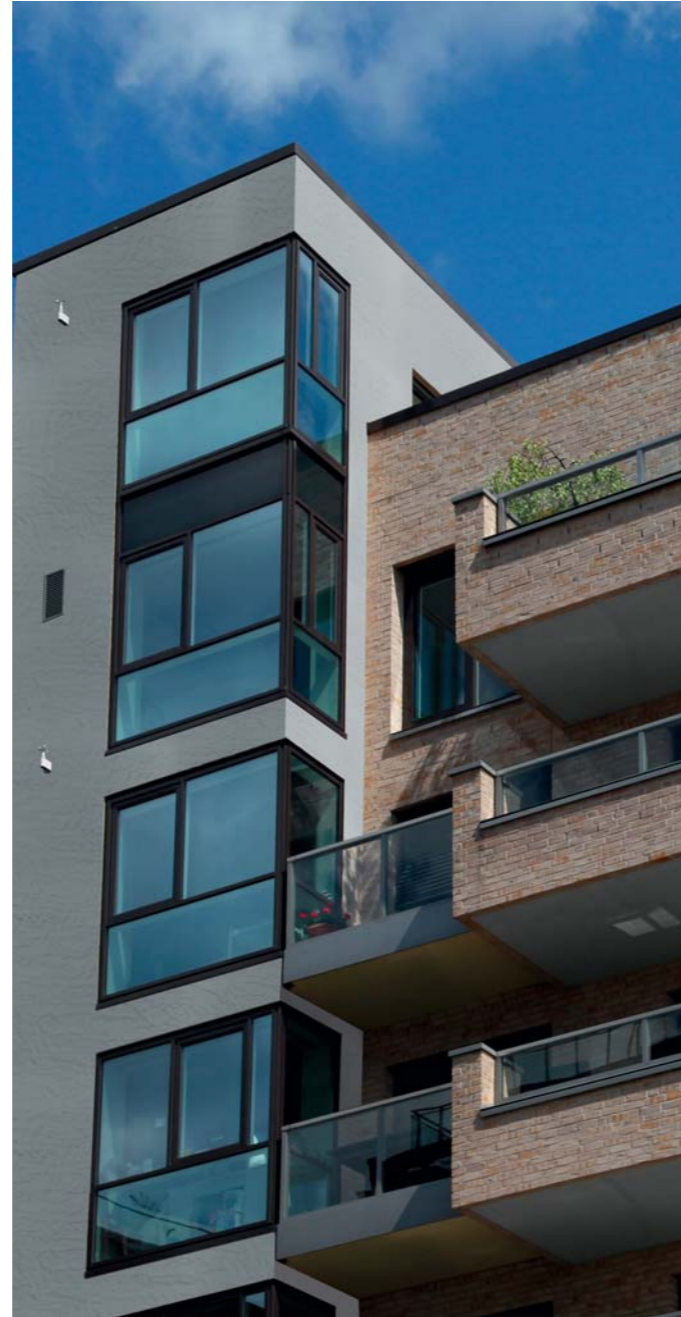
The program includes a complete line of Colours of Nature, VISAGE, Ceresit Intense Colour System and Mosaics of the World palette libraries.



The program also allows a selection of the prepared compositions from a base of examples available in the application.



With wide choice of colours and structures from Ceresit palettes finding suitable facade finishing is easy.



## Selection of insulation materials and systems

### Foamed polystyrene or mineral wool?

The heat conductivity coefficients for both materials are similar. Savings in energy consumption would consequently be the same if thermal insulation boards had the same thickness.

Which system should be chosen? Should it be based on foamed polystyrene or on mineral wool? Both solutions have their advantages. Both can be applied on new buildings as well as on buildings in need of renovation. Yet, there are differences between foamed polystyrene and mineral wool, which can influence the final choice of system.

### The most important properties of foamed polystyrene

Foamed polystyrene is not capable of absorption and does not lose its thermal insulation properties under the impact of humidity. The occasional condensation of water vapour which may occur along the thickness of the foamed polystyrene does not pose a major problem.

Although this plastic material is obtained from processing crude oil, it does not contain any harmful

substances. Foamed polystyrene is very light and has good mechanical properties (tearing strength approx. 80 kPa). Sound insulation is not particularly high. The water vapour transmission coefficient is also quite low: approx.  $12 \times 10^{-6}$  g/(mhPa). Temperatures above +80°C cause damage to foamed polystyrene as do most organic solvents. In the ETICS systems it is possible to use foamed polystyrene that fulfils the requirements of standard EN13163 with parameters defined in technical approval of the given ETICS system.

Furthermore, the material must not cause the propagation of fire, i.e. it must be self-extinguishing and must have the dimensional stability declared by the producer (after a suitable seasoning time). Foamed polystyrene panels cut from seasoned blocks (usually after period of 6-8 weeks) remain flat and do not change their dimensions.

It is not permissible to use panels larger than 120×60 cm.

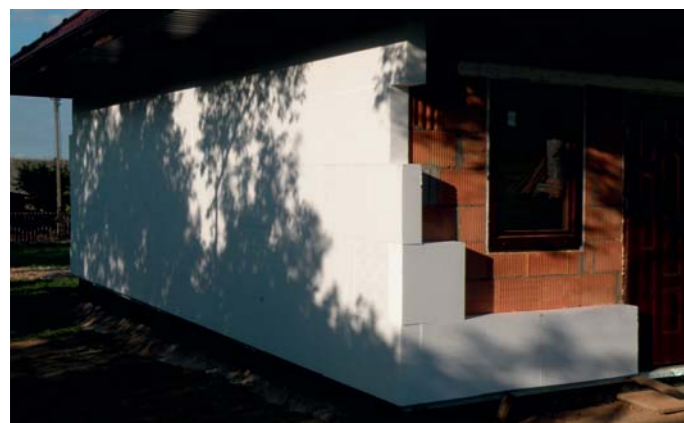
At present there are EPS boards available in white, dotted white and in graphite colour. These boards, only in the colour, differ from each other only with the heat transfer coefficient value. Popular opinions of the lower adhesion of adhesive mortars in the case of graphite boards did not prove to be true. The internal tests conducted at Henkel showed that the colour of the board had no influence on the board's adhesion properties.

## The most important properties of mineral wool

Mineral wool is resistant to high temperatures. Wool fibres produced of natural rock start to melt after being exposed for two hours to a temperature above 1000°C. The thermal resistance (when used as a binder) and the hydrophobic property (when used as an additive) are slightly less favourable. Mineral wool is classified as non-flammable/non-combustible material. It also has considerable resistance to the majority of chemical substances. The water vapour transmission coefficient is very high with approx. 480×10<sup>-6</sup> g/(mhPa). This ensures the absence of water vapour transmission. The hydrophobic property of mineral wool prevents the rise of capillary moisture and the absorption of water vapour contained in the air. Mineral wool boards have a considerable weight, low rigidity and relatively low strength. Stresses of approx. 40 kPa cause a 10%

deformation. Yet it is the fibrous structure of the board that ensure the good acoustic insulation of walls. The mineral wool used in ETIC systems must conform to the requirements of standard EN 13162 with parameters defined in technical approval of the given ETICS system.

Two types of mineral wool boards may be used in ETIC systems. The first one is mineral wool with a disturbed fibre structure (density 120 to 160 kg/m<sup>3</sup>, strength at break perpendicular to the board surface >10 kPa), on boards with dimensions of 50-60 cm × 100-120 cm. The second one is a board with a laminar parallel fibre structure, placed perpendicular to the wall surface (density 80 to 120 kg/m<sup>3</sup>). Owing to their oblong shape (dimensions in general 20×120 cm), these boards are frequently called lamella boards.



## A comparison of the properties of foamed polystyrene and mineral wool

Properties	Foamed polystyrene	Mineral wool
Suitability for mechanical processing (cutting, drilling, lapping)	very good	good
Suitability for surface levelling by grinding	very good	limited
Fire classification	non spreading fire	non-flammable
Resistance to natural ageing factors	limited	good
Resistance to microorganisms	good	very good
Permissible height of application on construction sites	depends on local regulations*	depends on local regulations**
Resistance to organic solvents	no resistance	full resistance
Weight of 1 m <sup>2</sup> thermal insulation at 10 cm thickness of thermal insulation material (adhesive mortar and mineral plaster) [kg]	approx. 15	approx. 30
Surface finishing	mineral plaster ✓ silicate plaster ✓ silicone plaster ✓ silicate-silicone plaster ✓ acrylic plaster ✓ elastomeric plaster ✓	mineral plaster ✓ silicate plaster ✓ silicone plaster ✓ silicate-silicone plaster ✓

\* according to Polish regulations: limited to 11<sup>th</sup> floor or 25 m height

\*\* according to Polish regulations: no limitations

## Conclusions

When selecting the thermal insulation system for a building, fire safety is an important issue. For this reason, systems based on mineral wool should be used for the following cases: high buildings (the max. height of a building that can be thermally insulated with a system classified as non-flammable depends on the local regulations, e.g. in Poland 25 m), buildings with a higher hazard classification (e.g. hospitals, schools, entertainment halls and other public facilities), and storage facilities for flammable materials.

Mineral wool based ETIC systems are also recommended for buildings with a high degree of humidity inside (e.g. catering kitchens, laundries and dry cleaners, water treatment plants, carwashes, public baths etc.) provided that suitable vapour barriers and hydroinsulation materials have been installed. This is due to the fact that the condensation of water vapour poses a hazard for mineral wool as it decreases its thermal insulation capacity. Although the walls of 'wet' facilities are generally covered with ceramic tiles, the materials selected for this kind of environment should be analyzed for their hygrothermal behaviour. The selection of a mineral wool based system is also recommended for buildings located in a zone of high noise pollution. Boards made of lamella wool are both handy and flexible and thus ideally suited for buildings with a curved outline.

Foamed polystyrene based ETIC systems are most frequently used for the thermal insulation of new buildings,

but also for the thermorenovation of existing residential housing as well as for individual investment projects.

Among others, this is due to economic reasons. Facade wool is more expensive than foamed polystyrene. Foamed polystyrene, which is almost ten times lighter is more convenient for transport and storage. Also the mechanical fixing is cheaper as it can be done entirely with plastic fasteners (for mineral wool anchors with metal spindles are required). EPS boards are much easier to process and can be cut and polished without major problems. As a result, labour costs for wool based systems are higher by at least 20 to 30%. One should bear in mind that during the time that EPS boards have been in general use for ETIC systems (mineral wool has been in use for a much shorter time), no cases of fire propagation caused by ETICS have been recorded. When choosing foamed polystyrene, there is no danger of excessive load to the building wall. The application of wool for thermal insulation of multi-layer walls necessitates the use of sufficiently long anchor fasteners.

As a result, depending on the region and country, 70–90% of thermal insulation is done with foamed polystyrene. In the coming years, this proportion might change due to the increasing competitiveness of mineral wool producers offer and also because of mineral lamella boards being more popular.

## Ceresit Ceretherm Systems

Foamed polystyrene	Mineral wool
Ceresit Ceretherm <b>Popular</b>	Ceresit Ceretherm <b>Classic Wool</b>
Ceresit Ceretherm <b>Classic</b>	Ceresit Ceretherm <b>Premium Wool</b>
Ceresit Ceretherm <b>Premium</b>	Ceresit Ceretherm <b>Wool Garage</b>
Ceresit Ceretherm <b>VISAGE</b>	
Ceresit Ceretherm <b>Express</b>	
Ceresit Ceretherm <b>Impactum</b>	
Ceresit Ceretherm <b>Ceramic</b>	
Ceresit Ceretherm <b>Reno</b>	

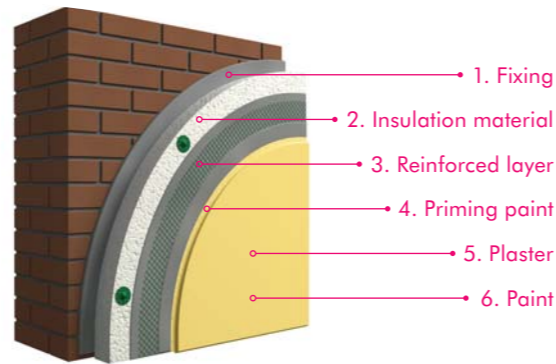
# Ceresit Ceretherm Systems



Ceresit Ceretherm System	Popular	Classic	Premium	Express	Impactum	Classic Wool	Premium Wool
Insulation material	EPS BOARDS					MINERAL WOOL BOARDS	
Insulation material adhesive mortar	ZS	CT 83	CT 83	CT 84	CT 83	CT 180	CT 190
Reinforced layer rendering mortar	ZU	CT 85	CT 87	CT 87	CT 100	CT 190	CT 87
Recommended plaster	Acrylic CT 60, CT 63, CT 64	Silicate-Silicone CT 174, CT 175	Silicone CT 74, CT 75	Silicone CT 74, CT 75	Elastomeric CT 79	Silicate CT 72, CT 73	Silicate CT 72, CT 73
Resistance to biological contamination	●●	●●	●●●	●●●	●●●●	●●●●	●●●●
Mechanical resistance	●	●●	●●●	●●●	●●●●	●●	●●●
Weather resistance	●	●●	●●●	●●●	●●●●	●●	●●
Breathability	●	●●	●●	●●	●●	●●●	●●●●
Soundproof	●	●	●	●	●	●●	●●
Time saving/ quick application	●	●	●●	●●●	●●●	●	●●
Convenient application	●	●	●●	●●●	●●●	●	●●
Ceresit colour finish/ possible finish	Colours of Nature 	Colours of Nature VISAGE 	Colours of Nature 	Colours of Nature 	Colours of Nature Intense Colour System 	Colours of Nature 	Colours of Nature 
System properties	 Durable	 Durable	 Highly durable	 Highly durable	 Extremely durable	 Durable	 Highly durable
	 Economy	 Impact resistance	 High impact resistance	 High impact resistance	 Extremely impact resistance	 Impact resistance	 High impact resistance
		 Self-cleaning and water permeable	 Self-cleaning	 Self-cleaning	 Extremely flexible	 Highly breathable	 Highly breathable
		 Quick in installation	 Quick in installation	 Quick in installation	 Quick in installation	 Quick in installation	 Quick in installation
			 Convenient	 Convenient	 Convenient	 Convenient	 Convenient
				 Extremely resistant to UV	 UV resistant	 UV resistant	 UV resistant
				 Socks preventing	 Socks preventing	 Socks preventing	 Socks preventing
				 Fire resistance (A2)	 Fire resistance (A2)	 Fire resistance (A2)	 Fire resistance (A2)

# Ceresit Ceretherm System

## POPULAR



Basic insulation system, suitable for many premises. It is an economical solution that offers proper thermal insulating properties with its resistance to bad and changing weather conditions.

### Characteristics

- low water uptake of the system
- durability
- BioProtect formula
- good workability parameters

**Recommended substrates:** aerated concrete (dry) well ventilated building, concrete, ceramic bricks and ceramic blocks

**Recommended buildings:** single family houses and blocks of flats up to 11 floors (up to 25 m)

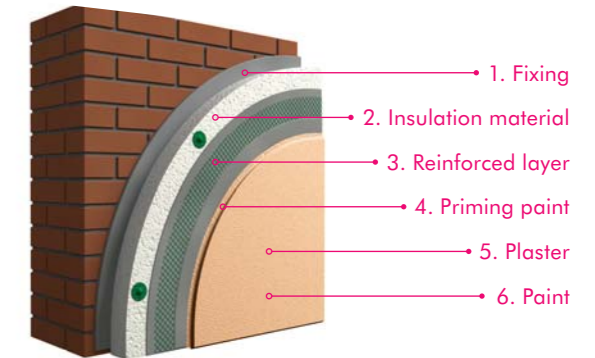
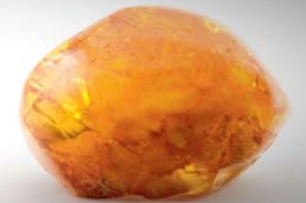


<b>1. Fixing</b>	Ceresit ZS Adhesive Mortar or Ceresit CT 81 Adhesive Mortar or Ceresit ZU Adhesive and Reinforcing Mortar or Ceresit CT 82 Adhesive and Reinforcing Mortar, plastic anchors Ceresit CT 330 or CT 335 with a steel core or others classified as ETAG 014, number of fasteners and their arrangement should be determined by an architect, based on the substrate analysis and load calculations
<b>2. Insulation material</b>	EPS-boards marked Ceresit CT 315 (or others classified as PN-EN 13163:2004) with thickness up to 25 cm, with a flat or shaped end face
<b>3. Reinforced layer</b>	Ceresit CT 325 Glass fibre mesh with a density of 145 g/m <sup>2</sup> and above, Ceresit ZU Adhesive and Reinforcing Mortar or Ceresit CT 82 Adhesive and Reinforcing Mortar
<b>4. Priming paint</b>	Ceresit CT 15 Silicate Paint for silicate plasters, Ceresit CT 16 Acrylic Paint for mineral, acrylic, silicate-silicone and silicone plasters
<b>5. Plaster</b>	<b>Recommended: Ceresit CT 60 'stone', Ceresit CT 63 'rustic', Ceresit CT 64 'rustic' Acrylic Plasters</b> Ceresit CT 35 'rustic', Ceresit CT 137 'stone', Ceresit CT 34 Mineral Plasters, Ceresit CT 72 'stone', Ceresit CT 73 'rustic' Silicate Plasters, Ceresit CT 74 'stone', Ceresit CT 75 'rustic' Silicone Plasters, Ceresit CT 77 Mosaic Plaster, Ceresit CT 79 Elastomeric Plaster, Ceresit CT 174 'stone', Ceresit CT 174 MACHINE, Ceresit CT 175 'rustic' Silicate-Silicone Plasters
<b>6. Paint</b>	Ceresit CT 42, CT 44 Acrylic Paints, Ceresit CT 48 Silicone Paint, Ceresit CT 54 Silicate Paint, Ceresit CT 49 Silix XD® Nanosilicone Paint



# Ceresit Ceretherm System

## CLASSIC



Reliable insulation system resistant to impacts and demanding weather conditions. It has an optimised self-cleaning and vapour permeability properties. Recommended and durable solution for most applications.

### Characteristics

- optimised self cleaning and vapour permeability properties
- durability
- BioProtect formula
- low water uptake of the system
- flexibility and resistance to mechanical damages
- very good working parameters

**Recommended substrates:** aerated concrete (dry) well ventilated building, concrete ceramic bricks, ceramic blocks and uneven walls

**Recommended buildings:** single family houses, blocks of flats up to 11 floors (up to 25 m) and public buildings



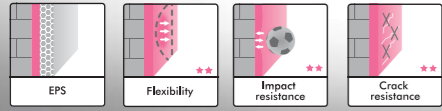
<b>1. Fixing</b>	Ceresit CT 83 Adhesive Mortar or Ceresit CT 85 FLEX Adhesive and Reinforcing Mortar, plastic anchors Ceresit CT 330 or CT 335 with a steel core or others classified as ETAG 014, number of fasteners and their arrangement should be determined by an architect, based on the substrate analysis and load calculations
<b>2. Insulation material</b>	EPS-boards marked Ceresit CT 315 (or others classified as PN-EN 13163:2004) with thickness up to 25 cm, with a flat or shaped end face
<b>3. Reinforced layer</b>	Ceresit CT 325 Glass fibre mesh with a density of 145 g/m <sup>2</sup> and above, Ceresit CT 85 FLEX Adhesive and Reinforcing Mortar
<b>4. Priming paint</b>	Ceresit CT 15 Silicate Paint for silicate plasters, Ceresit CT 16 Acrylic Paint for mineral, acrylic, silicate-silicone and silicone plasters
<b>5. Plaster</b>	<b>Recommended: Ceresit CT 174 'stone', Ceresit CT 174 MACHINE, Ceresit CT 175 'rustic' Silicate-Silicone Plasters</b> Ceresit CT 35 'rustic', Ceresit CT 137 'stone', Ceresit CT 34 Mineral Plasters, Ceresit CT 60 'stone', Ceresit CT 63 'rustic', Ceresit CT 64 'rustic' Acrylic Plasters, Ceresit CT 72 'stone', Ceresit CT 73 'rustic' Silicate Plasters, Ceresit CT 74 'stone', Ceresit CT 75 'rustic' Silicone Plasters, Ceresit CT 77 Mosaic Plaster, Ceresit CT 60 VISAGE Acrylic Plaster*, Ceresit CT 710 VISAGE Natural Stone Plaster*, Ceresit CT 720 VISAGE Wood Plaster* + CT 721 VISAGE Wood Colour Impregnate*, Ceresit CT 730 VISAGE Luminous Plaster*
<b>6. Paint</b>	Ceresit CT 42, CT 44 Acrylic Paints, Ceresit CT 48 Silicone Paint, Ceresit CT 54 Silicate Paint, Ceresit CT 49 Silix XD® Nanosilicone Paint, Ceresit CT 740 VISAGE Metallic Paint*, Ceresit CT 750 VISAGE Opal Lack*

\* special product possible to be applied with the above system



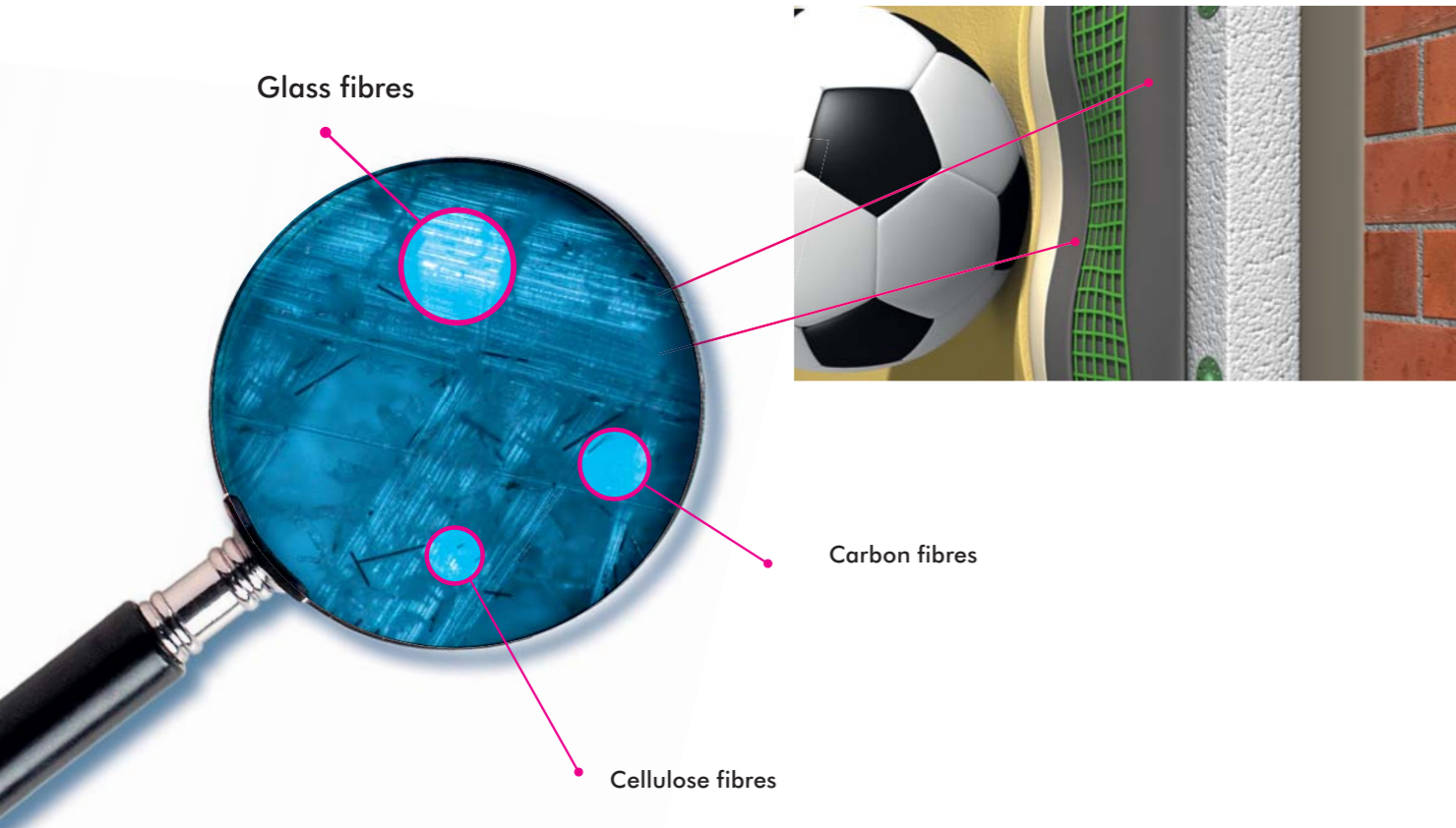
# Ceresit CT 85 FLEX

Adhesive & Reinforcement Mortar for EPS resistant to impacts and deformation



**Ceresit CT 85 Adhesive and Reinforcement Mortar for EPS used in Ceresit Ceretherm Classic system** is Henkel's response to toughened standards and the rising demands of the market. **The specially developed formula** and structure of the mortar give the best technical and working parameters, both during the application of the product and the long term maintenance of a building. **Ceresit CT 85 is unique thanks to the use of a highly targeted combination of three special reinforced fibres of optimal length and mutual interaction.**

Thanks to this combination and unique structure **Ceresit CT 85 is highly resistant to impact damage, distortion and to the formation of cracks and hairlines.** It is especially important during the maintenance of a building, when the whole system works, i.e. it is exposed to changing temperature and humidity or in case of mechanical impacts such as hitting a ball against a facade. **Ceresit CT 85** mortar gives the cohesion of all the layers in the system and counteracts construction stresses. This way it protects external plasters and paint coats from developing cracks caused by unstable ground.



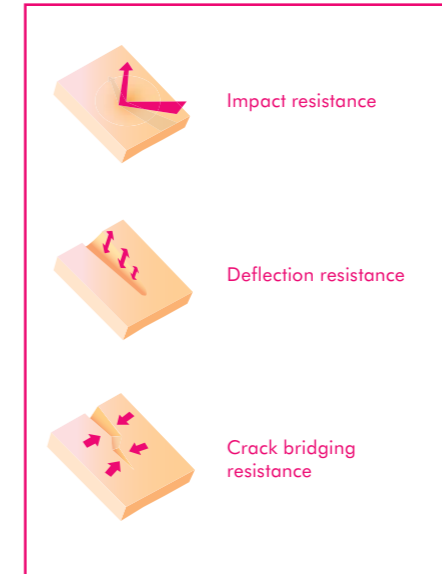
High resistance to impact damage thanks to the unique combination of Ceresit CT 85 fibres (microscope photo)

# Ceresit CT 85 FLEX

Adhesive & Reinforcement Mortar for EPS resistant to impacts and deformation

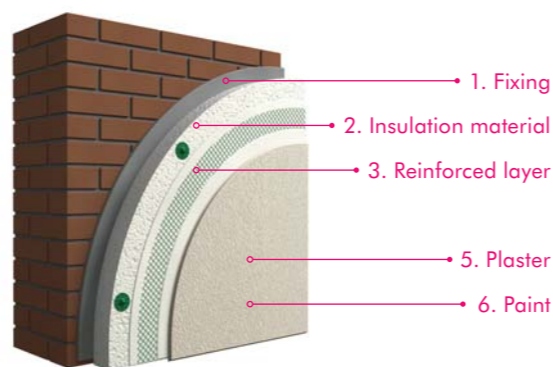
The product is highly resistant to weather conditions and especially to very low and very high temperatures. Using **Ceresit CT 85** results in the reinforced layer being more frost resistant and less absorbable. The mortar's resistance to weather conditions during the process of application (very strong sun and wind without protection in summer) has also been strengthened in order to obtain optimal working and setting times. At the same time greater flexibility has been provided which eliminates the risk of cracks appearing directly after applying the reinforced layer.

This way parameters and properties of **Ceresit CT 85** considerably exceed market demands. Its application ensures that the whole system will be more resistant to ambient conditions. Thanks to greater resistance to mechanical impacts, distortion and cracks Ceresit thermal insulation system not only acts better as insulation, but also provides a long lasting aesthetic look to a building.



- Ceresit CT 85 FLEX characteristics:**
- highly impact resistant
  - unique fibre combination
  - resistant to weather conditions
  - resistant to hairline cracks
  - flexible

# Ceresit Ceretherm System PREMIUM



Highly durable insulation system with quick installation and excellent insulation properties. It is not only resistant to strong impacts but also has increased resistance to humidity. All these properties together with a self-cleaning effect make the system a very reliable and long-lasting choice.

### Characteristics

- self cleaning and dirt resistance
- high durability
- BioProtect formula
- very low water uptake of the system
- hydrophobic
- high flexibility and resistance to mechanical damage and weather/ temperature abrupt changes
- quick (no priming paint, saving on labour and scaffoldings)
- excellent working parameters:
- lower consumption of rendering mortar per m<sup>2</sup> by 25%

**Recommended substrates:** aerated concrete (dry) well ventilated building, concrete, ceramic bricks and ceramic blocks

**Recommended buildings:** single family houses, blocks of flats up to 11 floors (up to 25 m) and public buildings

**Especially recommended for:** buildings located in high air humidity areas and buildings located in air polluted areas (close to roads, industrial areas)

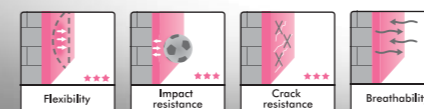


<b>1. Fixing</b>	Ceresit CT 83 Adhesive Mortar or Ceresit CT 87 WHITE FLEXIBLE Adhesive and Reinforcing Mortar, plastic anchors Ceresit CT 330 or CT 335 with a steel core or others classified as ETAG 014, number of fasteners and their arrangement should be determined by an architect, based on the substrate analysis and load calculations
<b>2. Insulation material</b>	EPS-boards marked Ceresit CT 315 (or others classified as PN-EN 13163:2004) with thickness up to 25 cm, with a flat or shaped end face
<b>3. Reinforced layer</b>	Ceresit CT 325 Glass fibre mesh with a density of 145 g/m <sup>2</sup> and above, Ceresit CT 87 WHITE FLEXIBLE Adhesive and Reinforcing Mortar
<b>4. Priming paint</b>	N/A
<b>5. Plaster</b>	<b>Recommended: Ceresit CT 74 'stone', Ceresit CT 75 'rustic' Silicone Plasters</b> Ceresit CT 35 'rustic', Ceresit CT 137 'stone', Ceresit CT 34 Mineral Plasters, Ceresit CT 60 'stone', Ceresit CT 63 'rustic', Ceresit CT 64 'rustic' Acrylic Plasters, Ceresit CT 72 'stone', Ceresit CT 73 'rustic' Silicate Plasters, Ceresit CT 174 'stone', Ceresit CT 174 MACHINE, Ceresit CT 175 'rustic' Silicate-Silicone Plasters
<b>6. Paint</b>	Ceresit CT 42, CT 44 Acrylic Paints, Ceresit CT 48 Silicone Paint, Ceresit CT 54 Silicate Paint, Ceresit CT 49 Silix XD® Nanosilicone Paint



# CT 87 WHITE FLEXIBLE Adhesive and Reinforcing Mortar

Profit from time saving



**CT 87 WHITE FLEXIBLE adhesive and reinforcing mortar gives quick and easy work while providing the highest quality of insulation, as well as significant costs effectiveness.**

**White, 2 in 1** – does not require priming before rendering.

**Universal both** for EIFS systems on EPS and mineral wool.

**Flexible, strengthened with fibres**, resistant to scratches and cracks.

**Provides quicker completion of the project** – one application step less, shorter work interruptions (no time needed for priming paint drying) and excellent working parameters of the mortar.

**Offers savings on the costs of materials**, labour and equipment due to:

- no priming paint needed
- priming step skipped from labour costs
- lower consumption per m<sup>2</sup> ensured by the content of light fillers (only 3 kg/m<sup>2</sup> for the mesh reinforced layer on the properly prepared insulation surface)
- lower scaffolding costs

**Has excellent working parameters** and thus makes it easier to prepare the mesh reinforced layer through:

- easier mixing (new generation modifying agents and fillers)
- easier spreading (lower density and viscosity)
- easier fixing of the mesh (better consistency of the mass)

**Enables easier** and economic application of the final coat plaster thanks to:

- optimal water absorption and surface structure of CT 87
- lower plaster consumption per m<sup>2</sup> due to the optimised structure of the CT 87 layer (low losses of plaster during application thanks to the better adhesion)

Offers a wide choice of possible final coatings and can be finished with each kind of Ceresit plaster (mineral, acrylic, silicate, silicone, silicate-silicone).

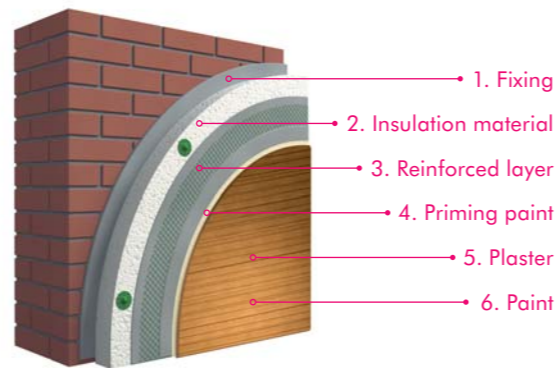
**Secures longer** durability of the whole system due to the:

- higher resistance to mechanical damage (impacts, perforations)
- higher resistance to scratches and micro-cracks due to high content of modifying agents and fibres
- higher resistance to unfavourable weather conditions (sudden drops of temperatures, high amplitudes) thanks to the 25% lower water absorption of CT 87 mortar. The whole system can even have up to 55% lower water absorption compared to the normal required values
- higher resistance to dirt build up due to the minimized water absorption and proper choice of the plaster (especially recommended are Ceresit silicone plasters CT 74, CT 75)

**Ensures aesthetic building** facade with homogeneous structure of the plaster.



# Ceresit Ceretherm System VISAGE



### Characteristics

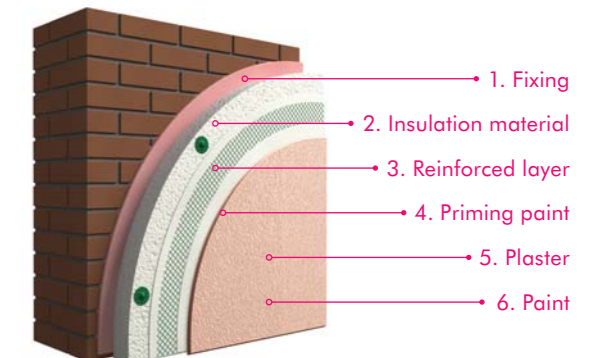
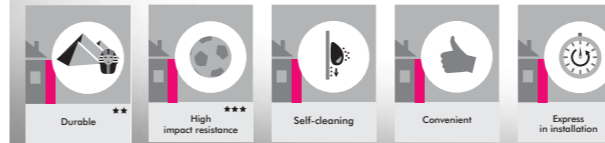
- Available in three different lines: stone effect, wood effect and special effect
- Resistant to biological contamination
- Easy to maintain
- Easy to apply
- Resistant to weather conditions
- Colour durability (UV resistant)
- Long-term durability
- Minimising development of thermal bridges
- Easy to integrate with other facades materials (ETICS)
- Lightweight (little excessive weight in comparison to natural materials)
- Effect providing of natural materials



<b>1. Fixing</b>	Ceresit CT 83 Adhesive Mortar or Ceresit CT 85 FLEX Adhesive and Reinforcing Mortar, plastic anchors Ceresit CT 330 or CT 335 with a steel core or others classified as ETAG 014, number of fasteners and their arrangement should be determined by an architect, based on the substrate analysis and load calculations
<b>2. Insulation material</b>	EPS-boards marked Ceresit CT 315 (or others classified as PN-EN 13163:2004) with thickness up to 25 cm, with a flat or shaped end face
<b>3. Reinforced layer</b>	Ceresit CT 325 Glass fibre mesh with a density of 145 g/m <sup>2</sup> and above, Ceresit CT 85 FLEX Adhesive and Reinforcing Mortar
<b>4. Priming paint</b>	Ceresit CT 16 Acrylic Paint
<b>5. Plaster</b>	Ceresit CT 60 VISAGE Acrylic Plaster, Ceresit CT 710 VISAGE Natural Stone Plaster, Ceresit CT 720 VISAGE Wood Plaster + CT 721 VISAGE Wood Colour Impregnate, Ceresit CT 730 VISAGE Luminous Plaster, Ceresit CT 760 VISAGE Architectural Concrete Plaster
<b>6. Paint</b>	Ceresit CT 740 VISAGE Metallic Paint, Ceresit CT 750 VISAGE Opal Lack



# Ceresit Ceretherm System EXPRESS



Highly durable and reliable insulation system. It shares all the advanced features and excellent insulation properties with the convenience of being extremely quick to install. Therefore it is an unbeatable solution in all cases, where the time of completing an investment plays an important role.

### Characteristics

- express - etics installation quicker by 5 days!
- self cleaning and dirt resistant
- high durability
- BioProtect formula
- very low water uptake of the system
- hydrophobic
- high flexibility and resistance to mechanical damage and weather/temperature abrupt changes
- lambda 0,040 w/mK of CT 84 – excellent insulation properties 25 times better than for cementitious eps adhesive
- excellent working parameters
- high efficiency
- glueing of eps in higher range of temperatures from 0°C to +40°C

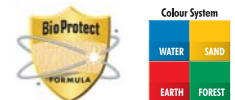


**Recommended substrates:** aerated concrete (dry) well ventilated building, ceramic blocks and even walls

**Recommended buildings:** single family houses, blocks of flats up to 11 floors (up to 25 m) and public buildings

**Especially recommended for:** buildings located in high air humidity areas and buildings located in air polluted areas

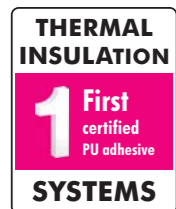
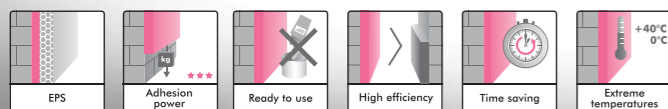
<b>1. Fixing</b>	Ceresit CT 84 EXPRESS PU-Adhesive for EPS-boards, plastic anchors Ceresit CT 330 or CT 335 with a steel core or others classified as ETAG 014, number of fasteners and their arrangement should be determined by an architect, based on the substrate analysis and load calculations
<b>2. Insulation material</b>	EPS-boards marked Ceresit CT 315 (or others classified as PN-EN 13163:2004) with thickness up to 25 cm, with a flat or shaped end face
<b>3. Reinforced layer</b>	Ceresit CT 325 Glass fibre mesh with a density of 145 g/m <sup>2</sup> and above, Ceresit CT 87 WHITE FLEXIBLE Adhesive and Reinforcing Mortar or Ceresit CT 85 FLEX Adhesive and Reinforcing Mortar
<b>4. Priming paint</b>	N/A if Ceresit CT 87 WHITE FLEXIBLE mortar is used, Ceresit CT 15 Silicate Paint for silicate plasters (if Ceresit CT 85 mortar is used), Ceresit CT 16 Acrylic Paint for mineral, acrylic, silicate-silicone and silicone plasters (if Ceresit CT 85 FLEX mortar is used)
<b>5. Plaster</b>	<b>Recommended: Ceresit CT 74 'stone', Ceresit CT 75 'rustic' Silicone Plasters</b> Ceresit CT 35 'rustic', Ceresit CT 137 'stone', Ceresit CT 34 Mineral Plasters, Ceresit CT 60 'stone', Ceresit CT 63 'rustic', Ceresit CT 64 'rustic' Acrylic Plasters, Ceresit CT 72 'stone', Ceresit CT 73 'rustic' Silicate Plasters, Ceresit CT 174 'stone', Ceresit CT 174 MACHINE, Ceresit CT 175 'rustic' Silicate-Silicone Plasters
<b>6. Paint</b>	Ceresit CT 42, CT 44 Acrylic Paints, Ceresit CT 48 Silicone Paint, Ceresit CT 54 Silicate Paint, Ceresit CT 49 Silix XD® Nanosilicone Paint





# The winner is CT 84 EXPRESS!

For 100% more yield and convenience.



First PU adhesive in Poland possessing technical approval in thermal systems together with complete fire resistance tests.



LOW TEMPERATURE RECOMMENDED

**Application from 0°C and at high humidity conditions.** CT 84 is especially recommended for work in low temperature when cement adhesives drying time is significantly longer.



100% MORE YIELD

**100% more yield** than traditional cement adhesives, CT 84 is extremely efficient: with 1 can you can fix 10 m<sup>2</sup> of EPS-boards in ETICS system, while a 25 kg bag of cement adhesive does 5 m<sup>2</sup> only.



LIGHT WEIGHT

Perfect for 'warming to warming' system because of **light weight**. 1 m<sup>2</sup> of expanded polystyrene board fixed with CT 84 adhesive weighs 100 g, instead of 5 kg in case of cement adhesives.



15% HIGHER STRENGTH

**15% higher adhesive strength** than traditional cement adhesives. Adhesion to mineral substrates, wood, metals and plastics is better and binding is definitely faster.



MORE EFFECTIVE INSULATION

**Enhanced thermal insulation properties.** CT 84, unlike traditional cement adhesives, has thermal insulation properties similar to EPS or wool, making the insulation more effective.



FASTEST UP FOR ANCHORING

**Anchoring already after ca. 2 h** speeding up thermal insulation work. It is possible to apply adhesive, fix anchors and place the reinforced layer during the same day.



METAL BALL AGAINST AIR BUBBLES

High homogeneity of adhesive. **Metal ball** present inside every can of CT 84 protects the adhesive against too large air bubbles, so the product stays effective and comfortable to use for long time.



LOW EXPANSION – NO DEFORMATION

**Low expansion** preventing unwanted deformations. Expansion process of CT 84 is very fast and its voluminous effect is very limited, after fixing the panels to the facade, adhesive does not expand any more.

# Scope of use CT 84 EXPRESS



Fixing EPS board in thermal insulation system



Filling in gaps between boards



Filling in case of keying panels



Fixing in case of ETICS on ETICS

## Materials

The Ceresit CT 84 polyurethane adhesive is used for fixing EPS and XPS foamed polystyrene and hard mineral wool to the structures such as:

- ceramic bricks
- concrete
- wood
- OSB boards
- coated and galvanised sheet plate
- dry cellular concrete
- glass
- bitumen
- drywall

and for layered fixing expanded polystyrene and mineral wool boards under conditions of normal and lower temperatures.

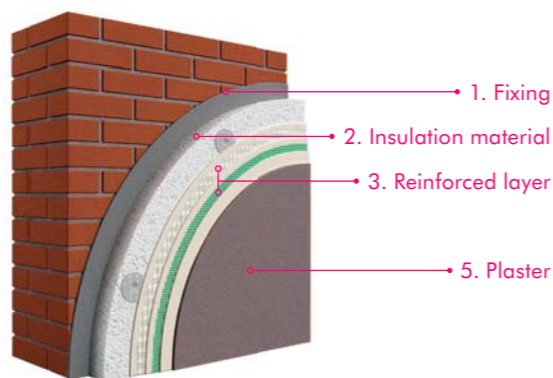
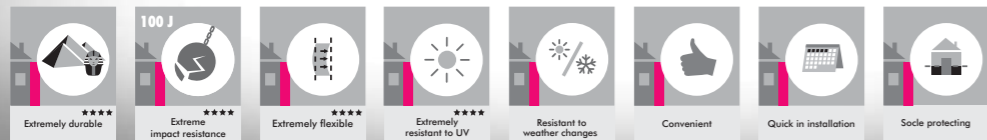
All data refers to temperatures of +20°C and relative air humidity of 60%. Under other conditions, the parameters of the material may differ. In case of any further information, please refer to the Technical Data Sheet or contact a sales representative.

## Comparison between installation time of traditional system and Ceresit Ceretherm Express System

Traditional system with cement adhesive										
Day	1	2	3	4	5	6	7	8	9	10
fixing panels	■									
grinding panels				■						
anchoring panels				■						
reinforced layer				■						
priming							■			
plastering								■		
Ceresit Ceretherm Express System										
Day	1	2	3	4	5					
fixing panels – CT 84 EXPRESS	■					←				
grinding panels	■									
anchoring panels	■									
reinforced layer – CT 87 WHITE FLEXIBLE	■									
priming – none			■							
plastering			■							

**5 days faster!!!**

# Ceresit Ceretherm System IMPACTUM



A unique insulation system with exceptional flexibility, strength and impressive impact resistance to over 100 J. It protects the building like a helmet, ensuring safety even in the most demanding weather conditions and also while at risk of strong mechanical damage. All these give extreme durability and aesthetics for insulated facades.

### Characteristics

- extreme durability
- extreme flexibility and impact resistance to mechanical damage (100 J) and thermal stresses
- strengthened with carbon, glass and polyacrylamide fibres
- extreme UV resistance
- highly hydrophobic (deep structural hydrophobisation)
- extremely low water uptake of the system
- high resistance to biological contamination (structure and structural hydrophobicity)
- self cleaning and dirt resistant
- excellent working parameters
- quick and convenient in installation (rendering mortar R2U – no priming paint)
- possible use of dark and intense colours (HBW ≥ 5%) on facades



**Recommended substrates:** aerated concrete (dry) well ventilated building, concrete, ceramic bricks and ceramic blocks

**Recommended buildings:** single family houses, blocks of flats up to 11 floors (up to 25 m) and public buildings

**Especially recommended for:** buildings located in areas with high temperatures differences, tough weather conditions and strong UV exposure, buildings located in high air humidity areas and buildings located in air polluted areas (close to roads, industrial areas)

**Strongly recommended for:** socles, fronts of buildings and entrances

<b>1. Fixing</b>	Ceresit CT 83 Adhesive Mortar (optionally ZS/CT 81, Thermo Universal, ZU/CT 82), plastic anchors Ceresit CT 330 or CT 335 with a steel core or others classified as ETAG 014, number of fasteners and their arrangement should be determined by an architect, based on the substrate analysis and load calculations
<b>2. Insulation material</b>	EPS-boards marked Ceresit CT 315 (or others classified as PN-EN 13163:2004) with thickness up to 25 cm, with a flat or shaped end face
<b>3. Reinforced layer</b>	Ceresit CT 325 Glass fibre mesh with a density of ≥160 g/m <sup>2</sup> , Ceresit CT 327 Glass fibre mesh with a density of ≥330 g/m <sup>2</sup> , Ceresit CT 100 IMPACTUM
<b>4. Priming paint</b>	N/A
<b>5. Plaster</b>	<b>Recommended: Ceresit CT 79 Elastomeric Plaster</b> Ceresit CT 60 'stone' Acrylic Plaster, Ceresit CT 72 'stone' Silicate Plaster, Ceresit CT 74 'stone' Silicene Plaster, Ceresit CT 77 Mosaic Plaster, Ceresit CT 174 'stone', Ceresit CT 174 MACHINE Silicate-Silicene Plaster
<b>6. Paint</b>	Ceresit CT 42, CT 44 Acrylic Paints, Ceresit CT 48 Silicene Paint, Ceresit CT 54 Silicate Paint, Ceresit CT 49 Silix XD® Nanosilicene Paint



# Ceresit Ceretherm System IMPACTUM

## Special features



Mechanical resistance is well illustrated in the test of striking the system surface with a 5 kg ball from a height of 2 m



Low-resistance system



Ceresit Impactum System

### The highest flexibility and resistance to changing weather conditions

Rapidly changing temperatures or strong UV radiation will not affect the system's performance or aesthetics. Very high flexibility allows for the relaxation of internal stresses generated not only by the thermal work of the coats but also by its structural loading. This feature also allows for application of dark and intense colours.

### Extreme resistance to water penetration and biological damage

Low water absorption is another important parameter, which ensures the durability of the thermal insulation system. Even after heavy rain the facade dries out quickly with no moisture accumulation. This way the danger of discoloration, delamination or biological damage (mould, algae, fungi) of the system is avoided.

### Dirt resistance – 'self-cleaning' effect

Thanks to the high hydrophobicity of the system and the smooth, tight structure of top coating, the so-called 'self-cleaning' effect of the facade is observed. Drops of rain create the kinds of 'pearls' on the facade's surface and together with dirt particles run down along the surface, leaving the facade clean.

### High mechanical resistance to over 100 J impacts

The mechanical resistance of Ceresit Impactum System to over 100 J impacts is as much as ten times higher than the ETAG 004 requirements for the highest category of resistance, with over 100 times excess for the minimal class. Striking the system surface with 100 J kinetic energy may be compared with the energy of a football flying at more than 90 km/h or a tennis ball at more than 250 km/h.

# Ceresit Ceretherm Impactum System – key component

## Ceresit CT 100 IMPACTUM

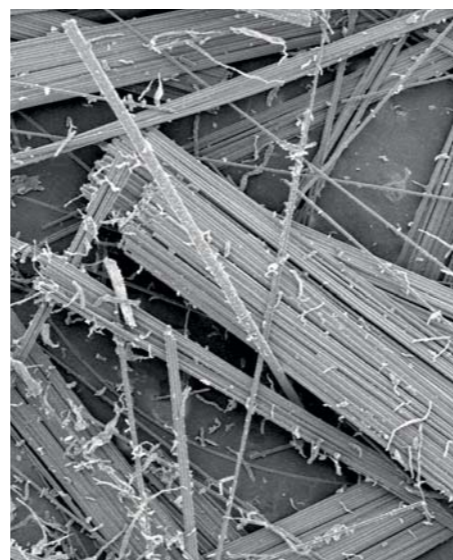


### Unique composition

Ceresit CT 100 reinforcing compound is a ready to use, technologically advanced product. It consists of specially selected fillers and rheology controllers which, along with a special system of polymer emulsions, create the so-called dispersion matrix. The product is additionally reinforced with a combination of different types of glass, carbon and polyacrylamide fibres, which jointly create a complementary and spatial laminar system which determines the flexibility properties of the structure.

These fibres feature the following properties:

- carbon fibres (graphite): excellent resistance to temperature, mechanical and chemical factors (tensile strength up to 2500 MPa, thermal strength over 700°C),
- polyacrylamide fibres: offering higher temperature and chemical resistance along with unique resistance to striking and puncturing (just like carbon fibres),
- glass fibres: with excellent wettability by polymers and dispersions and compatibility with carbon fibres.



Microscopic images of random fibres



CT 100 sample: spiral of Aurelius



CT 100 sample: high resistance to mechanical forces

### Extremely flexible

The application of various fibres and high-flexibility polymer dispersions ensures that the optimum elasticity of the system and stress compensation capacity can be obtained. The result is high resistance to mechanical factors (tension, compression, bending and shearing resistance), which gives the exceptional strength and durability of the entire thermal insulation system.

### Hydrophobic

The dispersion matrix additionally includes silicate bindings whose objective is the acceleration of the hardening of the product and low resistance for the diffusing water vapour. Ceresit CT 100 is also enriched with a mixture of hydrophobic additives which lower surface absorption. As a result, plaster may be applied on the Ceresit CT 100 coat without priming, which definitely increases the speed of application work (one stage less).



# Ceresit CT 100 IMPACTUM



### Ceresit CT 100 IMPACTUM key features:

- resistant to extreme mechanical loads and thermal stresses
- highly flexible
- reinforced with fibres
- highly hydrophobic
- resistant to weather conditions
- bridges cracks up to 2 mm
- does not require priming before application of plaster
- for use also on non-standard grounds like: steel, glass, ceramics
- tintable
- suitable for machine application
- excellent working parameters
- one-component (ready to use)
- creamy colour

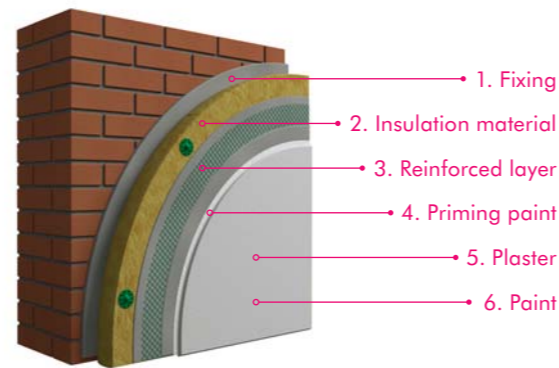
### Technical parameters:

- density: ca. 1,4 kg/dm<sup>3</sup>
- temperature of application: from +10°C to +25°C
- skinning time: ca. 20 min.
- estimated consumption:
  - reinforced layer on EPS boards with single mesh: ca. 2,5-3,0 kg/m<sup>2</sup>
  - reinforced layer on EPS boards with double mesh: ca. 3,0-3,5 kg/m<sup>2</sup>
  - reinforced layer on EPS boards with strengthened and regular mesh: ca. 3,0-3,5 kg/m<sup>2</sup>
  - blinding layer: ca. 1,0 kg/m<sup>2</sup>



 EPS	 100 J Impact resistance ★★★★
 Flexibility ★★★★	 Crack resistance ★★★★
 Low water uptake H <sub>2</sub> O	 Machine application
 Adhesion power ★★★	 High efficiency
 No priming paint	 Ready to use

# Ceresit Ceretherm System CLASSIC WOOL



Breathable and A2 class fire resistant system with soundproof properties. It offers high insulating performance and a healthy living environment. Thanks to very high vapour permeability this insulation system is a perfect solution especially for all applications exposed to higher humidity and danger of biological contamination.

### Characteristics

- high vapour permeability
- durability
- BioProtect formula strengthened by high pH - high resistance to biological contamination
- flexibility and resistance to mechanical damage
- soundproof (mineral wool)
- natural - eco wool plates and silicate plaster
- very good working parameters

**Recommended substrates:** wood skeleton walls with cement fibres boards, aerated concrete (dry) poorly ventilated, aerated concrete (wet) and silicate bricks

**Recommended buildings:** single family houses, blocks of flats up to 11 floors, blocks of flats above 11 floors and public buildings (especially schools, hospitals, theatres)

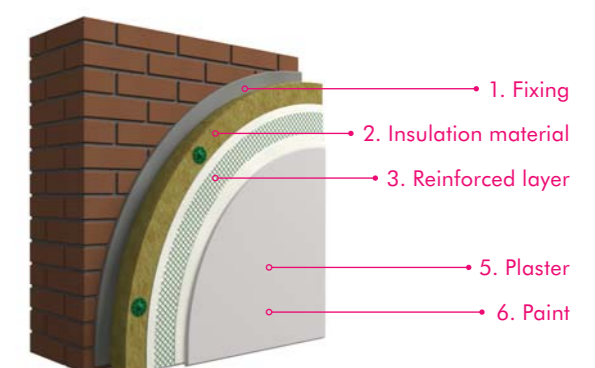
**Especially recommended for:** buildings located close to forests, buildings located in high air humidity areas, public buildings with high risk of biological contamination



<b>1. Fixing</b>	Ceresit 180 MW STRONG FIX Adhesive Mortar for Mineral Wool or Ceresit CT 190 MW FLEX Adhesive and Reinforcing Mortar for Mineral Wool, anchors Ceresit CT 335 with a steel core or others classified as ETAG 014, number of fasteners and their arrangement should be determined by an architect, based on the substrate analysis and load calculations
<b>2. Insulation material</b>	mineral wool with a disturbed fibre layout or mineral wool with lamella fibre layout (so-called lamella wool) classified as EN 13162:2001
<b>3. Reinforced layer</b>	Ceresit CT 325 Glass fibre mesh with a density of 145 g/m <sup>2</sup> and above, Ceresit CT 190 MW FLEX Adhesive and Reinforcing Mortar for Mineral Wool
<b>4. Priming paint</b>	Ceresit CT 15 Silicate Paint for silicate plasters, Ceresit CT 16 Acrylic Paint for mineral, silicate-silicone and silicone plasters
<b>5. Plaster</b>	<b>Recommended: Ceresit CT 72 'stone', Ceresit CT 73 'rustic' Silicate Plasters</b> Ceresit CT 35 'rustic', Ceresit CT 137 'stone', Ceresit CT 34 Mineral Plasters, Ceresit CT 74 'stone', Ceresit CT 75 'rustic' Silicone Plasters, Ceresit CT 174 'stone', Ceresit CT 174 MACHINE, Ceresit CT 175 'rustic' Silicate-Silicone Plasters
<b>6. Paint</b>	Ceresit CT 48 Silicone Paint, Ceresit CT 54 Silicate Paint, Ceresit CT 49 Silix XD® Nanosilicone Paint



# Ceresit Ceretherm System PREMIUM WOOL



An insulation system with all the advantages of being breathable, A2 class fire resistant and soundproof but with enhanced durability and impact resistance. It is a perfect solution even for highly demanding applications with the additional asset of being quick to install.

### Characteristics

- high vapour permeability
- high durability
- BioProtect formula strengthened by high pH - high resistance to biological contamination
- high flexibility and resistance to mechanical damage and weather/temperature abrupt changes
- soundproof (mineral wool)
- natural - eco wool plates and silicate plaster
- excellent working parameters
- quick (no priming, saving on labour and scaffoldings)
- lower consumption of rendering mortar per m<sup>2</sup> by 15%

**Recommended substrates:** wood skeleton walls with cement fibres boards, aerated concrete (dry) poorly ventilated, aerated concrete (wet) and silicate bricks

**Recommended buildings:** single family houses, blocks of flats up to 11 floors, blocks of flats above 11 floors and public buildings (especially schools, hospitals, theatres)

**Especially recommended for:** buildings located close to forests, buildings located in high air humidity areas, public buildings with high risk of biological contamination

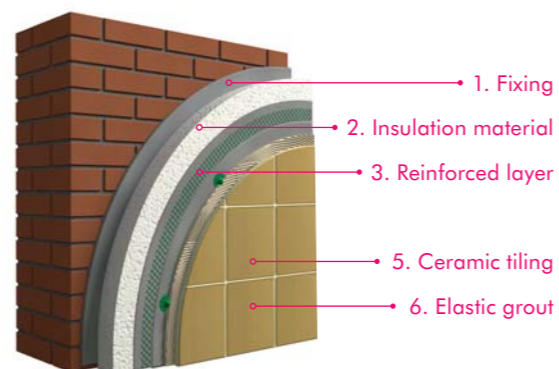


<b>1. Fixing</b>	Ceresit CT 190 MW FLEX Adhesive and Reinforcing Mortar for Mineral Wool or Ceresit CT 87 WHITE FLEXIBLE Adhesive and Reinforcing Mortar, anchors Ceresit CT 335 with a steel core or others classified as ETAG 014, number of fasteners and their arrangement should be determined by an architect, based on the substrate analysis and load calculations
<b>2. Insulation material</b>	mineral wool with a disturbed fibre layout or mineral wool with lamella fibre, layout (so-called lamella wool) classified as EN 13162:2001
<b>3. Reinforced layer</b>	Ceresit CT 325 Glass fibre mesh with a density of 145 g/m <sup>2</sup> and above, Ceresit CT 87 WHITE FLEXIBLE Adhesive and Reinforcing Mortar
<b>4. Priming paint</b>	N/A
<b>5. Plaster</b>	<b>Recommended: Ceresit CT 72 'stone', Ceresit CT 73 'rustic' Silicate Plasters</b> Ceresit CT 35 'rustic', Ceresit CT 137 'stone', Ceresit CT 34 Mineral Plasters, Ceresit CT 74 'stone', Ceresit CT 75 'rustic' Silicone Plasters, Ceresit CT 174 'stone', Ceresit CT 174 MACHINE, Ceresit CT 175 'rustic' Silicate-Silicone Plasters
<b>6. Paint</b>	Ceresit CT 48 Silicone Paint, Ceresit CT 54 Silicate Paint, Ceresit CT 49 Silix XD® Nanosilicone Paint



# Other Ceresit Ceretherm Systems

## CERAMIC



### Characteristics

- Resistant to strong impacts
- BioProtect formula – resistant to mould, fungi and algae
- Especially resistant to weather
- Particularly low absorption
- Especially easy to keep clean



<b>1. Fixing</b>	Ceresit CT 83 Adhesive Mortar or Ceresit CT 85 FLEX Adhesive and Reinforcing Mortar, plastic anchors Ceresit CT 330 or CT 335 with a steel core or others classified as ETAG 014, number of fasteners and their arrangement should be determined by an architect, based on the substrate analysis and load calculations (recommended min. 8 fasteners/m <sup>2</sup> )
<b>2. Insulation material</b>	EPS-boards marked Ceresit CT 315 (or others classified as PN-EN 13163:2004) with thickness up to 25 cm, with a flat or shaped end face
<b>3. Reinforced layer</b>	Ceresit CT 325 Glass fibre mesh with a density of 145 g/m <sup>2</sup> and above, Ceresit CT 85 FLEX Adhesive and Reinforcing Mortar
<b>4. Priming paint</b>	N/A
<b>5. Ceramic tiling</b>	Ceresit CM 17 Adhesive Mortar, Ceresit CM 18 Adhesive Mortar, tiles: water absorption ≤ 6%, surface ≤ 0,09 m <sup>2</sup> and weight ≤ 40 kg/m <sup>2</sup> , stone: surface ≤ 0,19 m <sup>2</sup> and weight ≤ 40 kg/m <sup>2</sup> , Ceresit CE 43 Grand'Elit Flexible Grout (min. 6 mm, max 20 mm), Ceresit CT 32 Clinker Mortar
<b>6. Expansion gaps</b>	filling: Ceresit CS 29 Polyurethane Sealant, support: round foam section (bead) whos diameter (Ø) corresponds to the selected with (d) of the grout (Ø=120%d), professional expansion sections with EPDM filled section, max. area defined by expansion gaps should not extend 9 m <sup>2</sup>

# Other Ceresit Ceretherm Systems

## WOOL GARAGE



- Ceiling
- 1. Fixing
- 2. Insulation material
- 3. Priming paint
- 4. Plaster
- 5. Paint

### Characteristics

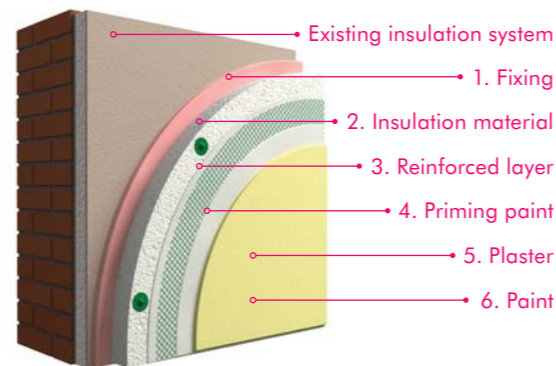
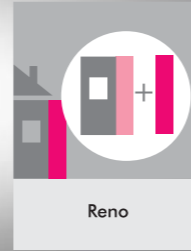
- Highly thermal insulation properties
- Acoustic insulation increase
- Easy and quick workability
- Providing easy application of boards
- No need for grinding and anchoring
- Adaptive for machine application



<b>1. Fixing</b>	Ceresit CT 180 MW STRONG FIX Adhesive Mortar for Mineral Wool or Ceresit CT 190 MW FLEX Adhesive and Reinforcing Mortar for Mineral Wool
<b>2. Insulation material</b>	mineral wool
<b>3. Priming paint</b>	Ceresit CT 16 Priming Paint
<b>4. Plaster</b>	Ceresit CT 137 Mineral Plaster
<b>5. Paint</b>	Ceresit CT 54 Silicate Paint

# Other Ceresit Ceretherm Systems

## RENO



### Characteristics

- Has obtained ITB (Instytut Techniki Budowlanej – Institute of Construction Technology) approval no. AT-15-8077/2009 – issued: 20 August 2009 + appendix no. 1 of 1 June 2010
- Should be applied in case of the following damage:
  - the existing layer of thermal insulation is too thin
  - damage of the external layer are too severe to fix them



<b>1. Fixing</b>	Ceresit CT 84 EXPRESS PU-Adhesive for EPS-boards, Ceresit ZS Adhesive Mortar, Ceresit ZU Universal Mortar, Ceresit CT 83 Adhesive Mortar, Ceresit CT 85 FLEX Adhesive and Reinforcing Mortar or Ceresit CT 87 WHITE FLEXIBLE Adhesive and Reinforcing Mortar, plastic anchors Ceresit CT 330 or CT 335 with a steel core or others classified as ETAG 014, number of fasteners and their arrangement should be determined by an architect, based on the substrate analysis and load calculations
<b>2. Insulation material</b>	EPS-boards marked Ceresit CT 315 (or others classified as PN-EN 13163:2004) with thickness up to 25 cm, with a flat or shaped end face
<b>3. Reinforced layer</b>	Ceresit CT 325 Glass fibre mesh with a density of 145 g/m <sup>2</sup> and above, Ceresit CT 87 WHITE FLEXIBLE Adhesive and Reinforcing Mortar or Ceresit CT 85 FLEX Adhesive and Reinforcing Mortar
<b>4. Priming paint</b>	N/A if Ceresit CT 87 WHITE FLEXIBLE mortar is used, Ceresit CT 15 Silicate Paint for silicate plasters (if Ceresit CT 85 FLEX mortar is used), Ceresit CT 16 Acrylic Paint for mineral, acrylic, silicate-silicone and silicone plasters (if Ceresit CT 85 FLEX mortar is used)
<b>5. Plaster</b>	Ceresit CT 35 'rustic', Ceresit CT 137 'stone', Ceresit CT 34 Mineral Plasters, Ceresit CT 60 'stone', Ceresit CT 63 'rustic', Ceresit CT 64 'rustic' Acrylic Plasters, Ceresit CT 72 'stone', Ceresit CT 73 'rustic' Silicate Plasters, Ceresit CT 74 'stone', Ceresit CT 75 'rustic' Silicone Plasters, Ceresit CT 77 Mosaic Plaster, Ceresit CT 174 'stone', Ceresit CT 174 MACHINE, Ceresit CT 175 'rustic' Silicate-Silicone Plasters
<b>6. Paint</b>	Ceresit CT 42, CT 44 Acrylic Paints, Ceresit CT 48 Silicone Paint, Ceresit CT 54 Silicate Paint, Ceresit CT 49 Silix XD® Nanosilicone Paint

# Other Ceresit Ceretherm Systems

## REPAIR



### Characteristics

- Has obtained ITB (Instytut Techniki Budowlanej - Institute of Construction Technology) recommendation
- Should be applied in the case of the following damage appearing on the facade:
  - cracks,
  - microbiological contamination,
  - dirty wall surface,
  - polystyrene slab faulting,
  - tear of the reinforced mesh.



### Cracks

Gaps and cracks can appear in the plaster either because the thermal insulation system has been executed using materials of poor quality, owing to faulty performance, or problems connected with building statics, such as settlement. In such events, it is necessary to find the cause of the problem before starting repair work, and also to check whether there is a gap or stabilized crack.



### Microbiological contamination

Biological contamination, a growth of fungi, moss and algae, can appear if the plaster is inappropriately chosen in relation to the facade's exposure to biological contamination. It can also be caused by the insufficient protection of the biocide additives, or active substances being washed away from the plaster during its life.



### Dirty wall surface

A few years after applying a new plaster, the facade can become dirty, which is caused by contaminants (such as filth, dust) accumulating on the surface. The level of contamination depends on the type of plaster and outside weather conditions. Dirt is visible mainly at the end of windowsills, flashings, balconies etc.



### Slab faulting

Slab faulting may occur and cracks may appear on the facade when the number of mechanical fasteners is not enough (or there aren't any) in relation to the wind suction force. Such cracks appear mainly at the corners of the building.



### Tear of the reinforced mesh

The reinforced layer is extremely important for the durability of the whole system, because it is the factor determining the system's resistance. The proper thickness of the mortar combined with the proper application of a glass fibre mesh, gives the durable and resistant facade, especially in those places which are subject to mechanical impacts. Reinforced mesh can lose its protective characteristics in the following situations: when the reinforced layer hasn't been applied thoroughly (it is too thin), when the overlaps of mesh are insufficient, when its weight is too low, or when it is not resistant to alkaline environments.



## Ceresit Plasters

This is the decorative plaster that makes the top layer of every thermal insulation system, whatever insulating material is used 'inside'. There are a few main plaster types, differing from each other by their chemical constitution:

- mineral plasters,
- acrylic plasters,
- silicone plasters,
- silicate plasters,
- silicate-silicone plasters,
- elastomeric plasters.

All these are available in two grain structures:

- 'stone',
- 'rustic'.

Additionally, depending on the grain size, the plaster has a different thickness and appearance.

Apart from its decorative purpose, the role of plaster is to protect the insulation material from weather conditions and any damage as well as to cooperate with other components of the system within the performance of physical parameters.



# Plasters and paints with BioProtect formula. Durability and aesthetics for years.

## Protection and aesthetics

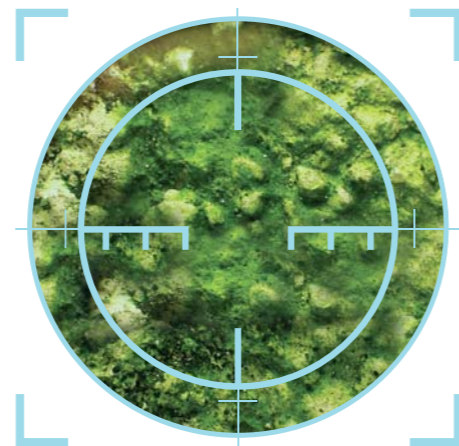
The dusty and neglected facades of buildings are usually the result of excessive atmospheric pollution, human activities and their interference with the environment. Dirty-gray precipitation often appears on the surface of building walls. This is already the result of the development of microorganisms – fungi and algae – which are invisible to the naked eye.

Microorganisms can only grow in specific conditions favourable to them. Unprotected plaster is exposed to their action and beyond the negative impact on the aesthetics of the facade, also entails the danger of its inevitable degradation.

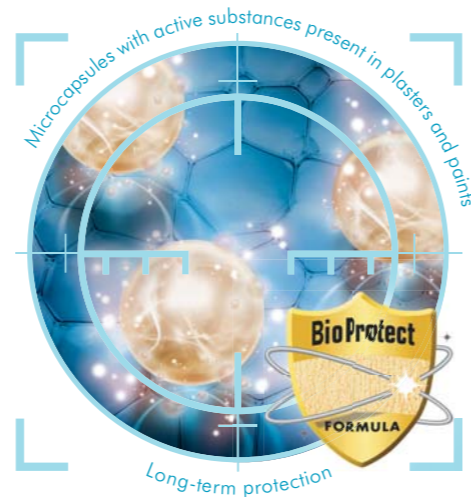
The use of Ceresit plasters and paints with the BioProtect formula on the building facades protects elevations for many years and helps to maintain their aesthetics. Active substances existing in the products actively protect the facades against the development of microorganisms and their destructive influence. The durable and beautiful appearance remains pleasing to the eye for years. The effectiveness of the BioProtect formula products was confirmed by the appropriate permission of the Minister of Health.



Unsecured plaster with biological contamination. Dirty and unaesthetic facade.



Ceresit plaster with BioProtect formula. Durable and aesthetic facade.



## How does it work

BioProtect formula works by employing microcapsules with active substances present in Ceresit plasters and paints.

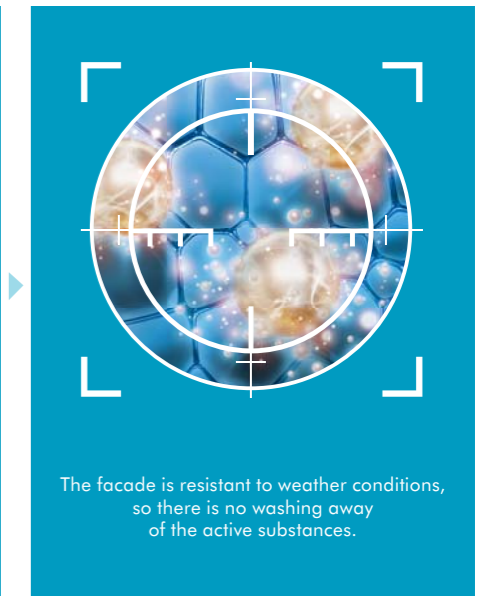
Active substances, enclosed in the microcapsules, have a high resistance to being washed off, which in turn leads to a gradual substance release and works effectively in changing weather conditions. The active substances are released in a controlled manner for many years. This means that Ceresit products significantly extend the facade durability.



The facade covered with Ceresit plaster or paint is protected by special microcapsules with active substances.



The capsules are wash away resistant, and therefore provide permanent protection for years.



The facade is resistant to weather conditions, so there is no washing away of the active substances.

## Additional protection

Ceresit plasters and paints also have antistatic properties, obtained through the Anti Dirt Pick-up effect, which protects the surface against the excessive deposition of pollutants. Fewer pollutants settle on the surface of the plasters and paints so the facade is not a suitable environment for the development of fungi and algae.

## Ecology and safety

The process of the gradual release of active substances is fully ecological. The form and character of microcapsules, with the active substances, is developed in such a way as not to affect the soil of sources of drinking water. The safety of their use was confirmed by the appropriate permission of the Minister of Health. This also means that the active substances release process is completely safe for humans, animals, and the environment.





## Plasters technical parameters

European standard of the EN 15824 series define the following values for external renders and internal plasters based on organic binders:

- absorption,
- vapour permeability.

The systems are also classified according to their vapour permeability coefficient:

Class	Requirement	Requirement	
		Value of vapour permeation V g/(m <sup>2</sup> x d)	Diffusion in accordance to the thickness of still air gap Sd m <sup>2</sup>
V <sub>1</sub>	High	> 150	< 0,14
V <sub>2</sub>	Medium	≤ 150 > 15	≥ 0,14 < 1,4
V <sub>3</sub>	Low	≤ 15	≥ 1,4

Classification of the facade plasters according to their Sd coefficient:

Class	Requirement W kg/(m <sup>2</sup> x h <sup>0,5</sup> )
W <sub>1</sub>	High > 0,5
W <sub>2</sub>	Medium ≤ 0,5 > 0,1
W <sub>3</sub>	Low ≤ 0,1

The diffusivity of a facade system is determined by:

- μ – Coefficient of relative diffusion resistance stating how much water vapour diffusion resistance in the coat exceeds water vapour diffusion resistance in still air gap/layer of the same obstacle to thickness than temperature
  - Sd – Relative diffusive resistance, i.e. thickness of still air gap, which constitutes the same obstacle to vapour permeation than the given material [m]
  - d – Layer thickness [m]
  - ° – Value of diffusion in accordance to the thickness of the layer (Sd), EN ISO 7783-2
- Sd = μ x d [m]

Under standard operating conditions of the elevation, the resistance of a decorative layer (plaster, paint) to the dirt is very important. This is specified by the degree of whiteness loss of the top layer materials. The determining parameter of susceptibility to dirt is the contact angle of water meeting the coating surface. The higher the angle, the coating is more hydrophobic and the water carrying dirt penetrates into the structure of the substrate further.

The criterion for differentiating the various plasters is their base binder. The binder in mineral plasters is cement, the binder in acrylic plasters are polymers (acrylic resins), the binder in silicate plasters are water solutions of potassium silicate and polymer dispersions, the binder in silicone plasters are silicone resins combined with acrylic or acrylic-styrene resins.

The essential differences between particular types of plasters can be described as follows:

- mineral and silicate plasters are characterised by a relatively low diffusion resistance,
- acrylic and silicone plasters have a low absorption.

Below the characteristics of different plasters according to their binders are summarized.

### Flexibility

- In the acrylic and silicone plasters the amount of flexibility which compensates for shrinkage is greater than in the mineral and silicate plasters.

### Absorption

- Acrylic and silicone plasters contain a significantly higher amount of polymers that seal the system and reduce water absorption; this is what increases mechanical strength.
- In the mineral and silicate plasters absorption is limited by the addition of hydrofobisators.

### Resistance to dirt

- Acrylic and silicone plasters get naturally dirty due to environmental pollution, resulting in the setting of dust on the surface of the plasters. With low water absorption of these plasters, the dirt settles only on the surface and, to a greater extent is self-cleaned with rain.
- Mineral and silicate plasters get naturally dirty with the same intensity, but because of the open structure, impurities are able to penetrate the plaster microstructure, and thus are harder to be washed off by rainfall.

### Easy maintenance

- As a result of low water absorption of acrylic, silicone and elastomeric plaster, contamination is located on their surface and can be removed by washing the elevation with water under pressure.
- With the possibility of the deposition of pollutants in the microstructure of mineral and silicate plasters, it is necessary to repaint the surface in order to refresh the appearance of the facade.

### Large variety of colours

- Acrylic, silicate, silicone, silicate-silicone and elastomeric plasters can be tinted in a virtually unlimited number of colours.

### The occurrence of discolouration

- Acrylic, silicone, silicate, silicate-silicone and elastomeric plasters do not contain cement or lime, so in the case of unfavourable conditions appearing during the application or soon after its completion, there is no risk of discolouration.

### Colour durability

- Acrylic, silicone, silicate-silicone and elastomeric plasters are characterized by increased colour stability (slower fading with time) due to a lower alkalinity.
- Silicate and mineral plasters are characterized by moderate resistance to colour fading due to a higher alkalinity.

### The resistance to microbiological contamination

- Thanks to the unique BioProtect formula, acrylic and silicone plasters are well protected against microbiological contamination. In addition, the closed structure impedes the growth of fungi and algae.
- Silicate and mineral plasters are characterized by very high alkalinity (pH>12), which forms a natural barrier against the development of microorganisms on the elevation surface. The addition of a BioProtect biocid agent provides additional protection against the development of microorganisms on the elevation surface.

### Silicate-silicone plasters

- These plasters are a hybrid combination of two binders – silicone resin and silicate. By combining these two materials the plaster with high vapour permeability, and at the same time with low water absorption, was obtained. Increased alkalinity enhances the natural protection against the growth of microorganisms, and the compact structure of the polymer prevents the penetration of dirt particles in the structure of the plaster.

### Elastomeric plasters

- These plasters include highly flexible elastomeric dispersions which, along with a group of other components like rheology modifiers and a complex of selected fillers, create the so-called elastomeric matrix. The additional advantage of this product is the reinforcement generated by the structure of glass, carbon and polyacrylamide fibres. This laminar and spatial complex allows the formation of a uniform, flexible plaster layer of high mechanical resistance, which is leakproof in terms of structure and surface integrity.

## Comparison of physical properties of Ceresit plasters

Ceresit plasters	Vapour permeability	Water nonabsorption	Dirt resistance	Resistance to microbiological contamination	Durability
Mineral plasters CT 34, CT 35, CT 137	+++++	+	+	+++++	+++
Acrylic plasters CT 60, CT 63, CT 64	++	+++	++	++++	+++
Silicate-Silicone plasters CT 174, CT 175	+++	+++	+++	++++	++++
Silicate plasters CT 72, CT 73	+++++	++	++++	+++++	+++++
Silicone plasters CT 74, CT 75	++++	+++++	+++++	++++	+++++
Elastomeric plaster CT 79	++++	+++++	+++++	+++++	+++++

## Ceresit CT 174 MACHINE Application Plaster

**Work goes easier and faster than ever!**

**Ceresit CT 174 MACHINE** Application Plaster ensures a smart way of plastering. The product allows investors to finish work with less effort and in shorter time, while the final effect is always perfect. That is why **Ceresit CT 174 MACHINE** is especially recommended to finish large objects like offices, retail buildings or blocks of flats.

### Advantages of Ceresit CT 174 MACHINE

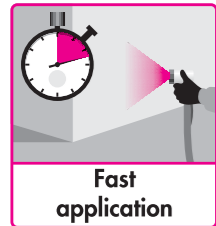


Easy work

With Ceresit CT 174 MACHINE you do not need to create the structure manually. It means that you can benefit from less application steps and make your work easier.

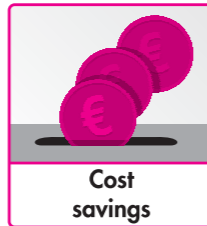


Silicate-silicone plaster, 'stone' structure, grain size 1.0 mm



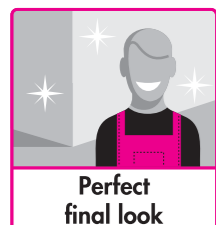
Fast application

Ceresit CT 174 MACHINE allows you to speed up application significantly. With the machine you can plaster 600-800 m<sup>2</sup> per day with 1 applicator and 2 helpers instead of 100-150 m<sup>2</sup> with 2 applicators and 2 persons for structuring.



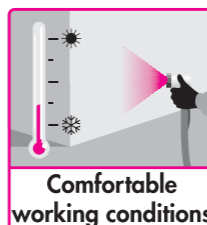
Cost savings

The fast, easy and efficient working with **Ceresit CT 174 MACHINE**, allows to save on labour costs. Additionally, with low and precise consumption of the product you save money.



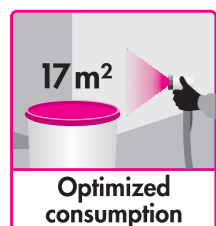
Perfect final look

With Ceresit CT 174 MACHINE you can forget about problems of manual technique e.g. visible levels of the scaffolding and direction of structuring. You can easily achieve homogenous structure without 'woodworm' effects and make corrections if needed.



Comfortable working conditions

Ceresit CT 174 MACHINE can be easily applied in any temperature (from +5 to +30°C). As there is no need of structuring the surface, you do not have to speed up your work due to faster drying of the plaster in high temperature.



17 m<sup>2</sup>

Optimized consumption

Due to low product consumption (approx. 1,5 kg/m<sup>2</sup>), one container of Ceresit CT 174 MACHINE can cover around 17 m<sup>2</sup> of the wall. To compare, regular wet plaster consumption is 2,5-3,0 kg/m<sup>2</sup>.



Ideal for large buildings

Due to mechanical application, which is fast and convenient, **Ceresit CT 174 MACHINE** is highly recommended to finish large objects.

## Ceresit CT 174 MACHINE Application Plaster



### Machine requirements:

- worm pump, nozzle size 6-10 mm, delivery rate c.a. 8-10 l/min., working pressure up to 40 bar,
- for dedicated ETICS applications and bigger objects we recommend SPG Baumaschinen PG 20 Plaster spraying machine or Wagner PC 830 Compact plaster aggregate with compressor. For smaller objects (walls up to 100 m<sup>2</sup>) we advice to use 100 l air compressor with plaster spray gun.

SPG Baumaschinen PG 20



Wagner PC 830 Compact



Plaster spray gun with compressor



### Your benefits

Manually applied wet plaster

CT 174 MACHINE



Cost-saving in labour



Cost-saving in time



Cost-saving in materials



## Ceresit CT 79 IMPACTUM elastomeric plaster

### Unique composition

Ceresit CT 79 plaster includes highly flexible elastomeric dispersions which, along with a group of other components like rheology modifiers and a complex of selected fillers, create the so-called elastomeric matrix. The additional advantage of this product is the reinforcement generated by the structure of glass, carbon and polyacrylamide fibres. This laminar and spatial complex allows the formation of a uniform, flexible plaster layer of high mechanical resistance, which is leakproof in terms of structure and surface integrity.

### Extremely flexible and resistant

Ceresit CT 79 maintains a high flexibility in extremely low and high temperatures. Maintaining this flexibility over a very wide range of temperatures (from -30°C in severely frosty days to +60°C during hot summer) compensates for all thermal deformations (preventing contraction microcracks and microscratches).



Ceresit CT 79



Plaster with regular absorption



The drop effect

### Highly resistant to water penetration

Ceresit CT 79 elastomeric plaster features very low absorption, which is due to its compact structure, its smooth and 'closed' surface, and most of all specially selected components of hydrophobic properties. Hydrophobic properties of the product are structural, which means that protection extends not only to the surface, but also to the deeper layers.

### Resistant to biological damage

Absorption of the outer coating is also of immense significance for the development of mould and fungi. The longer the plaster is exposed to increased humidity, the higher the risk of biological damage to the facade surface. Ceresit CT 79 elastomeric plaster prevents long-term moistness, thus it does not offer suitable conditions for the development of unwanted micro-organisms and is therefore even more resistant to biological corrosion.

### Resistant to dirt: the 'self-cleaning' effect

The degree of hydrophobicity and leak-tightness of the final coating layer directly determine the so-called 'self-cleaning' effect of the facade, that is the possibility of washing dirt off its surface by atmospheric precipitation. The leakproof quality and the smooth surface of Ceresit CT 79 elastomeric plaster prevents the penetration of dirt and creates optimum conditions to maintain the clean facade.

### The wash-off test



Plaster with regular absorption



Ceresit CT 79

### Suitable for dark and intense facade colours

Thanks to the capacity of compensating thermal stresses, Ceresit CT 79 can be tinted in very dark and intense colours, with an HBW index as low as 5% and above. At the same time, Ceresit CT 79 elastomeric plaster maintains its high resistance to UV radiation, to fading and to discolouration. With all these properties of CT 79, investors and architects may take advantage of a broader palette of colours for finishing coatings of buildings in line with the latest trends.

### Ceresit CT 79 Impactum plaster key features:

- extremely flexible and durable
- strengthened with specially selected glass, carbon and polyacrylamide fibres
- resistant to thermal stresses and mechanical loads
- scratch resistant
- highly hydrophobic
- highly vapour-permeable
- strong 'self-cleaning' effect and resistance to dirt pick up
- resistant to extreme weather conditions
- especially resistant to the development of microorganisms
- highly resistant to water penetration and biological contamination
- ensuring excellent working parameters
- possible machine application
- 'stone' structure, grain size 1.5 mm
- tintable in intense and dark colours (HBW  $\geq$  5%)
- ensuring high stability of colour
- available in 211 colours of **Colours of Nature** and 36 colours of Ceresit **Intense Colour System**



### Unique colours and plaster

Ceresit CT 79 is a new generation plaster based on elastomeric dispersion, which features extreme resistance to mechanical damage.



## Ceresit Plasters textures

The choice of plaster texture and the technique of application influence the final appearance of the facade. One can decide between more definite rustic texture and a subtle stone texture. The expected effect is obtained by choosing the adequate grain size and the floating technique, which can be vertical, horizontal or circular.

### I. 'Stone' textures

Materials with a high grain content of the same fraction ensure a more homogeneous appearance. When using a plastic float, they obtain the texture of dense aggregate, the so-called 'stone' texture. This plaster provides an elegant surface. When choosing an appropriate grading, the plaster can reinforce the building's architectural style.



Stone texture produced with Ceresit CT 137 mineral plaster, grain size 1.5 mm, obtained by floating with a plastic float



Stone texture produced with Ceresit CT 60 acrylic plaster, grain size 1.5 mm, obtained by floating with a plastic float



Stone texture produced with Ceresit CT 137 mineral plaster, grain size 2.5 mm, obtained by floating with a plastic float

### II. 'Rustic' textures

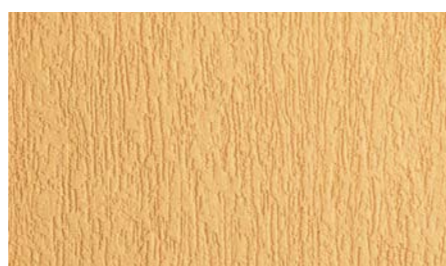
A 'rustic' texture is obtained by floating the surface with a plastic float. During this process, aggregate grains contained in the material roll and scratch the plaster depending on the float's direction of motion. Thanks to various floating techniques (vertical, horizontal, circular) the plaster can be textured according to individual wishes. Depending on the grain size, the texture can be fine or coarse.



Rustic texture produced with Ceresit CT 35 mineral plaster, grain size 3.5 mm, obtained by floating with a plastic float in one direction



Rustic texture produced with Ceresit CT 35 mineral plaster, grain size 2.5 mm, obtained by circular floating with a plastic float



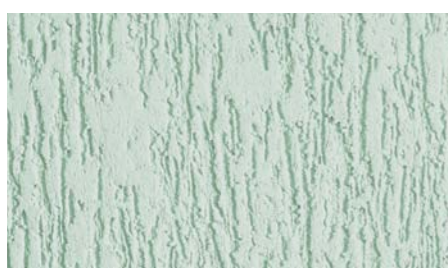
Rustic texture produced with Ceresit CT 64 acrylic plaster, grain size 2.0 mm, obtained by floating with a plastic float in one direction



Rustic texture produced with Ceresit CT 35 mineral plaster, grain size 2.5 mm, obtained by floating with a plastic float in one direction



Rustic texture produced with Ceresit CT 64 acrylic plaster, grain size 2.0 mm, obtained by circular floating with a plastic float



Rustic texture produced with Ceresit CT 63 acrylic plaster, grain size 3.0 mm, obtained by floating with a plastic float in one direction



Rustic texture produced with Ceresit CT 35 mineral plaster, grain size 3.5 mm, obtained by circular floating with a plastic float

## Ceresit plasters types and characteristics

Type	Name	Structure and grain	Characteristics
Mineral	CT 34 (more information on p. 111)	'smooth' structure	<ul style="list-style-type: none"> <li>vapour permeable (breathing)</li> <li>hydrophobic</li> <li>flexible</li> <li>weather resistant</li> <li>good adhesion</li> <li>reinforced with microfibres</li> <li>easy to use</li> <li>requires mixing with water</li> </ul>
	CT 35 (more information on p. 111)	'rustic' structure grain 2.5 mm grain 3.5 mm	<ul style="list-style-type: none"> <li>highly vapour permeable (breathing)</li> <li>highly durable and weather resistant</li> <li>naturally resistant to bio-contamination (e.g. mould or moss)</li> <li>hydrophobic</li> <li>available in white and in a version for painting</li> <li>requires mixing with water</li> </ul>
	CT 137 (more information on p. 112)	'stone' structure grain 1.5 mm grain 2.0 mm grain 2.5 mm	<ul style="list-style-type: none"> <li>highly vapour permeable (breathing)</li> <li>highly durable and weather resistant</li> <li>naturally resistant to bio-contamination (e.g. mould or moss)</li> <li>hydrophobic</li> <li>possibility of mechanical application</li> <li>available in white and in a version for painting</li> <li>requires mixing with water</li> </ul>
Acrylic	CT 60 (more information on p. 112)	'stone' structure grain 1.5 mm grain 2.0 mm grain 2.5 mm	<ul style="list-style-type: none"> <li>weather resistant</li> <li>ready to use</li> <li>low absorption and high flexibility</li> <li>resistant to exploitation damages</li> <li>vapour permeable (breathing)</li> <li>BioProtect formula – resistant to mould, fungi and algae</li> <li>colour stability</li> <li>possibility of mechanical application</li> <li>available in full colour range of Ceresit <b>Colours of Nature</b></li> </ul>
	CT 63 (more information on p. 113)	'rustic' structure grain 3.0 mm	<ul style="list-style-type: none"> <li>weather resistant</li> <li>ready to use</li> <li>low absorption and high flexibility</li> <li>resistant to exploitation damage</li> <li>vapour permeable (breathing)</li> <li>BioProtect formula – resistant to mould, fungi and algae</li> <li>colour stability</li> <li>available in full colour range of Ceresit <b>Colours of Nature</b></li> </ul>
	CT 64 (more information on p. 113)	'rustic' structure grain 2.0 mm	<ul style="list-style-type: none"> <li>weather resistant</li> <li>ready to use</li> <li>low absorption and high flexibility</li> <li>resistant to exploitation damage</li> <li>vapour permeable (breathing)</li> <li>BioProtect formula – resistant to mould, fungi and algae</li> <li>colour stability</li> <li>available in full colour range of Ceresit <b>Colours of Nature</b></li> </ul>
Silicate-Silicone	CT 174 (more information on p.117)	'stone' structure grain 1.5 mm grain 2.0 mm	<ul style="list-style-type: none"> <li>vapour permeable (breathing)</li> <li>ready to use</li> <li>low absorption</li> <li>resistant to exploitation damage</li> <li>highly weather resistant</li> <li>BioProtect formula – resistant to mould, fungi and algae</li> <li>colour stability</li> <li>possibility of mechanical application</li> <li>available in full colour range of Ceresit <b>Colours of Nature</b></li> </ul>
	CT 175 (more information on p. 118)	'rustic' structure grain 2.0 mm	<ul style="list-style-type: none"> <li>vapour permeable (breathing)</li> <li>ready to use</li> <li>low absorption</li> <li>resistant to exploitation damage</li> <li>highly weather resistant</li> <li>BioProtect formula – resistant to mould, fungi and algae</li> <li>colour stability</li> <li>possibility of mechanical application</li> <li>available in full colour range of Ceresit <b>Colours of Nature</b></li> </ul>
	CT 174 MACHINE (more information on p.117)	'stone' structure grain 1.0 mm	<ul style="list-style-type: none"> <li>fast and easy application</li> <li>low consumption per m<sup>2</sup></li> <li>homogenous 'stone' structure</li> <li>smooth, perfect looking finish</li> <li>indoor and outdoor application</li> <li>perfect for large and small objects</li> <li>available in full colour range of Ceresit <b>Colours of Nature</b></li> </ul>
Silicate	CT 72 (more information on p.114)	'stone' structure grain 1.5 mm grain 2.0 mm grain 2.5 mm	<ul style="list-style-type: none"> <li>highly vapour permeable (breathing)</li> <li>ready to use</li> <li>highly durable – resistant to exploitation damage and cleaning</li> <li>weather resistant</li> <li>BioProtect formula – resistant to mould, fungi and algae</li> <li>possibility of mechanical application</li> <li>available in full colour range of Ceresit <b>Colours of Nature</b></li> </ul>
	CT 73 (more information on p. 114)	'rustic' structure grain 2.0 mm	<ul style="list-style-type: none"> <li>highly vapour permeable (breathing)</li> <li>ready to use</li> <li>highly durable – resistant to exploitation damage and cleaning</li> <li>weather resistant</li> <li>BioProtect formula – resistant to mould, fungi and algae</li> <li>available in full colour range of Ceresit <b>Colours of Nature</b></li> </ul>
Silicone	CT 74 (more information on p. 115)	'stone' structure grain 1.5 mm grain 2.0 mm grain 2.5 mm	<ul style="list-style-type: none"> <li>high dirt resistance</li> <li>ready to use</li> <li>highly flexible and impact resistant</li> <li>high colour stability</li> <li>highly durable</li> <li>very limited absorption and high vapour permeability (breathing)</li> <li>highly weather resistant</li> <li>BioProtect formula – resistant to mould, fungi and algae</li> <li>available in full colour range of Ceresit <b>Colours of Nature</b></li> </ul>
	CT 75 (more information on p. 115)	'rustic' structure grain 2.0 mm	<ul style="list-style-type: none"> <li>high dirt resistance</li> <li>ready to use</li> <li>highly flexible and impact resistant</li> <li>high colour stability</li> <li>highly durable</li> <li>very limited absorption and high vapour permeability (breathing)</li> <li>highly weather resistant</li> <li>BioProtect formula – resistant to mould, fungi and algae</li> <li>available in full colour range of Ceresit <b>Colours of Nature</b></li> </ul>
Silicone-Acrylic Mosaic	CT 77 (more information on p. 116)	grain 1.0 - 1.6 mm grain 1.4 - 2.0 mm	<ul style="list-style-type: none"> <li>resistant to weather conditions</li> <li>resistant to impact and abrasion</li> <li>with silicone additive</li> <li>low water absorption</li> <li>resistant to dirt</li> <li>BioProtect formula – resistant to mould, fungi and algae</li> <li>available in 48 colours from new Ceresit <b>Mosaics of the World</b> palette</li> </ul>
Elastomeric	CT 79 (more information on p. 116)	'stone' structure grain 1.5 mm	<ul style="list-style-type: none"> <li>extremely resistant to operating damage – 100 J force</li> <li>extremely resistant for thermal stresses</li> <li>very low water uptake and high hydrophobicity</li> <li>highly vapour permeable</li> <li>available in Ceresit <b>Colours of Nature</b> and Ceresit <b>Intense Colour System</b> palette</li> <li>highly resistant to fungi, algae and mould development</li> <li>self-cleaning properties</li> </ul>



## Ceresit Paints

The role of facade paint, in addition to providing an aesthetic appearance for buildings, is the protection against external environmental influences. First of all, the paint protects the building from moisture deriving from rainfall or water vapour condensation. It is important that the paint, despite the low absorption, allows the free transport of water vapour through the structure of the insulation. Additionally, the paint should be characterized by high adhesion to the substrate and resistance to scratches and scrubbing. As the paint is the material used on the facade as the top layer, the quality of it determines the appearance and durability of the walls of the buildings.

The durability of the colour is achieved by low absorption in combination with the UV resistance and the stability of pigments, binders and fillers. It is the paint absorption that also determines the surface elevation susceptibility to dirt and to microbiological contamination. Using a suitably formulated biocide composition increases the paint resistance to the development of microorganisms.

The characteristic features of paint coats are:

- **vapour permeability** – usually determined by the resistance to water vapour permeation, equivalent to the thickness of the still air gap  $S_d$  [m],
- **absorption** – this is measured by the coefficient of capillary water absorption  $w_{24}$  [ kg/m<sup>2</sup>h<sup>1/2</sup> ],
- **mechanical resistance** – this is expressed by the number of cycles of wet scrubbing.

Depending on the binder type, the paints are of the following sorts: acrylic, silicone, silicate and nanosilicone. Each of these paints has different features, allowing for the choice that meets one's precise requirements.

The low diffusion resistance of facade paints allows the surface to dry and the water vapour to migrate unhindered from the interior of the building. This migration is caused by differences in the vapour pressure between the building's interior and its surrounding area. The biggest differences occur in the winter period where the indoor temperature differs considerably from the outdoor temperature. Facade walls with a high diffusion hinder the above described migration, thus causing the humidity trapped inside the walls to rise. As a result, the facade paint starts to flake off and peel – frequently after the first year of application, in most cases accompanied by damage to the surface layer. This is the result of a high vapour pressure in the porous surface structure, caused by a rapid temperature increase on the outer wall surface in the spring and summer period.

At the same time, the facade coat should have the lowest possible absorption to prevent wetting of the walls during heavy rainfall. Absorbent facade surfaces quickly become dirty and a breeding ground for microorganisms (such as algae or mosses). In addition, they are liable to be destroyed by aggressive substances (e.g. so-called acid rain) and by frozen water due to the increase in volume. Other favourable features of a facade paint are easy cleaning and resistance to wear and tear.

The Ceresit paint offer meets all the aesthetical and technical requirements that are set by the thermal insulation market.

## Ceresit paints types and characteristics

Type	Name	Characteristics
Acrylic	CT 42 (more information on p. 119)	<ul style="list-style-type: none"> <li>low absorption</li> <li>BioProtect formula – resistant to mould, fungi and algae</li> <li>resistant to exploitation damage</li> <li>weather resistant</li> <li>available in full colour range of Ceresit <b>Colours of Nature</b></li> </ul>
	CT 44 (more information on p. 119)	<ul style="list-style-type: none"> <li>reduce carbonatization process of concrete</li> <li>BioProtect formula – resistant to mould, fungi and algae</li> <li>crack bridging</li> <li>low absorption and high flexibility</li> <li>resistant to exploitation damage</li> <li>weather resistant</li> <li>available in full colour range of Ceresit <b>Colours of Nature</b></li> </ul>
Silicate	CT 54 (more information on p. 122)	<ul style="list-style-type: none"> <li>highly vapour permeable (breathing)</li> <li>BioProtect formula – resistant to mould, fungi and algae</li> <li>highly durable – resistant to exploitation damage and cleaning</li> <li>weather resistant</li> <li>available in 160 colours of Ceresit <b>Colours of Nature</b></li> </ul>
Silicone	CT 48 (more information on p. 120)	<ul style="list-style-type: none"> <li>low absorption</li> <li>BioProtect formula – resistant to mould, fungi and algae</li> <li>vapour permeable (breathing)</li> <li>dirt resistant</li> <li>durable</li> <li>highly resistant to UV and weather conditions</li> <li>available in full colour range of Ceresit <b>Colours of Nature</b></li> </ul>
Nanosilicone	CT 49 Silix XD® (more information on p. 121)	<ul style="list-style-type: none"> <li>low absorption</li> <li>BioProtect formula – resistant to mould, fungi and algae</li> <li>excellent vapour permeability</li> <li>self-cleaning (especially resistant to dirt)</li> <li>high durability thanks to Silix XD® formula</li> <li>crack bridging</li> <li>highly resistant to UV and weather conditions</li> <li>ticsotropic</li> <li>resistant to biological contamination (fungi, algae, etc.)</li> <li>available in full colour range of Ceresit <b>Colours of Nature</b></li> </ul>

## Comparison of physical properties of Ceresit paints

Ceresit paints	Vapour permeability	Water nonabsorption	Dirt resistance	Resistance to microbiological contamination	Durability
Acrylic paints CT 42, CT 44	++	+++	++	++++	+++
Silicate paint CT 54	++++	++	+++	+++++	++++
Silicone paint CT 48	+++	++++	++++	++++	++++
Nanosilicone paint CT 49 Silix XD®	+++++	+++++	+++++	++++	+++++

## Nanosilicone paint CT 49 Silix XD®

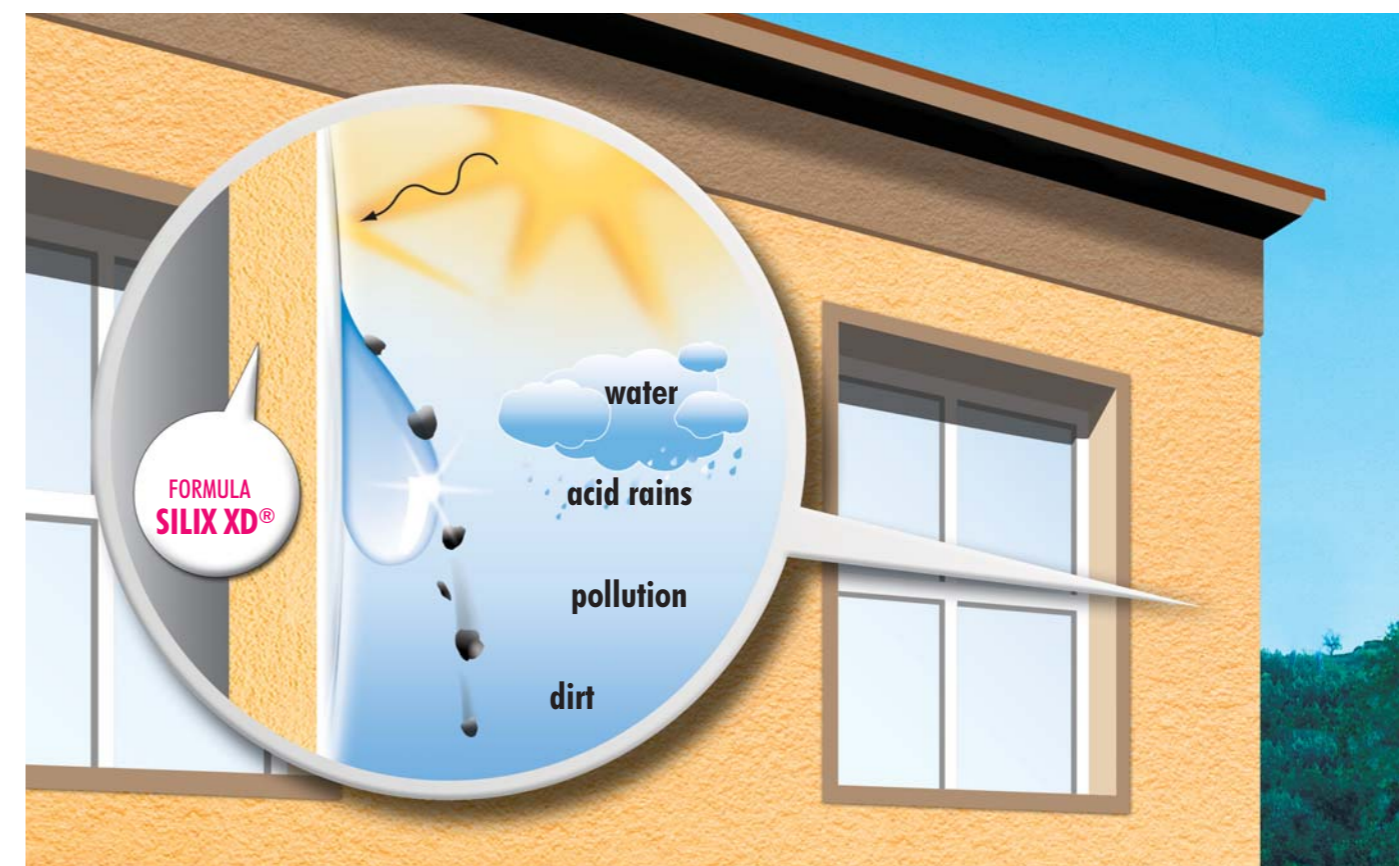
### Long-lasting facade

Nanosilicone paint CT 49 Silix XD® is designated to paint buildings' facades and interiors. Thanks to Silix XD® formula, the paint has the highest durability and resistance to the harmful influences of external factors such as water, dirt and biological corrosion. Thanks to its properties the paint can be widely used and is recommended to be applied to historical buildings renovations.

Silix XD® formula makes the rain work as the 'natural wash' – it is the rain which washes all the dirt away, cleaning the surface of the wall. The effect – a durable and clean facade for years.

### Characteristics

- high durability and aesthetics of facades thanks to Silix XD® formula
- self-cleaning – ensures high resistance to dirt
- low absorption
- high colour stability
- vapour permeability
- high resistance to UV and weather conditions
- BioProtect formula – resistant to mould, fungi and algae
- crack bridging – to be applied for renovation of thermal insulation
- available within **Colours of Nature** colour palette



**Silix XD® formula – eXtra Dur**

Applied in the paint Silix XD® formula (XD short for 'eXtra Dur'), this makes the painted surface last longer. The formula is based on selected and modified silicone, acrylic and polysiloxane resins with special pigments and fillers additives. Thanks to these all, the following is provided:

- prolonged aesthetic effect,
- long-term durability of painted surface,
- crack-bridging (can be applied also for repainting of long-existing or under repair facades).



'pearling' effect imitates the nature: water does not soak in the structure of leaf

**Hydrophobic and vapour permeability properties**

Ceresit CT 49 Silix XD® efficiently protects the surface from water absorption while at the same time ensuring fast moisture evaporation from the substrate. This is why the walls of the building do not become moist – they stay dry and healthy.

**Standard paint – water soaks in the surface**



dirt gets into paint structure

When facades are painted with ordinary paint, all pollution gets into the paint structure causing visible dirty patches and biological corrosion (fungi, algae, etc).

**Ceresit CT 49 Silix XD® – 'pearling' effect**



water does not soak into the structure of the paint

- 'pearling' effect – Silix XD® formula minimizes the risk of water and dirt absorption into the paint structure
- high vapour permeability
- fast moisture evaporation from the substrate
- surface self-cleaning properties





# Get inspired by Colours of Nature

Nature abounds with affluence of colours from delicate blues of the oceans to succulent shades of greens and friendly colours of brick-reddish earth. Inspired by its beauty we offer **Colours of Nature** palette plasters and paints for facades of newly built or renovated buildings. Wide choice of colours enables investors to implement any project – the one that will stand out or assimilate with the surroundings.

**Colours of Nature** states for 35 colour lines, each presenting 6 shades together giving a choice of as many as 211 colours. Within palette there are 4 main groups of colours inspired by nature: WATER, SAND, EARTH and FOREST.

Our latest edition has been refreshed with 48 new colours, grouped into 8 lines: BARBADOS, ATACAMA, TENERIFE, BORNEO, OREGON, ARCTIC, ADRIATIC and OCEANIA.

Now our colours even better suit the facade design and modern trends.

**NEW EDITION**

**Colour System**

<b>WATER</b>	<b>SAND</b>
<b>EARTH</b>	<b>FOREST</b>



## WATER

Oceans and seas, freshness and clearness. This is the blue colour that brings peace and comfort with the positive thinking. Ceresit gives you a wide choice of shades from very fair blues to the most intensive ones. Enjoy the clear blue of Pacific, frosty beauty of blue Arctic or any other region, depending on your very own choice.

## SAND

California sunny landscapes, Barbados beaches and vast deserts of the world were the inspiration for this group of colours. Perfect choice for those who like warm, friendly yellows and fair beiges. These are the colours that stimulate optimism and joy of life and bring the sunny memories. Enjoy your house in one of the sandy shades!

## EARTH

Andalusia browns and pink rocks of Arizona are the examples of this largest Ceresit colour group. It represents love for nature and tradition and the basic need of being close to the earth around you. These are authentic colours which are always beautiful, regardless of quick fashions and moods.

## FOREST

Peace, harmony and love for the nature. These are the greens of Montana landscape, Toscana hills, Borneo jungle and many other beautiful regions of the world. Fair or dark, pure green or bluish – all these colours find their lovers. Designed by Ceresit will make your house a part of the nature and a harmonious element of your local landscape.





**WATER**

**SAND**

ATLANTIC			SAHARA
ARCTIC			SAVANNE
ALASKA			CALIFORNIA
ADRIATIC			GOBI
OCEANIA			DAKOTA
PACIFIC			FLORIDA
			BARBADOS
			KALAHARI



WHITE

Get inspired by  
**Colours of Nature**



**EARTH**

**FOREST**

ANDALUSIA			CEYLON
COLORADO			BORNEO
TEXAS			OREGON
AFRICA			MONTANA
NEVADA			TOSKANA
MADEIRA			TUNDRA
COLUMBIA			SIBERIA
ARIZONA			ETNA
TENERIFE			NEBRASKA
FUJI			
INDIANA			
ATACAMA			

Colour System



**NEW EDITION**



## Mosaics of the World

Nature creates the most beautiful compositions of colours. Deserts and mountain ranges, volcanic areas and huge glaciers, they all shimmer of the richness of shades. Inspired by the multicoloured compositions of nature, we have created an exceptional mosaic of plasters. The new **Mosaics of the World** palette allows you to enjoy the effects derived from some magic places of the world.



### GRANADA

Whiteness threaded with ash, grey warmed by beige, glittering silver – these are the colours that reign in Andalusia and the majestic Sierra Nevada mountains in the south of Spain. Thanks to Ceresit mosaic plasters your home can resemble those magical places.



### PERSIA

Sunny and warm shades of beige refer to desert landscapes of the Middle East. Inspired by the richness of colours and structures of sand, we have created the colour line that will embellish the facade of the house by adding some warmth and oriental style to it.



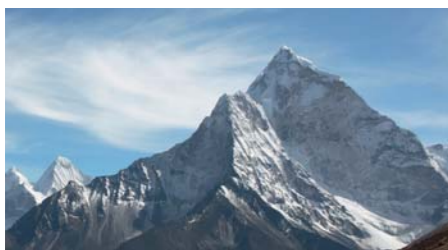
### MOROCCO

Sunrises and sunsets always enrich the desert landscape by new shapes and colours. Let the rays also illuminate the facade of your house with the full range of shades of pink and grey threaded by eternal whiteness.



### PERU

Find your inspiration in the moon landscape of Peru – the place belonging to the Ring of Fire. Choosing precious bronzes covered by a delicate layer of muted pink, you will create a facade of exceptional aesthetic value.



### TIBET

Impressive landscapes of Tibet have been the inspiration for creating plasters in colours of graphite and steel-grey. Monochromatic shades of the high mountains are always associated with calm elegance, which you can now add to your house.



### SIERRA

Dominating in the mountain landscape bronzes refined by grey are another colouristic idea of the Ceresit brand. Plasters glittering with multiple shades introduce the feeling of space and are an extraordinary finishing solution.



### LAOS

Imagine the journey to an exotic place, where your attention is drawn by mild hills ideally matching the red ground. In the new Ceresit palette you will find plasters in shades of red, inspired by the colours of Indochina.



### CHILE

A mixture of saturated bronzes and shiny greys threaded by whiteness ideally reflects the landscape of a place which is full of contrasts – majestic mountains, deep lakes, golden deserts or old glaciers.



GRANADA	PERSIA	MOROCCO	PERU	TIBET	SIERRA	LAOS	CHILE
1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6

# VISAGE Plasters and Paints

Contemporary design loves natural materials



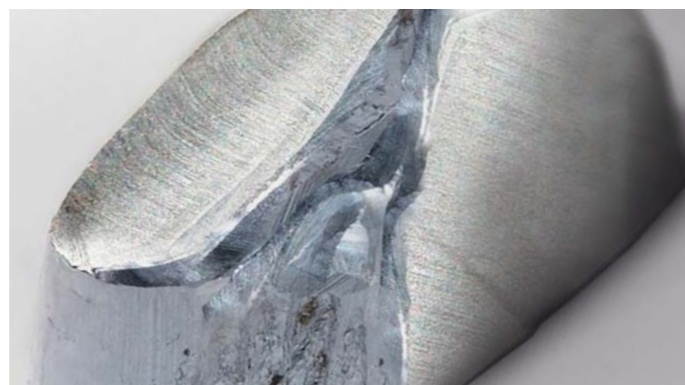
The technological innovativeness of Henkel solutions together with their knowledge of contemporary architecture trends encouraged us to launch a new line of plasters and paints: **VISAGE**, inspired by the beauty of natural materials, such as stone, wood and metal.

**VISAGE** means image and appearance, referring to our main goal which is giving the investors ideal materials enabling them to implement the most dignified and elegant projects. This is a perfect answer to the challenges of contemporary design that value minimalism and simplicity without being scared of innovative and experimental ideas.

While the real materials prove to be expensive, difficult to transport and work with, **VISAGE** plasters and paints allow for the problem-free obtaining of an aesthetic and durable facade with a natural effect.

**VISAGE** materials work on any substrate – thanks to being lightweight they do not affect the building's structure, and they are resistant to weather conditions, UV, dirt and biological contamination.

To simplify the selection process of products in the wide **VISAGE** range, we have divided them into three main categories: stone, wood and special effect, where the latter group covers both metallic and concrete looking materials. Within each group we offer a rich choice of colours and textures that allow the bringing to life of most individual concepts.



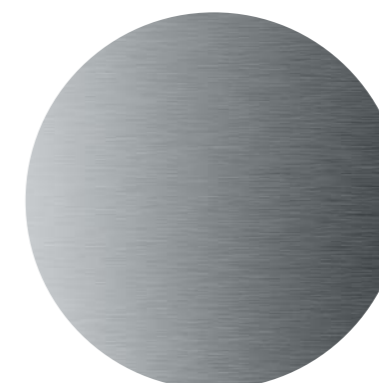
# Natural effect plasters and paints



Stone effect facades




Wood effect facades



Special effect facades

# Stone effect facades




Within stone effect plasters we offer wide range of sandstone and granite counterparts in many colours. In the granite effect palette, anything from sparkled black and dotted greys to fair brown and beige shades can be found, while sandstone effect plasters are available in a colour range from creamy beige through reddish to grey. The **VISAGE** range also includes special products that can create the effect of various stone and brick patterns to be applied on a building's facade or anywhere in its surroundings, such as on a fence.



## CT 710 VISAGE Natural Stone Plasters (Granite)

			
Nordic White	Patagonia Beige	Dolomite Grey	Argentina Brown
			
Panama Cream	Jamaica Brown	Sardinia Grey	Zambia Green
			
Finland Silver	Tanzania Grey	Nepal Red	Mozambic Graphite
			
Mexico Gold	Himalaya Grey	Brasilia Rose	India Black



CT 710 VISAGE Natural Stone Plasters (Sandstone)



CT 60 VISAGE Acrylic Plasters – colours and stencils



The **VISAGE** products allow the creation of various stone and brick pattern effects. The desired brick effect can be obtained by applying two products: any colour of CT 60 0,5 mm acrylic plaster (of the **VISAGE** and **Colours of Nature** palette) and one of 2 unique stencils designed for brick patterns. The desired stone effect can be obtained by applying two products: any colour of CT 60 0,5 mm acrylic plaster (of the **VISAGE** and **Colours of Nature** palette) or Ceresit CT 710 VISAGE Natural Stone Plaster (sandstone) and one of 3 unique stencils designed for stone patterns.

# Wood effect facades



Wood plays a key role in contemporary design. This natural material carries both insulating and aesthetic properties, while at the same time complying with modern pro-ecological trends in architecture. Depending on the project, wooden facades are ideally suited to large surfaces of modern apartment estates and commercial buildings as well as the smaller facades of family houses.

The **VISAGE** line is a perfect answer for everybody who is looking for advanced materials which can recreate the beauty and elegance of natural wood. They can form eye-catching details, emphasising the unique finish of the house.



## CT 720 VISAGE Wood Plaster



Wood Plaster

To obtain the desired wood effect, two products must be applied. One is the CT 720 Wood Plaster creating an authentic looking wood texture by pressing silicone templates, another is the CT 721 Wood Colour Impregnate giving the final wood colour shade. Within CT 721 you have a choice of 6 different colours to create your dream wood effect facade: 2 pine shades as well as oak, teak, walnut and wenge colours.

## CT 720 VISAGE Wood Plaster + CT 721 VISAGE Wood Colour Impregnate



Iberia Pine



Norway Pine



Irish Oak



Bengal Teak



Canada Walnut



Kongo Wenge

# Special effect facades




With modern architecture, traditional materials are not the only source of inspiration. More and more often contemporary projects use vibrant shiny components and also architectural concrete. These new materials strongly represent dynamically changing trends in architecture.

Within the **VISAGE** palette, there is a choice of metal, luminescent, opal and architectural concrete effect products that turn any ideas into a uniquely original facade. What is more, advanced technology provides a long-lasting, resistant effect.



## CT 740 VISAGE Metallic Paints



Australia Silver      Iceland Silver      American Gold

## CT 730 VISAGE Luminous Plasters



day look      night effect

The intensity of the luminescence depends on abutting energy sources and their intensity. Therefore this effect is time-bound, as is the case with any other luminous products.

## CT 750 VISAGE Opal Lack



African Glow (applied by brush on Ceresit Colours of Nature Kalahari 1 colour)      Arctic Glow (applied by roller on Ceresit Colours of Nature Etna 1 colour)

The final result is affected by the colour of the substrate and application method (by brush or roller). It gives an almost unlimited choice of final colour variations.

## Special effects

CT 760 VISAGE

Architectural Concrete Plaster



VISAGE



Architectural Concrete Plaster is a new **VISAGE** product dedicated to finish houses, offices and public buildings in the most modern style. Within the thermal insulation of the building it allows the creation of the raw industrial look, which is widely promoted in the contemporary trends of architecture. With three shades of grey colour and multiply concrete-like texture finishing possibilities any ideas of today's architects will be easily met.



VISAGE

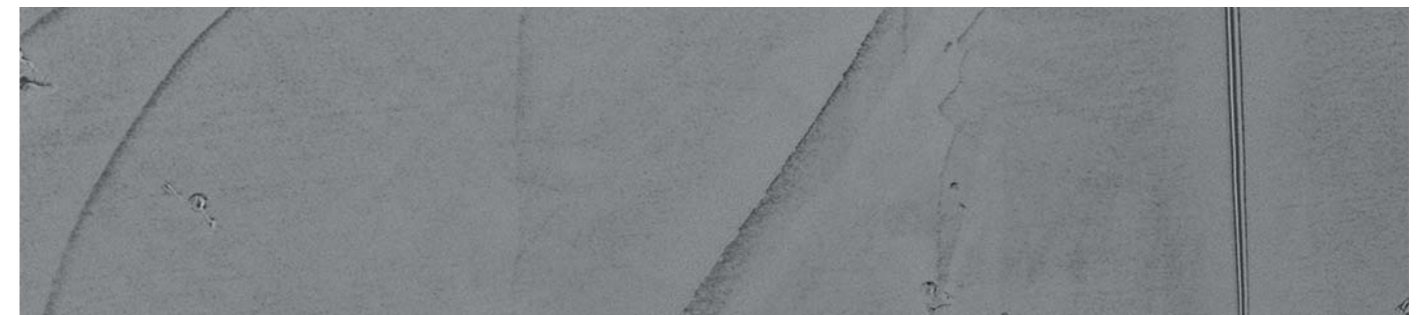
CT 760 VISAGE Architectural Concrete Plaster comes in three shades of grey: light (Sydney Light), medium (Chicago Grey) and dark (Tokyo Graphite). All of these colour variations can be applied to any structural effect of the wall's surface. Thanks to this, each one is able to easily create the desired look of a facade in an industrial style.



Sydney Light



Chicago Grey



Tokyo Graphite

With CT 760 VISAGE Architectural Concrete Plaster, each one can obtain an infinite number of unique facade finishes. The exact final effect depends on such factors as substrate preparation, individual application technique, tools being used or the applicator's skills and creativity.



# Explore Ceresit Intense Colour System

Choose facade colours inspired by the natural beauty of jewels



**NEW EDITION**



## DIAMOND

The diamond is the hardest jewel and one of the most valued. With our diamond colours varying from grey to deep black, the ideas of minimalism in architecture find their way.

## SAPPHIRE

Sapphire blue colours promote optimism, strength and elegance. With five different shades everyone will find a favourite sapphire to complement the modern style of their house.

## AMETHYST

Five tones of amethyst violet, a gemstone, which has the power to focus energy. These colours brighten the outlook on life and will make the estate stand out from others.

## QUARTZ

A variety of five brown tones, which are warm and friendly to the eye. They communicate a love for nature and look good on suburban and city housing.

## EMERALD

Five shades of smart greens inspired by the eternal beauty of emerald stones. A fresh, bright look of any house all the year round.

## AMBER

Amber has been appreciated for its colour and natural beauty since ancient times. Here it comes in five tones which will add energy and good spirit to every house's facade.

## RUBY

The ruby is considered to be the most powerful jewel in the universe and so is the ruby colour. Six tones of this energizing colour are designed to attract attention.

## Discover an entirely new line of dark or intense colours grouped into seven palettes, from emerald green to diamond grey.

Ceresit **Intense Colour System** is a special palette, which allows for the finish of a building's facades in line with the latest trends. The colour concept was inspired by the natural beauty of jewels, by their colour intensity and overall strength. Just as jewels are prestigious, long-lasting and colour strong, so are the colours of Ceresit

**Intense Colour System.** Within the line, 36 dark or intense colours, grouped into seven colour palettes, are offered. Whatever colour will be chosen for a family house, multi-residential or a public building, with Ceresit Impactum System and Ceresit CT 79 plaster, this colour will stay intense and clean for many years.

# Explore Ceresit Intense Colour System

Choose facade colours inspired by the natural beauty of jewels

**NEW EDITION**

## AMBER



Amber Beach Amber Jewel Amber Glass Amber Island Amber Path

## RUBY



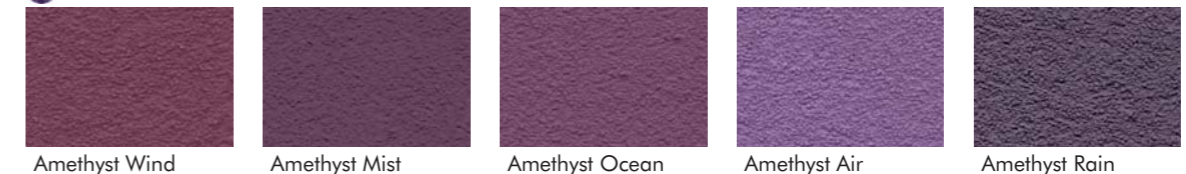
Ruby Crystal Ruby Fire Ruby Rose Ruby Sunset Ruby Heart Ruby Brick

## QUARTZ



Quartz Sand Quartz Rock Quartz Ground Quartz Earth Quartz Mount

## AMETHYST



Amethyst Wind Amethyst Mist Amethyst Ocean Amethyst Air Amethyst Rain

## SAPPHIRE



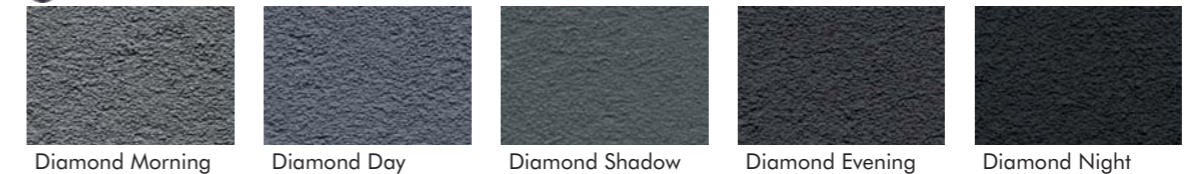
Sapphire Bay Sapphire Fjord Sapphire Glacier Sapphire Creek Sapphire Sea

## EMERALD



Emerald Oasis Emerald Field Emerald Land Emerald Garden Emerald Park

## DIAMOND

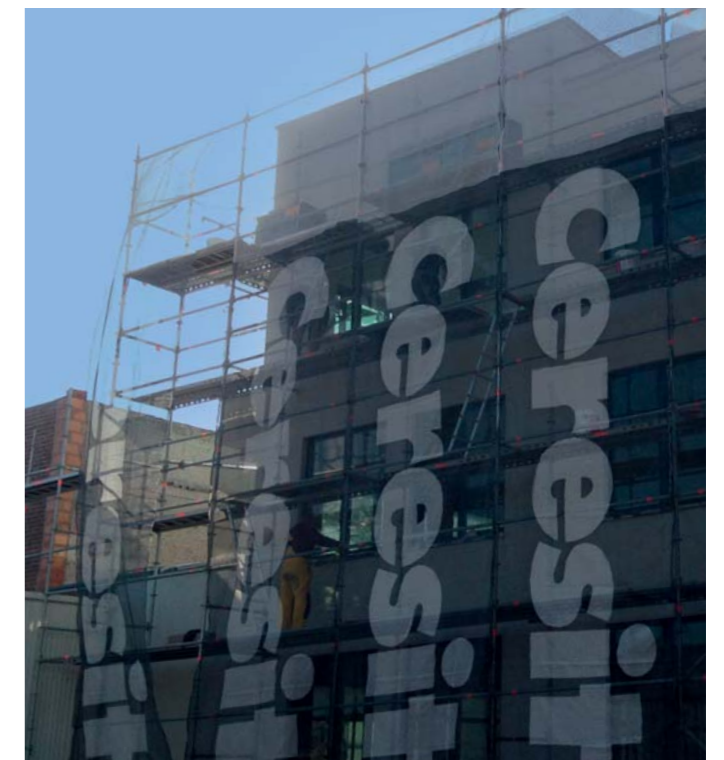


Diamond Morning Diamond Day Diamond Shadow Diamond Evening Diamond Night

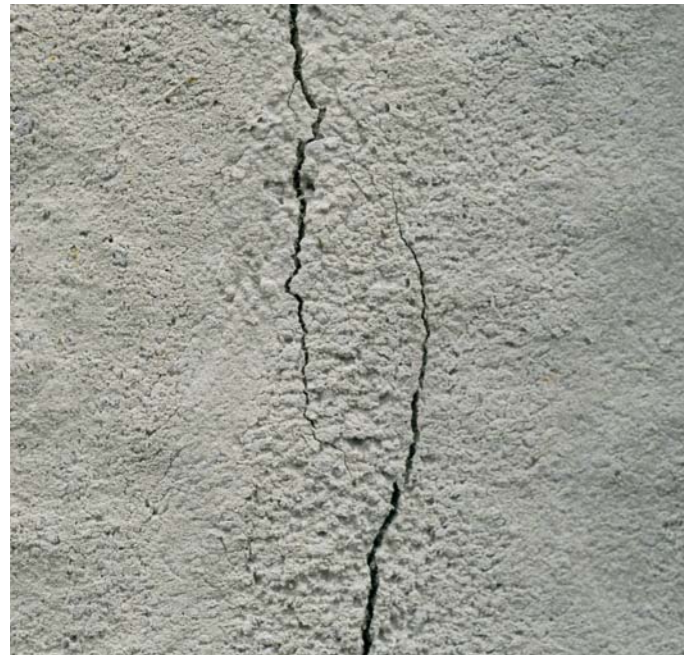


## Design and construction recommendations

- Thermal insulation should be installed in dry conditions (no rainfall, relative air humidity below 80%).
- It is recommended not to work on surfaces directly exposed to sunshine, and the layers should be protected against rainfall and strong wind. It is also recommendable to install a dense protection mesh along the scaffolding.
- The ambient temperature should be between +5 and +25°C. An exception is coloured mineral plaster which can be applied from a minimum temperature of +9°C upwards.
- The distance between the insulation board surface and the scaffolding does not make the floating of the plaster difficult.
- Hanging scaffolding are not recommended because of the risk of mechanical damage.
- If thermal insulation work is done in mild winters, it is indispensable to protect the scaffolding. If, however, a drop in temperature below +9°C has been forecasted for 3 consecutive days, coloured mineral plasters should not be applied.
- Flashings should protrude by a minimum of 40 mm from the plaster end face and be protected efficiently from rainfall.
- While applying the plaster on one surface, work should not be interrupted and ought to proceed on neighbouring scaffolding levels – provided that the same amount of water is dosed.
- The natural fillers contained in the plaster may cause differences in the plaster appearance. Therefore, it is necessary to use only material with the same production batch number on one surface (the batch number is indicated on every package).
- After application, the plaster should be protected against rain (scaffolding protection) for at least 1 day – colourful mineral plasters for at least 3 days. This applies to a temperature of +20°C and relative air humidity of 60%. In less favourable conditions, slower setting of the plaster must be taken into account.



## What are the most common mistakes in the application of ETICS



These are the most common mistakes made when installing thermal insulation:

- Lack of information concerning the insulation of specific facade elements such as architectural details and flashings. Missing specification of the type and number of mechanical fasteners required per 1 m<sup>2</sup>. On the one hand, this provides the building contractor with more freedom of action, but on the other hand increases the scope of his responsibility. Inaccurate documentation may cause a higher expenditure than originally planned. Unfortunately, individual buildings are most frequently insulated without any documentation whatsoever!
- The contractors do not pay enough attention to assessing the geometry of walls: their smoothness and vertical deviation. Thermal insulation provides an opportunity for 'straightening out' a previously erected building by making use of system-based technology. This, however, requires the use of levelling mortars, plasters, a larger consumption of adhesive mortar and even deviations from the normally used materials, e.g. by increasing the thickness of the thermal insulation boards.
- Sometimes, the ETICS thermal insulation technology makes use of materials from different manufacturers. This type of non-system solution may result in serious consequences. Building Research Institutes grant a Technical Approval to material systems after having carried out appropriate verification tests. However, the interaction of materials originating from various systems has not been tested! When it becomes known that special materials have been used for a solution that are not included in the system, this may lead to the rejection of potential complaints and loss of warranty.
- Before fixing thermal insulation boards, the substrates should be cleaned in order to remove dust, algae etc. whereas highly absorbent substrates should be cleaned. This procedure, however, is not always observed. The use of high-pressure cleaners is not common yet.
- Mortars are sometimes applied by using only the 'spot' method. In addition to reducing the bonding strength, the unsupported board edges tend to bend, thus making it harder to properly perform the following work steps.
- Thermal insulation boards are sometimes pasted without strapping (especially on the building edges). In addition, the amount of reinforcing mesh applied to the facades is not sufficient.
- Failing to polish foamed polystyrene board offsets with high-grade sandpaper and to fill the board contacts/edges with mortar result in shadows visible when side-lighting the wall and stains on the finishing coating.
- Mechanical fasteners are improperly fixed. A fastener head that is sunk too deeply causes damage to the thermal insulation boards whereas a fastener that is set too shallow is not strong enough to hold the board in place. The resulting protrusion becomes visible and degrades the reinforced layer.
- Failure to fill the casing gaps and sheet metal fittings with an acrylic sealant to prevent rainwater penetration underneath the thermal insulation boards.
- Failure to paste extra diagonal mesh patches on the corners of openings (e.g. windows) may result in diagonal cracks in these spots. The lack of additional mesh within a distance of up to 2 m from ground level is conducive to damage caused by accidental mechanical impacts.
- Inadequate thickness of the reinforced layer, or even worse, 'dry-fixed' glass fibre mesh – that means without a previously applied mortar bed – weakens the protection properties of the insulation material and adversely affects the durability of the rendering layer.
- Inadequate number of plaster applicators when producing facade layers. The work should be organized in such a way that it can be simultaneously done on a minimum of 2 or 3 scaffold levels. This is the only way to effectively hide plaster joints. Prior to starting any plastering work, spots or areas should be indicated where plaster joints will not be too disturbing (by disrupting the uniform appearance of the facade), e.g. within the outlet of pipelines.
- When failing to provide protective scaffold shields, the plaster may be either washed off or discoloured by rain. The shields are also required in sunny conditions as they reduce the drying speed of thin-layer materials and provide good protection for fresh plaster against dusty winds.



## Ceresit renovation Systems for ETICS

The technology of External Thermal Insulating Composite Systems (ETICS) has been used for more than 50 years. The first Ceresit insulations of this type were only applied in the early sixties. The vast majority of these early developed systems are still functional today, although a number of the residential and industrial buildings were subjected to the thermal renovation process. Any problems concerning the technical shape and aesthetic appearance of facades equipped with ETIC – type systems are caused by numerous factors. They result from mistakes that may have been made at any stage of the system execution such as material manufacture, system completion process and also its later maintaining practice.

The faults that are visible either on facade surfaces or inside the building on its walls may originate from one of many reasons and come from any element of the system. Therefore, from an insulation system durability point of view, annual technical inspections are of utmost importance and required by local laws and all ETICS-concerned technical bodies. In the majority of cases, early detection and removal of the causes of these defects is the least expensive and the most effective method for ensuring the optimum performance of an insulation system.

As there are many combinations of facade fault reasons, it is not possible to describe each of them separately. It also has to be taken

into account that buildings differ from each other with the building method, construction, surroundings, insulation system types and the art of its application, therefore it is vital to analyse all the system faults individually. That is why the individual approach is needed, each time requiring a detailed inspection and field tests. To meet these requirements, Henkel has arranged a team of highly specialised technical advisors. They are available to customers and happy to offer their advise at every stage of the investment execution and help in choosing the right repair system.

The following faulty elements can be responsible for damage to insulation systems:

- groundwork and construction of the building,
- method of insulation montage (adhesive mortar, anchors),
- quality of reinforced layer (adhesive mortar and mesh),
- quality of finishing surface,
- method and execution of architectural details (dilatations, eaves, cornices).

To satisfy market expectations within the complementarity of solutions, Henkel offers two systems: Repair and Reno, with specially selected products sets, which are tailored to the effective repair and revitalisation of damaged insulation systems.

## Examples of problems and proposed solutions

### Substrate

Fault	Reason	Repair	Solution
moisture below the system	leaks in the ETICS or in flashing profiles	to seal the edges between e.g. window frames and ETICS, correction of the position and shape of the protection profiles	Ceresit acrylic silicone or silicone or CS 29 polyurethane sealant
	too low vapour permeability of ETICS	recalculation of the hygrothermal condition of the existing wall, replacement (depending on calculation results) of the plaster or whole system with a lower Sd	calculation software; Ceresit Ceretherm <b>Popular</b> , Ceresit Ceretherm <b>Classic</b> , Ceresit Ceretherm <b>Premium</b> , Ceresit Ceretherm <b>Express</b> , Ceresit Ceretherm <b>VISAGE</b> , Ceresit Ceretherm <b>Reno</b> , Ceresit Ceretherm <b>Classic Wool</b> , Ceresit Ceretherm <b>Premium Wool</b> Systems with silicate, silicone or mineral plasters
delaminations, stratifications	too low (or even not tested) load-bearing capacity of the substrate	to analyse the location of substrate imperfections; additional, mechanical fixing with new mesh and plaster, or removal of the whole ETICS including non-load-bearing parts of the substrate, restoration of the substrate, application of a new ETICS	Ceresit Ceretherm <b>Popular</b> , Ceresit Ceretherm <b>Classic</b> , Ceresit Ceretherm <b>Premium</b> , Ceresit Ceretherm <b>Ceramic</b> , Ceresit Ceretherm <b>Express</b> , Ceresit Ceretherm <b>Impacum</b> , Ceresit Ceretherm <b>VISAGE</b> , Ceresit Ceretherm <b>Reno</b> , Ceresit Ceretherm <b>Classic Wool</b> , Ceresit Ceretherm <b>Premium Wool</b> ; fixings; substrate preparation: Ceresit CT 17, CT 29, CC 81 (as additive for repair mortars)



**Fixing of the insulation boards**

Fault	Reasons	Repair	Solution
insufficient adhesion surface	too large unevenness of the substrate cannot be levelled off by the adhesive layer, insufficient adhesive amount, adhesive applied only in spots/too few spots on the substrate, gaps filled with normal PU foam (pressure, post expansion)	if no deformations are visible and the compressive strength of the adhesive is sufficient, install additional fixings and/or low-pressure PU foam, otherwise replace the whole system	fixings, Ceresit CT 84 EXPRESS PU-adhesive, complete Ceresit Ceretherm <b>Popular</b> , Ceresit Ceretherm <b>Classic</b> , Ceresit Ceretherm <b>Premium</b> , Ceresit Ceretherm <b>Ceramic</b> , Ceresit Ceretherm <b>Express</b> , Ceresit Ceretherm <b>Impactum</b> , Ceresit Ceretherm <b>VISAGE</b> , Ceresit Ceretherm <b>Reno</b> , Ceresit Ceretherm <b>Classic Wool</b> , Ceresit Ceretherm <b>Premium Wool</b>
destruction of the adhesive mortar	incorrect water addition, working time of the adhesive was exceeded; insufficient quality of the board surface (corrosion, dirt), wrong adhesive applied		
functionless, ineffective mechanical fixing	lack or insufficient number of mechanical fixings or insufficient quality of fixings seating; plugs become functionless when the adhesive has already stopped working!	additional fixings, reinforcing layer and render	fixings, mortars Ceresit ZU/CT 85/CT 87/CT 100/CT 190, CT 325 mesh, all Ceresit plasters

**Insulation layer**

Fault	Reasons	Repair	Solution
gaps between boards	shrinkage of non-seasoned EPS	inject low-pressure PU foam into the gaps	Ceresit CT 84 EXPRESS PU-adhesive
	wrongly glued boards (boards 'hang on' fixing only)	inject Ceresit CT 84 EXPRESS PU-adhesive underneath the boards	



**Reinforced layer**

Fault	Reasons	Repair	Solution
lack of adhesion between boards and reinforced layer	insufficient quality of the board surface (corrosion, dirt), wrong mortar application (through the mesh), too high Sd value of the render, incorrect water addition to adhesive	replace the reinforced layer and plaster	Ceresit ZU/CT 85/CT87/CT 100/CT 190, CT 325
gaps and cracks	<ul style="list-style-type: none"> <li>- missing or insufficient overlaps of mesh</li> <li>- missing reinforcing of critical details</li> <li>- too thin layer of mortar</li> <li>- wrong mesh</li> </ul>	additional reinforcement and render; crack filling with special acrylic	Ceresit CT 97 Acrylic for Plasters, mortars Ceresit ZU/CT 85/CT 87/CT 100/CT 190, CT 325 or CT 327 mesh, all Ceresit plasters and paints
stratifications	overdosage of water, frost damage	remove all destroyed materials, apply new reinforcement and render	mortars Ceresit ZU/CT 85/CT 87/CT 100/CT 190, CT 325 or CT 327 mesh, all Ceresit plasters and paints





**Plaster**

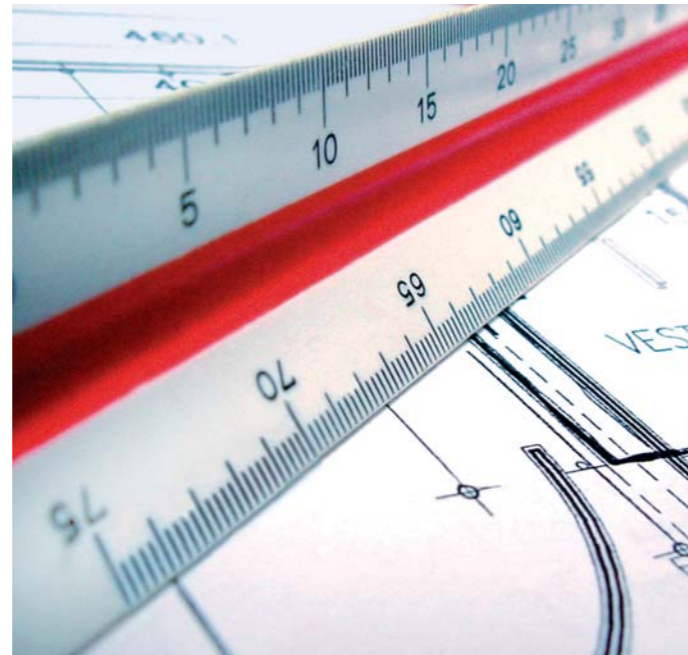
Fault	Reasons	Repair	Solution
surface contamination	dirt, dust, organic particulars on facade	cleaning, depending on results impregnation or painting	cleaning with Ceresit CT 98/CT 99 Concentrate for cleaning dirty surfaces, Ceresit CT 13 impregnation (for minerals), paints compatible with the existing rendering facade plaster,
structural contamination	dirt, dust, other contamination combined with applied product during or right after application	mechanical removal of contaminations, painting (silicate), removal of plaster if necessary	Ceresit CT98, CT 99, CT 54, Ceresit plasters
efflorescence	work interruptions, contaminated or too humid substrate, application in wrong conditions (mineral plasters)	cleaning with hot water, jet washing with efflorescences removing agents, mechanical removal of efflorescence (hard brush), painting	paint compatible with the existing facade plaster
blisters	application on fresh primer/adhesive; application in not adequate temperature	removal of destroyed plaster, renewed application of primer and plaster	all Ceresit plasters, paints
spider web and linear cracks	wrong setting conditions, overdosage of water	remove all defected layers	new reinforcing, new plasters
inacceptable surface appearance	visible joints on scaffolding levels, too thin/thick layer of plaster, number of applicators not sufficient for the area to be plastered	on 'stone' structured plasters: plaster on plaster with the same grain size, on 'rustic' plasters: reinforcement, primer and any Ceresit plaster	



**Paint**

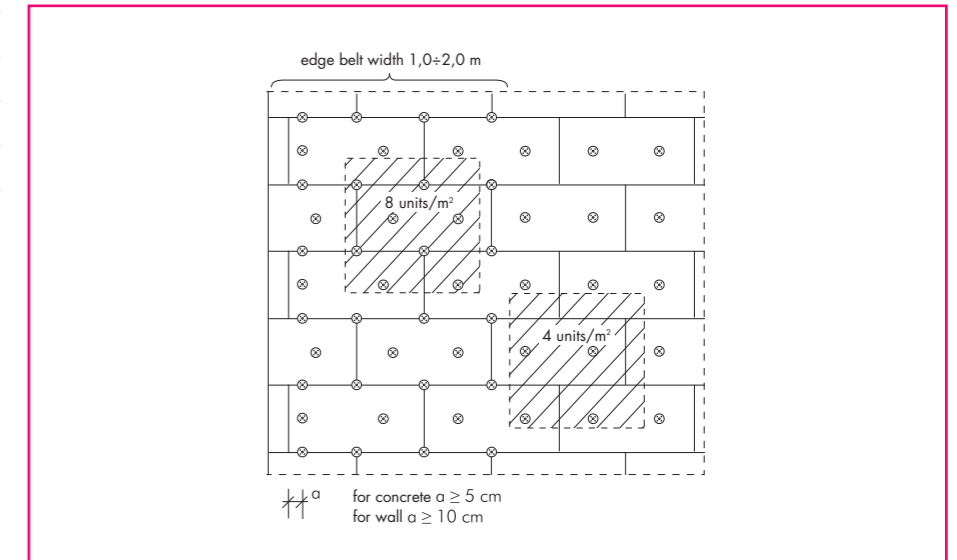
Fault	Reasons	Repair	Solution
surface contamination	dirt, dust, organic particulars on facade	cleaning with water-jet devices, CT 98, CT 99, Ceresit paint if necessary	
structural contamination	dirt, dust, other contamination combined with applied product during or right after application	mechanical cleaning and painting	CT 98, CT 99 painting combine with compatible Ceresit facade paints
blisters	too high Sd value of the paint coat compared to the substrate	removal of destroyed coat, application of right paint	Ceresit CT 54, CT 48, CT 49 (recommended) paints
	dust on substrate	removal of the destroyed coat, cleaning, application of paint (Si, Sc, Ac)	Ceresit CT 98, CT 99; CT 42, CT 44, CT 48, CT 54, CT 49 (recommended) paints
spider web and linear cracks	wrong setting conditions, overdosage of water	cover with a highly flexible paint coat	Ceresit CT 49

# Ceretherm ETICS – Specific technical solutions for architects and designers



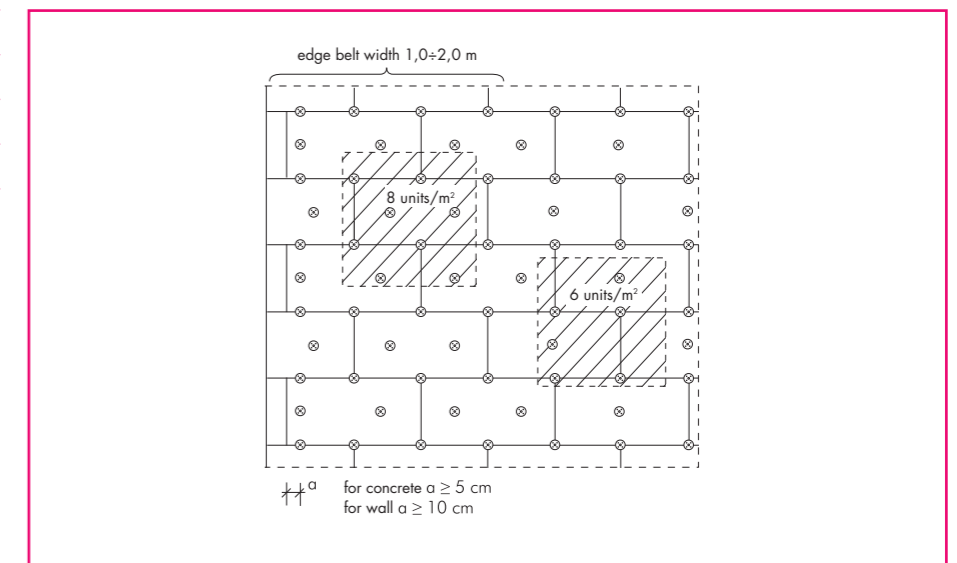
## Additional anchoring of EPS-boards with mechanical fixing elements

width of building	edge belt
up to 8 m	1.0 m
from 8 to 16 m	1.5 m
over 16 m	2.0 m



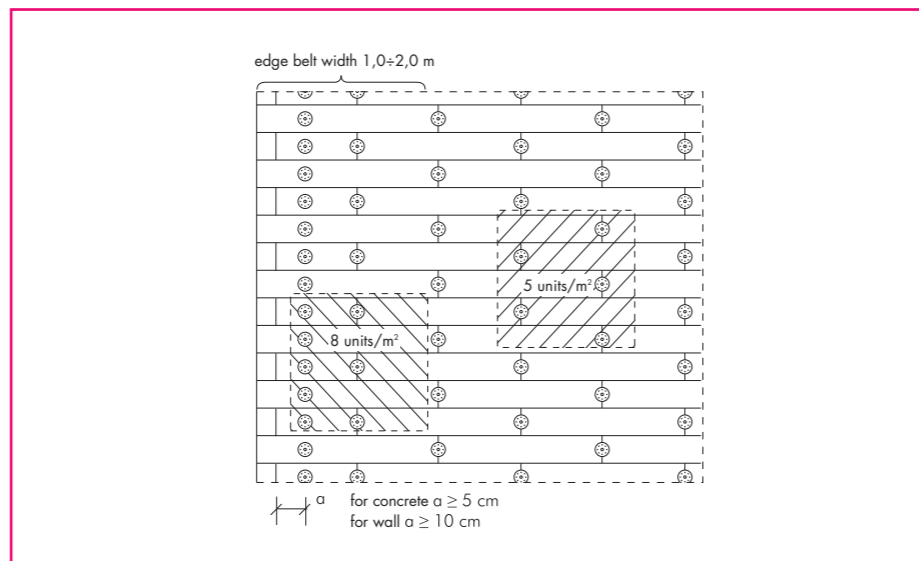
## Additional anchoring of mineral wool boards with mechanical fixing elements

width of building	edge belt
up to 8 m	1.0 m
from 8 to 16 m	1.5 m
over 16 m	2.0 m

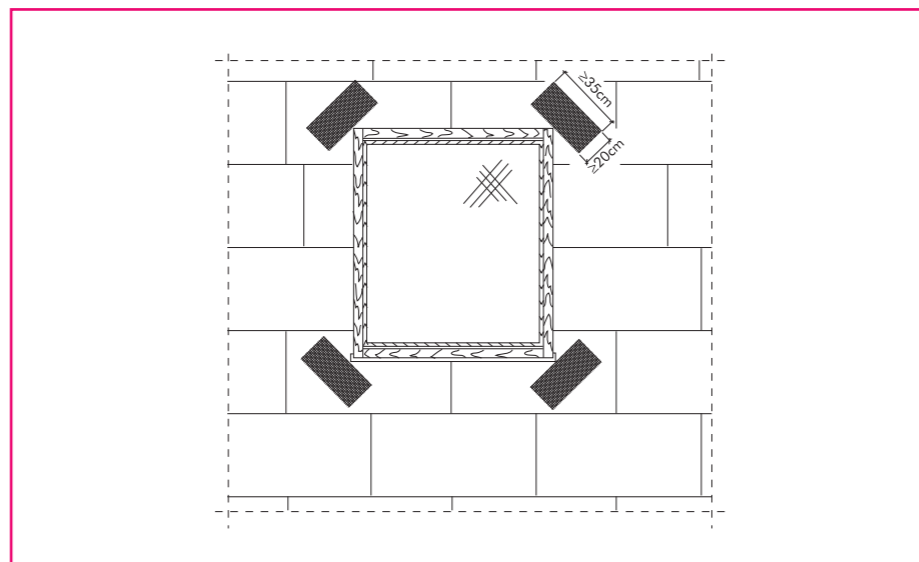


**Additional anchoring of lamella boards with mechanical fixing elements**

width of building	edge belt
up to 8 m	1.0 m
from 8 to 16 m	1.5 m
over 16 m	2.0 m

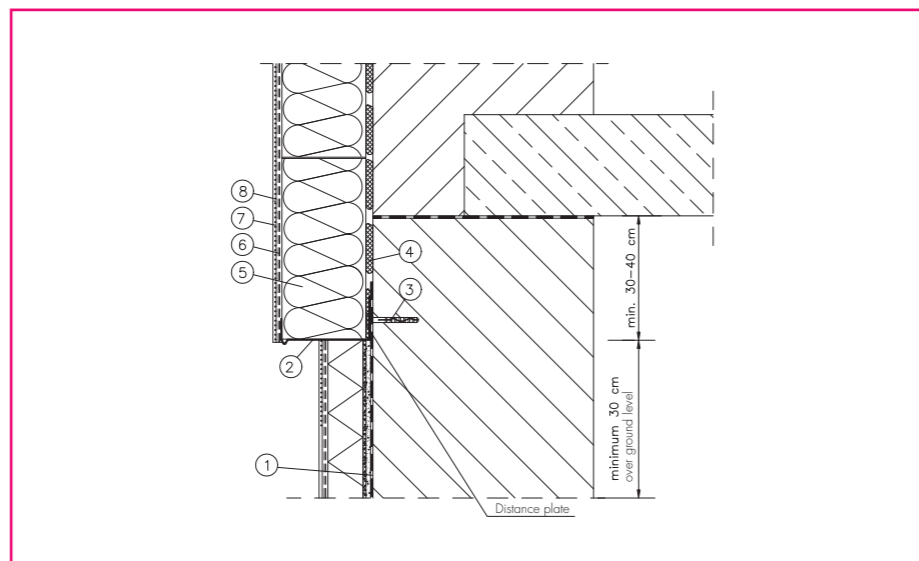


**Additional anchoring of reinforcement layer at the edges of window frames (door frames)**



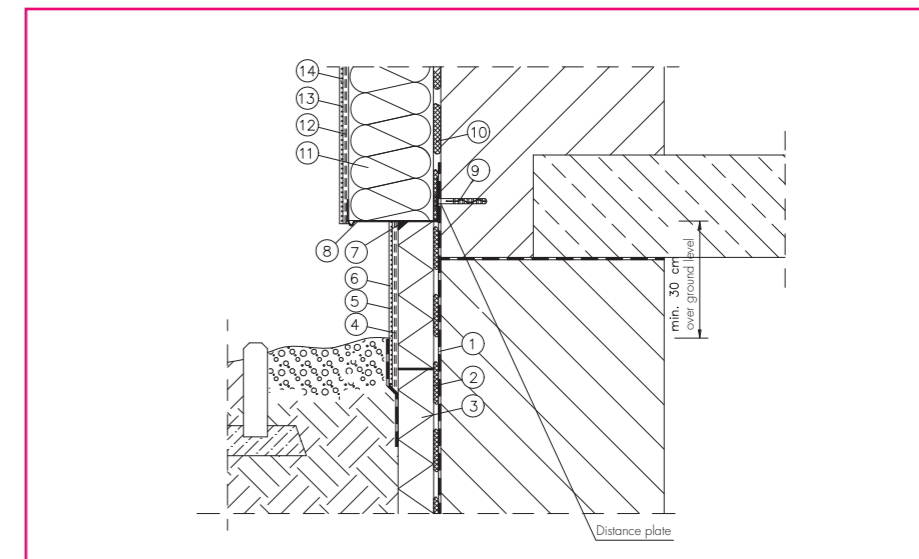
**Bottom edge of thermal insulation systems**

1. Ceresit vertical insulation
2. socle profile
3. anchor + distance plate
4. Ceresit adhesive mortar
5. thermal insulation
6. glass fibre reinforcing mesh layer
7. Ceresit priming paint
8. Ceresit facade plaster



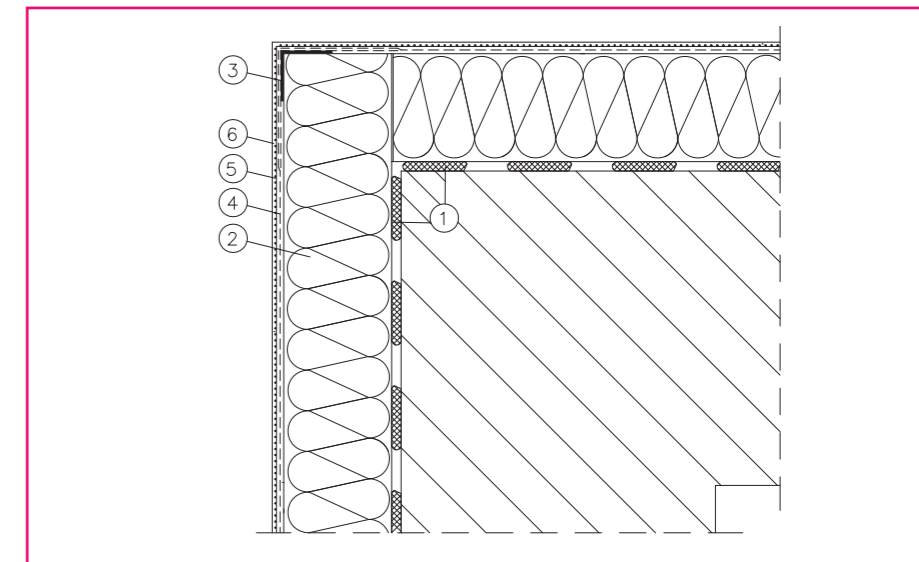
**Thermal insulation of the building's socle**

1. Ceresit vertical insulation
2. Ceresit adhesive mortar
3. extruded EPS-board
4. binary reinforcing mesh layer
5. Ceresit CT 16 priming paint
6. Ceresit CT 77 mosaic plaster
7. Ceresit CS 11 / CS 29
8. socle profile
9. anchor + distance plate
10. Ceresit adhesive mortar
11. thermal insulation
12. glass fibre reinforcing mesh layer
13. Ceresit priming paint
14. Ceresit facade plaster



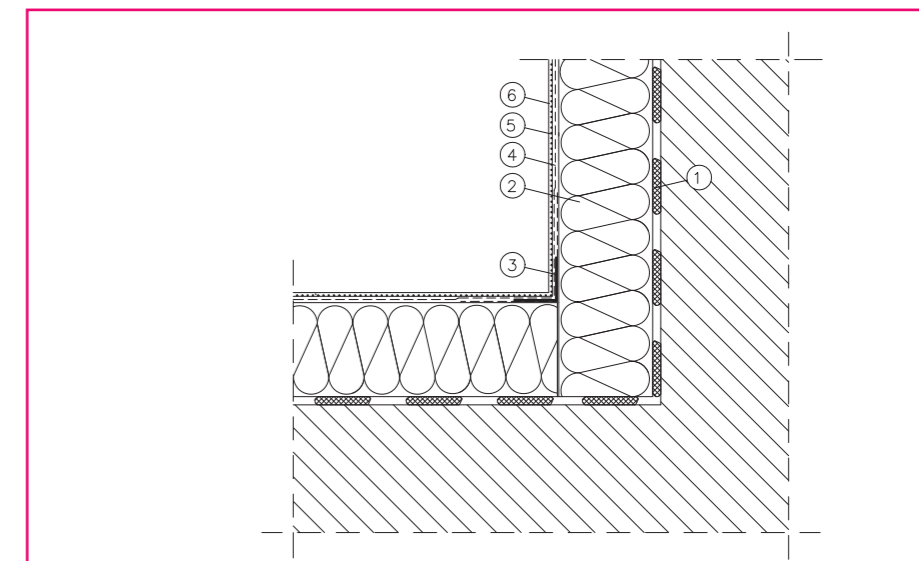
**Thermal insulation of the building's convex edge**

1. Ceresit adhesive mortar
2. thermal insulation
3. angle bar with industrially glued mesh
4. glass fibre reinforcing mesh layer
5. Ceresit priming paint
6. Ceresit facade plaster



**Thermal insulation of the building's concave edge**

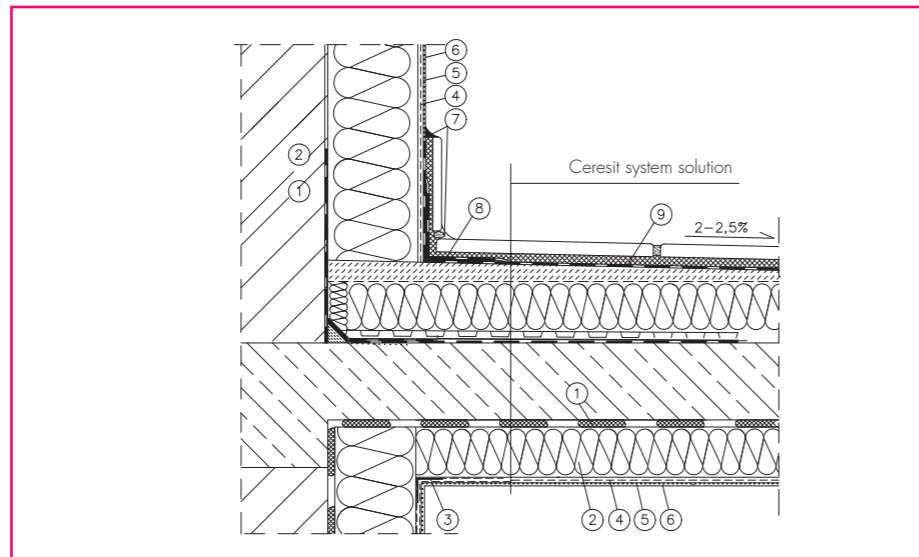
1. Ceresit adhesive mortar
2. thermal insulation
3. angle bar with industrially glued mesh
4. glass fibre reinforcing mesh layer
5. Ceresit priming paint
6. Ceresit facade plaster





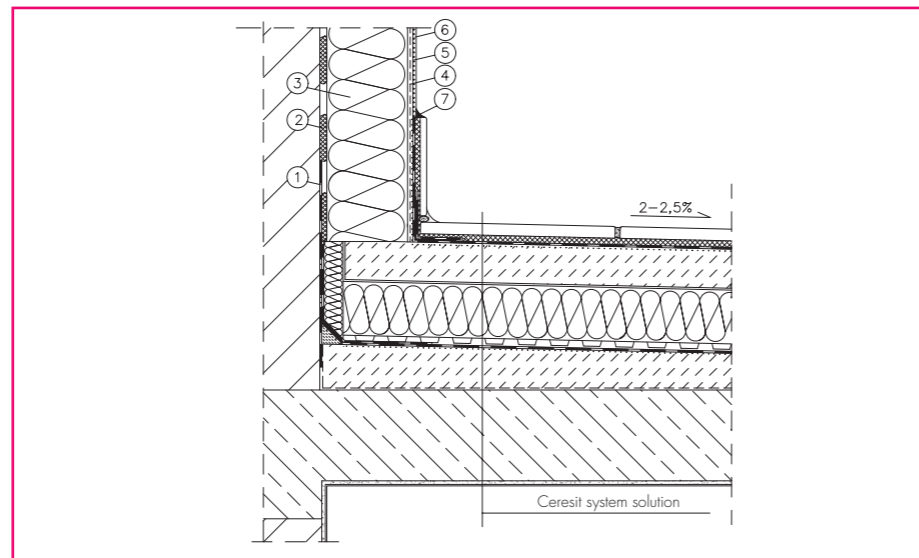
**Connection with the balcony slab**

1. Ceresit adhesive mortar
2. thermal insulation
3. angle bar with industrially glued mesh
4. Ceresit adhesive and reinforcing mortar
5. Ceresit priming paint
6. Ceresit facade plaster
7. Ceresit sealant
8. Ceresit CL 152 tape
9. Ceresit waterproofing material



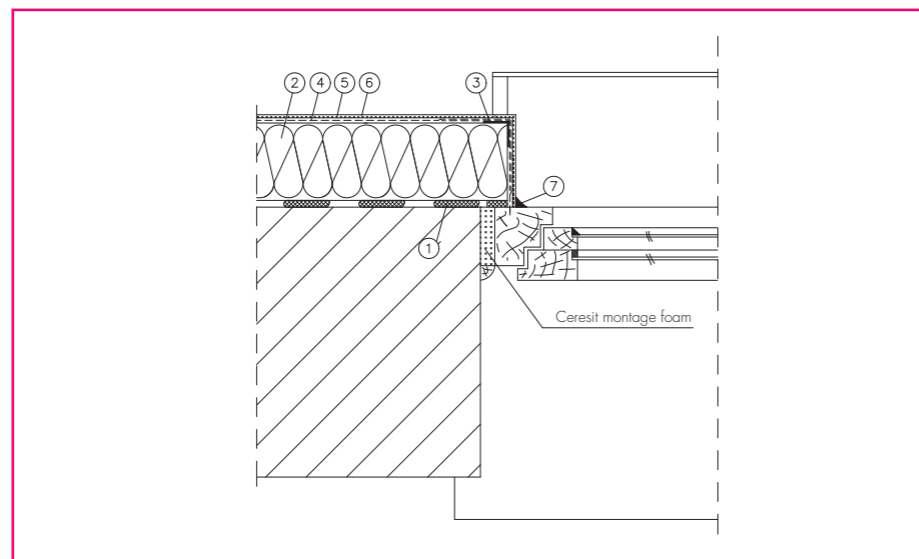
**Connection with terrace flooring**

1. Ceresit insulation
2. Ceresit adhesive mortar
3. thermal insulation
4. Ceresit adhesive and reinforcing mortar
5. Ceresit priming paint
6. Ceresit facade plaster
7. Ceresit sealant



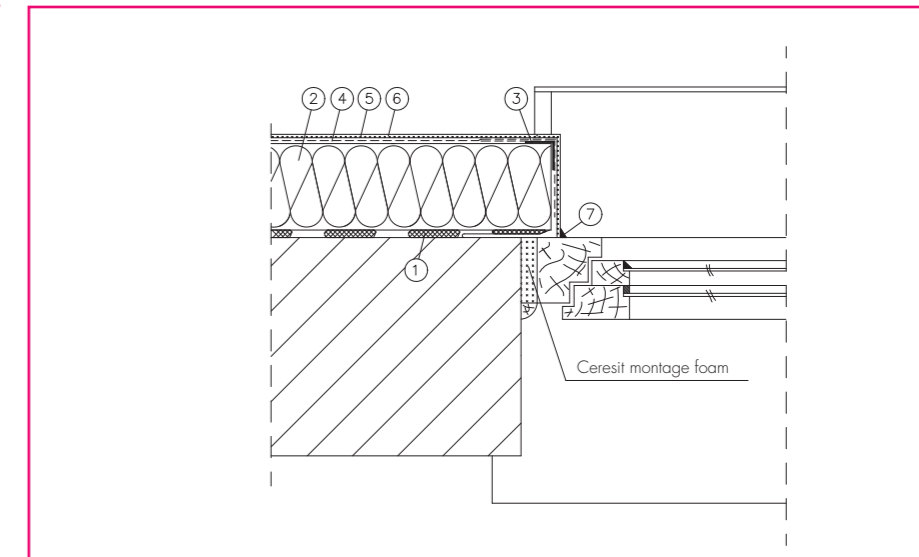
**Thermal insulation of window frames**

1. Ceresit adhesive mortar
2. thermal insulation
3. angle bar with industrially glued mesh
4. glass fibre reinforcing mesh layer
5. Ceresit priming paint
6. Ceresit facade plaster
7. Ceresit sealant or window frame profile



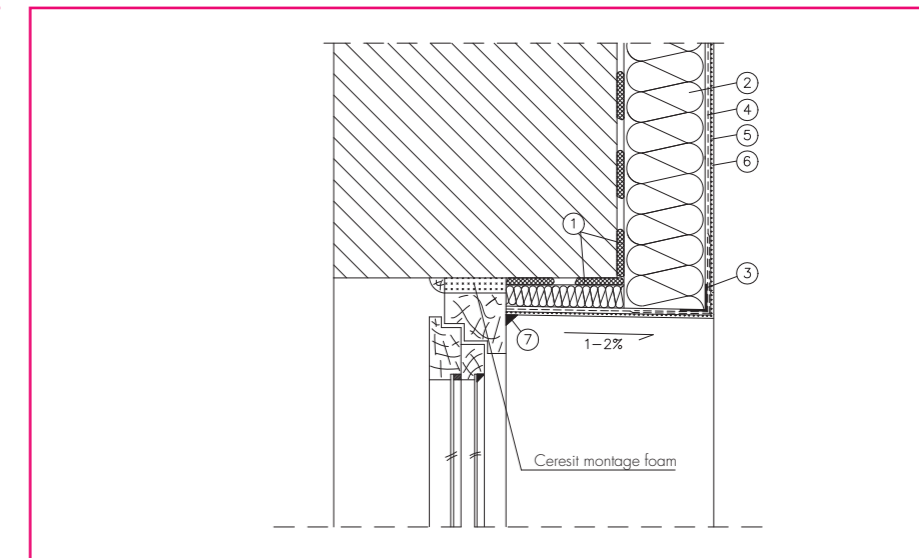
**Thermal insulation of window frames in the wall face**

1. Ceresit adhesive mortar
2. thermal insulation
3. angle bar with industrially glued mesh
4. glass fibre reinforcing mesh layer
5. Ceresit priming paint
6. Ceresit facade plaster
7. Ceresit sealant or window frame profile



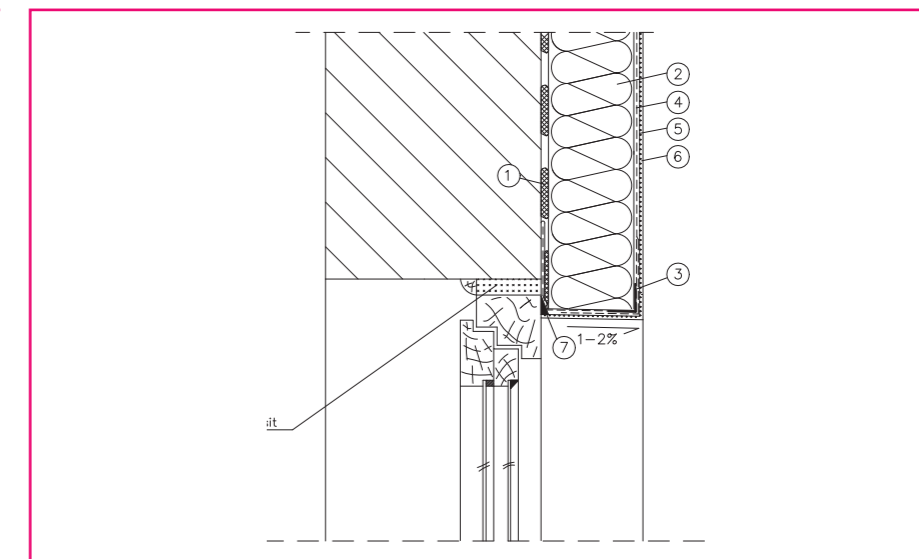
**Thermal insulation of the wall crown**

1. Ceresit adhesive mortar
2. thermal insulation
3. angle bar with industrially glued mesh
4. glass fibre reinforcing mesh layer
5. Ceresit priming paint
6. Ceresit facade plaster
7. Ceresit sealant or window frame profile



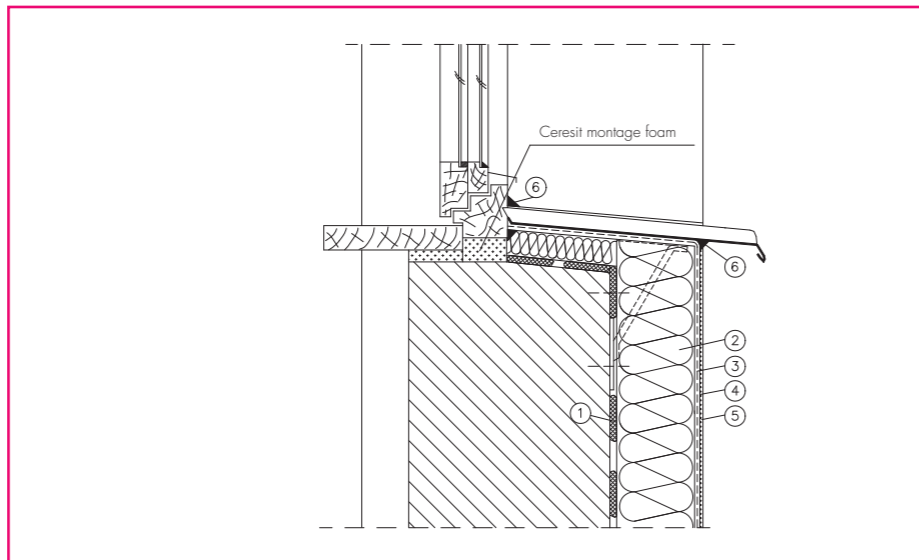
**Thermal insulation of window head in wall face**

1. Ceresit adhesive mortar
2. thermal insulation
3. angle bar with industrially glued mesh
4. glass fibre reinforcing mesh layer
5. Ceresit priming paint
6. Ceresit facade plaster
7. Ceresit sealant or window frame profile



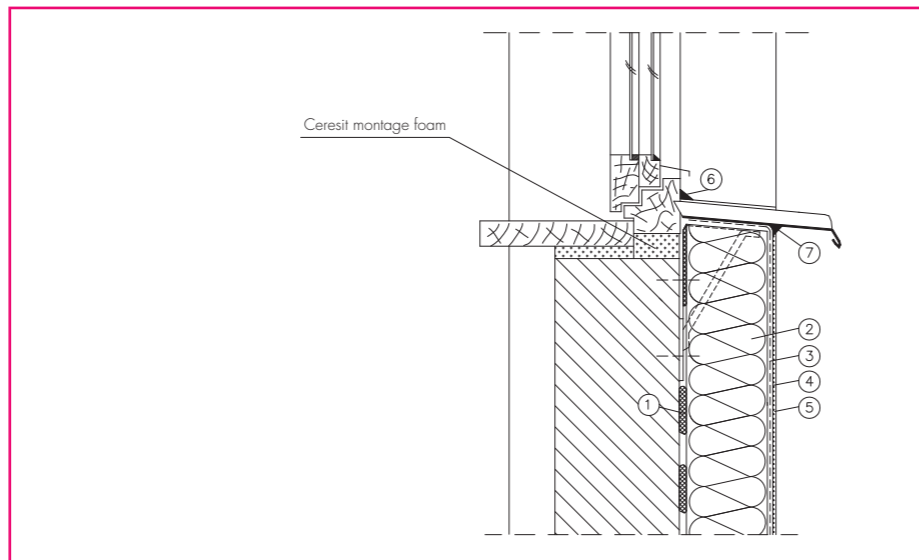
**Thermal insulation of wall below window**

1. Ceresit adhesive mortar
2. thermal insulation
3. glass fibre reinforcing mesh layer
4. Ceresit priming paint
5. Ceresit facade plaster
6. Ceresit sealant or window sill profile



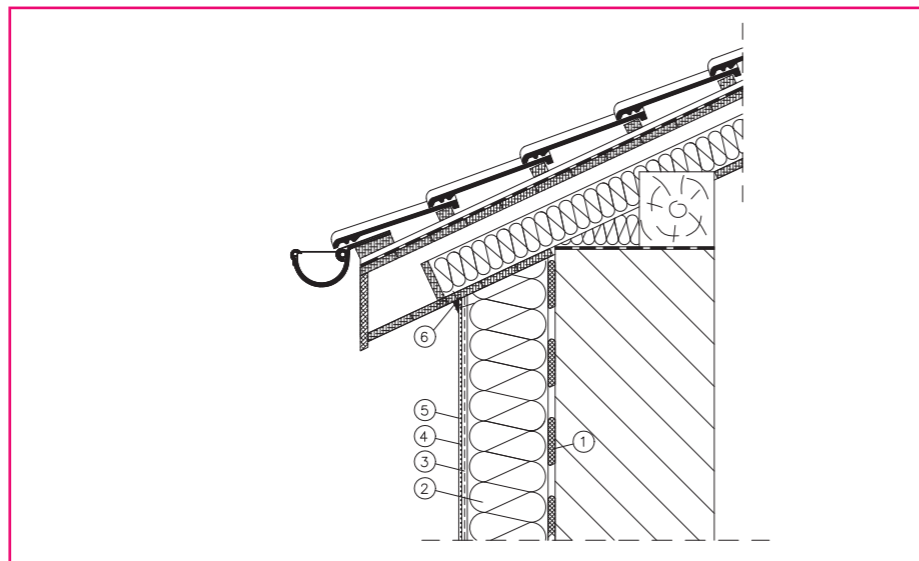
**Thermal insulation of wall below window in wall face**

1. Ceresit adhesive mortar
2. thermal insulation
3. glass fibre reinforcing mesh layer
4. Ceresit priming paint
5. Ceresit facade plaster
6. Ceresit sealant
7. Ceresit sealant or window sill profile



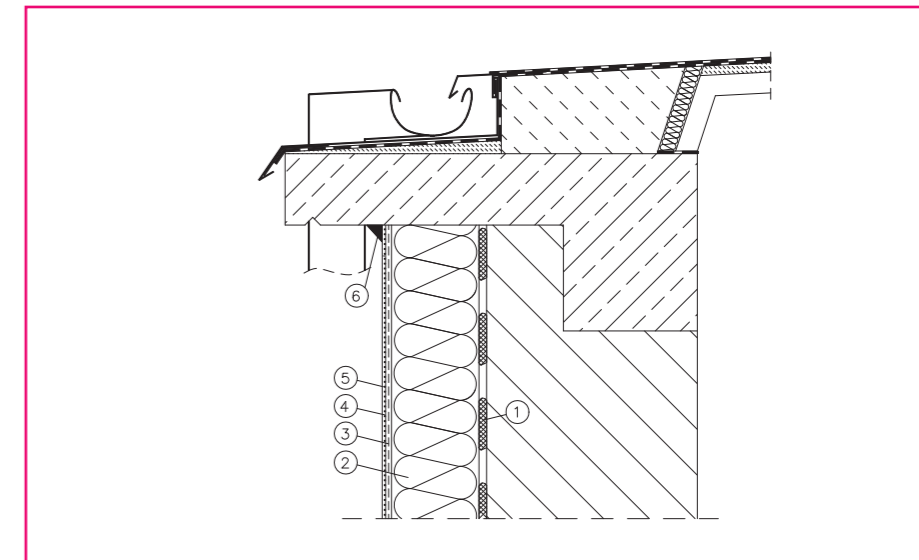
**Connection with wooden roof eaves**

1. Ceresit adhesive mortar
2. thermal insulation
3. glass fibre reinforcing mesh layer
4. Ceresit priming paint
5. Ceresit facade plaster
6. Ceresit sealant



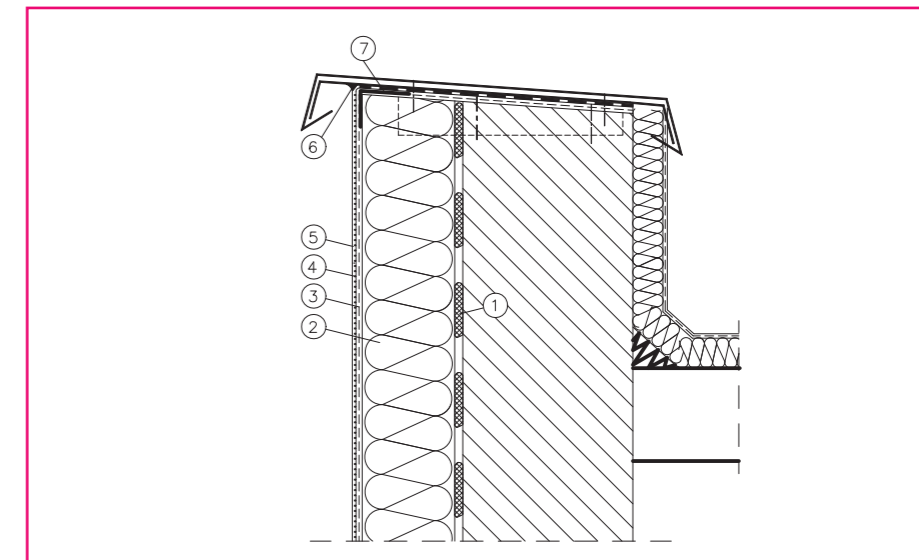
**Connection with cornice of a bipartite roof floor**

1. Ceresit adhesive mortar
2. thermal insulation
3. glass fibre reinforcing mesh layer
4. Ceresit priming paint
5. Ceresit facade plaster
6. Ceresit sealant



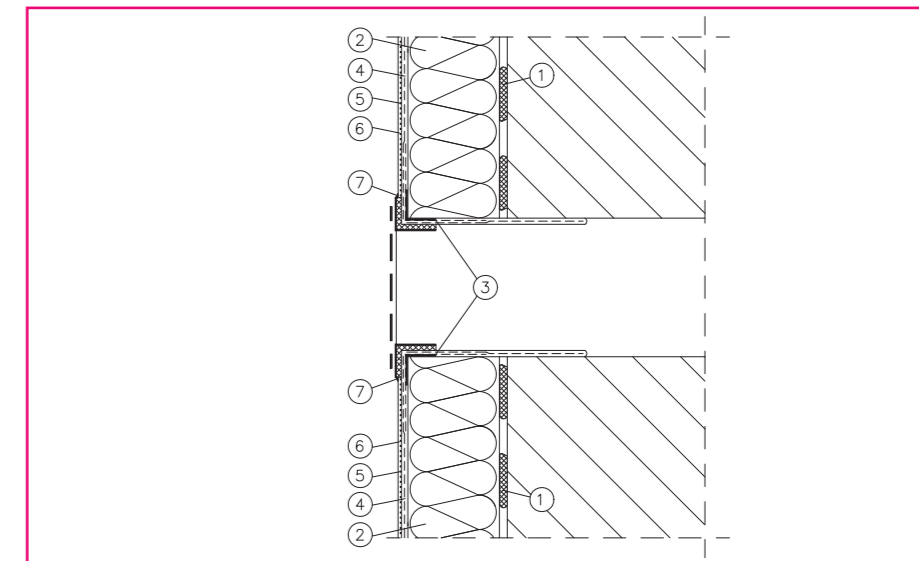
**Thermal insulation of a wall above a hipped roof end**

1. Ceresit adhesive mortar
2. thermal insulation
3. glass fibre reinforcing mesh layer
4. Ceresit priming paint
5. Ceresit facade plaster
6. Ceresit sealant
7. angle bars with mesh



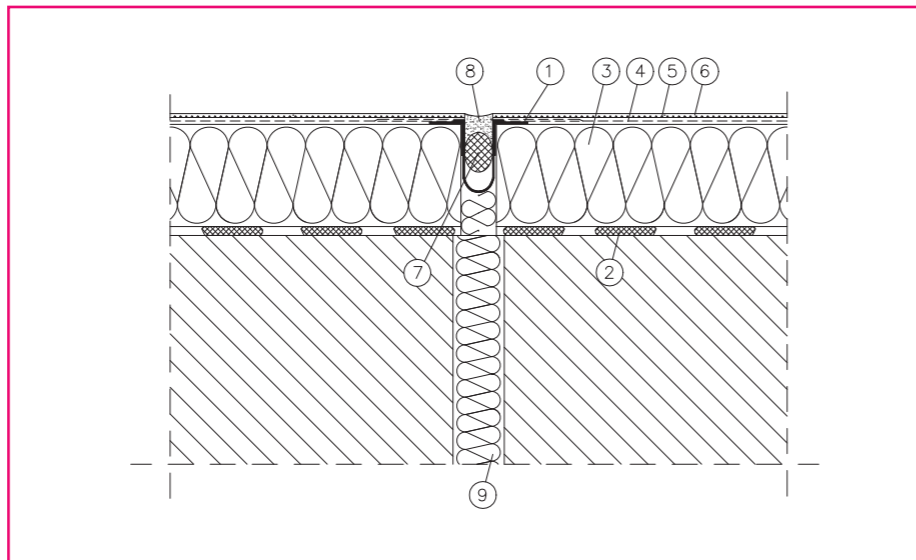
**Connection with air grate**

1. Ceresit adhesive mortar
2. thermal insulation
3. angle bars with industrially glued mesh
4. glass fibre reinforcing mesh layer
5. Ceresit priming paint
6. Ceresit facade plaster
7. Ceresit sealant



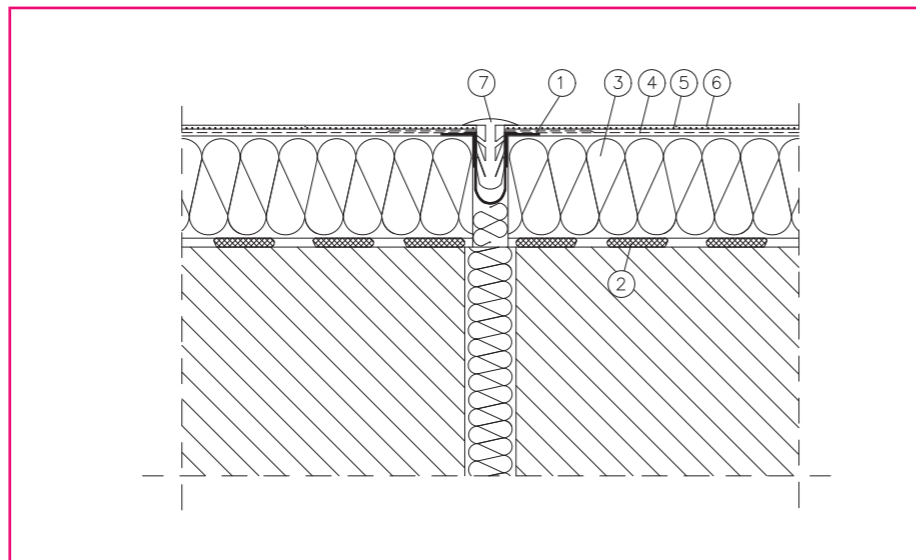
**Sealing of expansion joint by expansion tape – bridging with polyurethane sealant**

1. expansion profile
2. Ceresit adhesive mortar
3. thermal insulation
4. glass fibre reinforcing mesh layer
5. Ceresit priming paint
6. Ceresit facade plaster
7. Polyurethane packing cord
8. Polyurethane sealant Ceresit CS 29
9. Ceresit PU foam



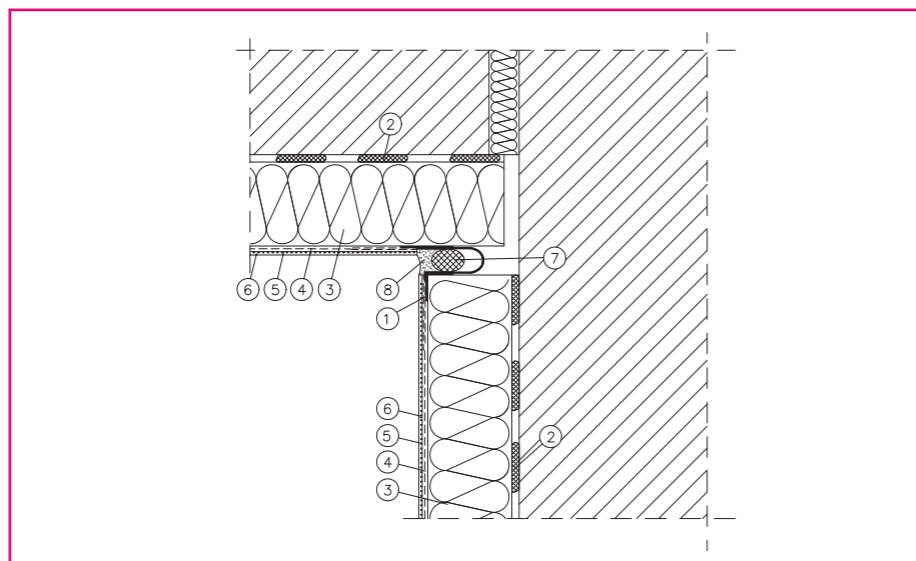
**Sealing of expansion joint by expansion tape – bridging with expansion profile**

1. expansion tape
2. Ceresit adhesive mortar
3. thermal insulation
4. glass fibre reinforcing mesh layer
5. Ceresit priming paint
6. Ceresit facade plaster
7. expansion profile



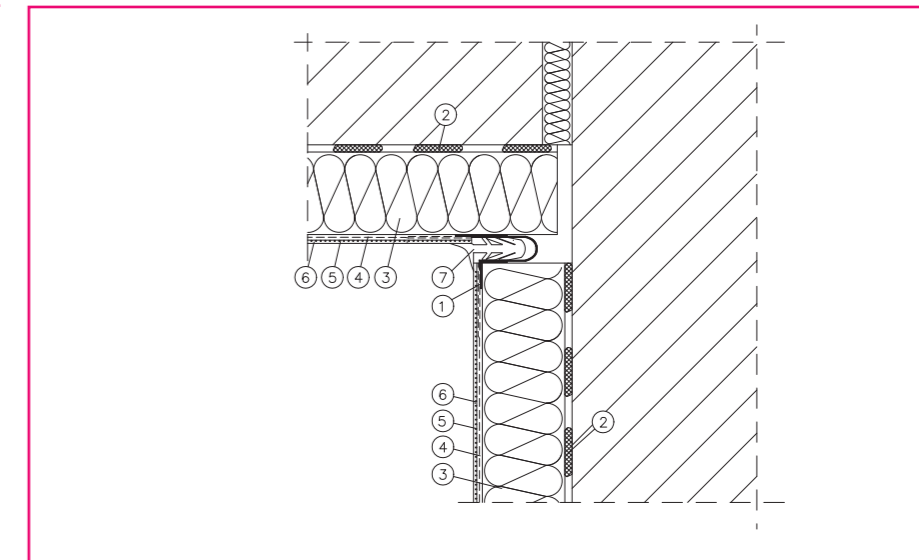
**Sealing of expansion joint corner by expansion tape – bridging with polyurethane sealant**

1. expansion profile
2. Ceresit adhesive mortar
3. thermal insulation
4. glass fibre reinforcing mesh layer
5. Ceresit priming paint
6. Ceresit facade plaster
7. Polyurethane packing cord
8. Polyurethane sealant Ceresit CS 29



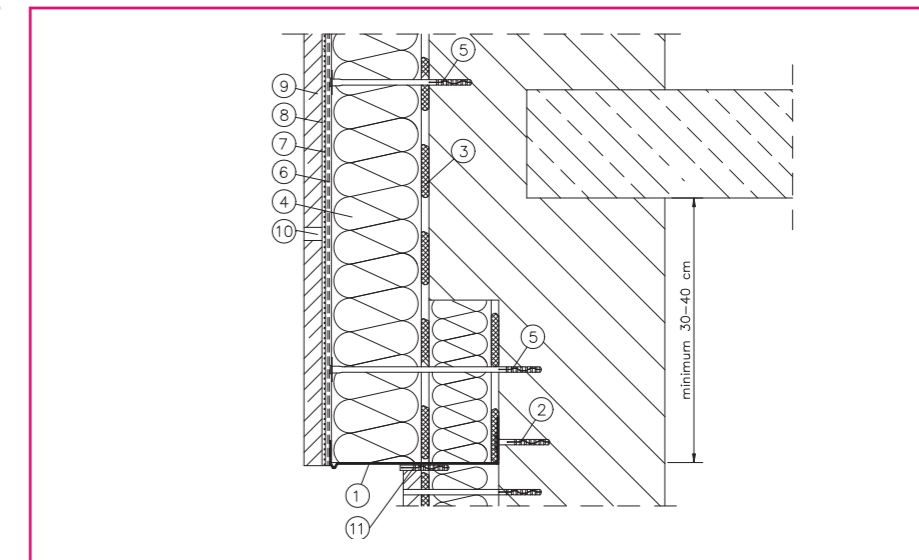
**Sealing of expansion joint corner by expansion tape – bridging with expansion profile**

1. expansion tape
2. Ceresit adhesive mortar
3. thermal insulation
4. glass fibre reinforcing mesh layer
5. Ceresit priming paint
6. Ceresit facade plaster
7. expansion profile



**Ceresit Ceretherm Ceramic System on wall with receding socle**

1. socle profile or angle bar with drip cap
2. socle profile fixing anchor + distance plate
3. Ceresit adhesive mortar
4. thermal insulation
5. fixing anchor
6. glass fibre reinforcing mesh layer
7. Ceresit CT 85 Adhesive and Reinforcing Mortar
8. Ceresit CM 17 Adhesive Mortar
9. ceramic tiles, natural stones
10. Ceresit CE 43 Grand'Elit Flexible Grout, Ceresit CT 32 Clinker Mortar
11. Polyurethane sealant Ceresit CS 29

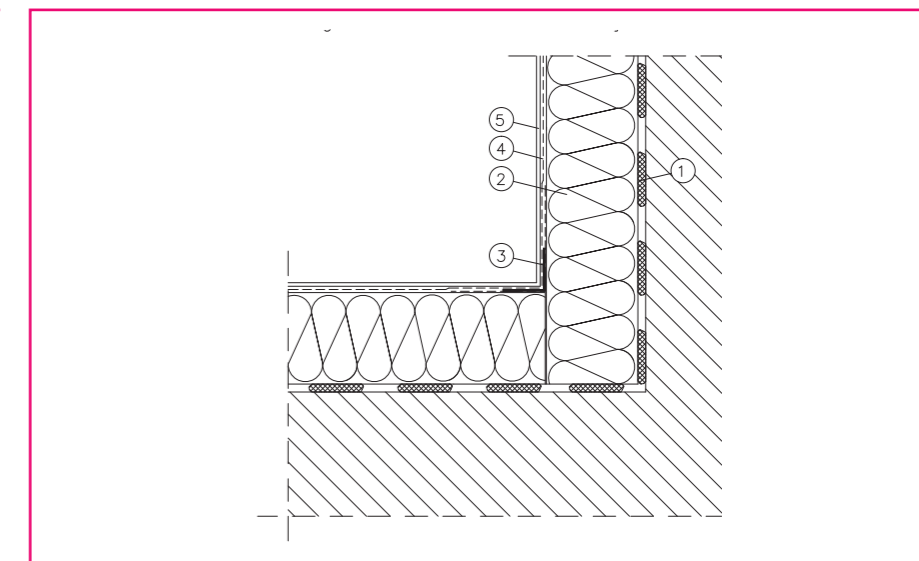


**Ceretherm Impactum System - Thermal insulation of the building's concave edge**

1. Ceresit CT 83 (other Impactum system adhesive mortars possible)
2. EPS/XPS
3. Metal or PVC corner profile with industrially glued mesh
4. Ceresit CT 100 reinforced with single/ double combination of Ceresit glass fibre mesh\*
5. Ceresit CT 79 (other Impactum system plaster possible\*\*)

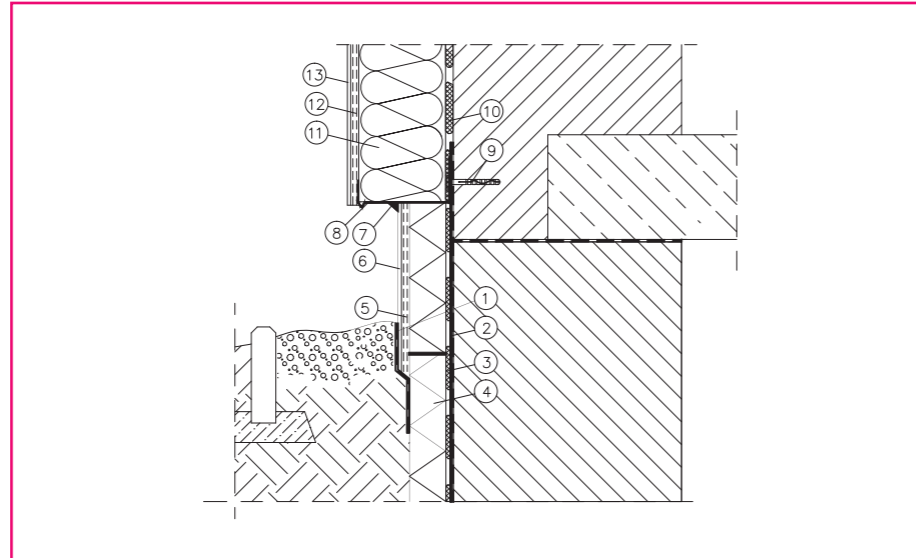
\* mesh combination acc. to CC Impactum system

\*\* impact resistance depends on plaster type



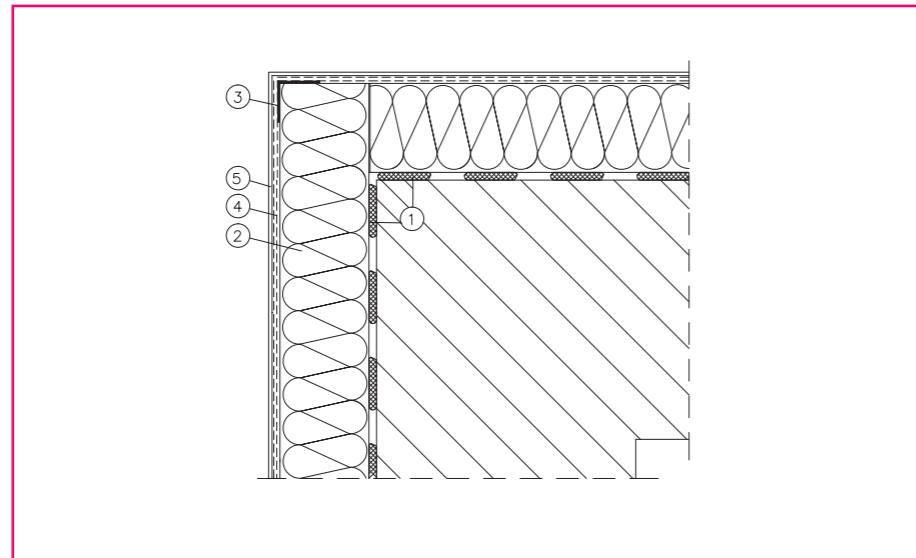
**Ceretherm Impactum System - Pedestal and wall impact resistance > 100 J**

1. Ceresit waterproofing slurry
  2. Ceresit bituminous waterproofing coat
  3. Ceresit CT 83 (other Impactum system adhesive mortars possible)
  4. EPS/XPS
  5. Ceresit CT 100 reinforced with CT 327 and CT 325 glass fibre mesh
  6. Ceresit CT 79 (other Impactum system plaster possible\*)
  7. Ceresit CS 29
  8. Starting profile
  9. Mechanical fixings of socle profile + PVC distance spacer
  10. Ceresit CT 83 (other Impactum system adhesive mortars possible)
  11. EPS
  12. Ceresit CT 100 reinforced with CT 327 and CT 325 glass fibre mesh
  13. Ceresit CT 79 (other Impactum system plaster possible\*)
- \* impact resistance depends on plaster type



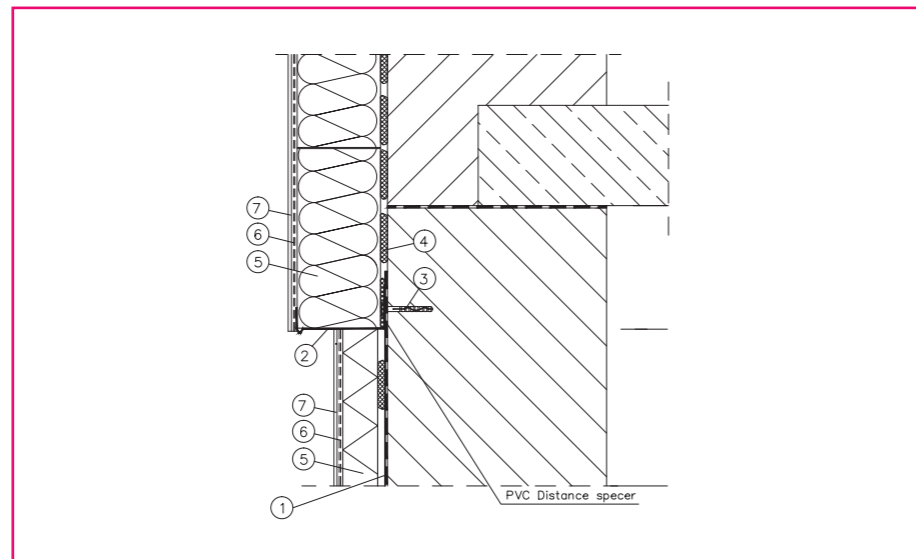
**Ceretherm Impactum System - Thermal insulation of the building's convex edge**

1. Ceresit CT 83 (other Impactum system adhesive mortars possible)
  2. EPS/XPS
  3. Metal or PVC corner profile with industrially glued mesh
  4. Ceresit CT 100 reinforced with single/double combination of Ceresit glass fibre mesh \*
  5. Ceresit CT 79 (other Impactum system plaster possible\*\*)
- \* mesh combination acc. to CC Impactum system  
\*\* impact resistance depends on plaster type



**Ceretherm Impactum System – Bottom edge of thermal insulation system**

1. Ceresit vertical waterproofing insulation
  2. Socle profile
  3. Mechanical fixings of socle profile + PVC distance spacer
  4. Ceresit CT 83 (other Impactum system adhesive mortars possible)
  5. EPS/XPS
  6. Ceresit CT 100 reinforced with single/double combination of Ceresit glass fibre mesh \*
  7. Ceresit CT 79 (other Impactum system plaster possible\*\*)
- \* mesh combination acc. to CC Impactum system  
\*\* impact resistance depends on plaster type



# Ceresit Ceretherm Systems – Product by product

Henkel offers a wide range of modern products, which provide the excellent insulation performance of insulated buildings. These products create specialist, earlier presented systems, that are tailored to the varied insulation needs.

Presented products are grouped according to their use:

- Priming products
- Adhesive mortars
- Facade plasters
- Facade paints
- **VISAGE** 'Natural effect' plasters and paints
- Repair and renovation products



## Priming products: primers and priming paints

### CT 15 Priming paint



Ceresit CT 15 facilitates the application of thin-layer silicate plasters and renderings inside and outside the buildings. It is recommended for priming the armoured layers within Ceresit ETICS (External Thermal Insulation Composite Systems) and traditional plasters. The paint CT 15 can be applied to the surfaces of chipboards, gypsum cardboards, gypsum plasters, all types of concrete and strong paint coats. Priming the substrate with the paint CT 15 considerably decreases its absorption, which prevents the applied products from drying too fast. The fine aggregates included in CT 15 make the primed surfaces rough and scratch resistant. As the surface is expanded, it increases the adhesion of the plasters, putties and paints. This product has strong coating properties and makes the substrate efficiently homogenous, thus preventing any formation of stains on the coloured silicate plasters. Ceresit CT 17 should be used for reinforcing the surface of the absorptive substrates.

#### Characteristic:

- easier application of plasters
- higher adhesion to the substrate
- waterproof
- high opacity
- for use with a brush or a roller
- ready to use

#### Packaging:

Plastic buckets of 10 l

### CT 16 Priming paint



Ceresit CT 16 facilitates the application of thin-layer plasters and renderings inside and outside the buildings. It is recommended for priming the armoured layers within Ceresit ETICS (External Thermal Insulation Composite Systems) and traditional plasters. The paint CT 16 can be applied to the surfaces of chipboards, gypsum cardboards, gypsum plasters, all types of concrete and strong paint coats. Priming the substrate with the paint CT 16 considerably decreases its absorption, which prevents from too fast drying of the applied products. The fine aggregates included in CT 16 make the primed surfaces rough and scratch resistant. As the surface is expanded, it increases the adhesion of the plasters, putties and paints. This product has strong coating properties and makes the substrate efficiently homogenous, thus preventing from any formation of stains on the coloured acrylic, mineral, silicate-silicone and silicone plasters. Ceresit CT 17 should be used for reinforcing the surface of the absorptive substrates.

#### Characteristic:

- easier application of plasters
- higher adhesion to the substrate
- waterproof
- high opacity
- for use with a brush or a roller
- ready to use

#### Packaging:

Plastic buckets of 10 l

### CT 17 Penetrating primer



Priming coat for walls, floors and ceilings, indoor and outdoor, before tiling, flooring, wallpapering, filling, painting or fixing thermal insulation boards. Does not contain solvent. Substrate primed with CT 17 (all kinds of plaster, concrete, screeds, substrates with underfloor heating) have a lower water absorption, which prevents the excessive rapid drying of the adhesives or paints. The product penetrates into the substrate and binds grain, however, it does not increase the strength parameters in the entire cross-section of the substrate. The use of CT 17 is especially recommended on gypsum, anhydrite and foamed concrete. For strengthening lightweight concrete, wood chipboards (V 100), blockboards, gypsum plasters, gypsum boards, gypsum and fibrous plasterboards, anhydrite screeds, highly absorbent plasters or cement screeds, ceramic coverings, natural and artificial stone floors as well as high-compression, smoothed concrete floors. The product causes a yellowing of substrates. For priming substrates for thin-layer plasters use CT 16 or CT 15 Priming paint.

#### Characteristic:

- surface-strengthening
- reduces absorption
- vapour-permeable
- easier application of adhesives, putties, plasters, paints, etc.

#### Packaging:

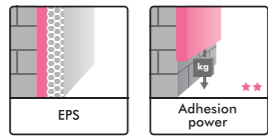
Plastic canisters of 2 l, 5 l and 10 l

## Adhesives and renders for insulation systems

### CT 83 STRONG FIX Adhesive mortar for EPS



Ceresit CT 83 mortar is designed to apply EPS-boards within Ceresit Ceretherm ETICS (External Thermal Insulation Composite Systems). CT 83 mortar is used for applying to the newly erected objects as well as the buildings to be thermo renovated. The applied boards require additional fixing by means of mechanical anchors. Ceresit CT 85 or CT 87 mortars should be used to apply fibre glass armoured layer on the EPS-boards. In the case of the walls insulation with facade mineral wool boards, Ceresit CT 190, CT 180 or CT 87 mortar should be used.



#### Characteristic:

- high adhesion to mineral substrates and EPS-boards
- very good working parameters
- resistant to weather conditions

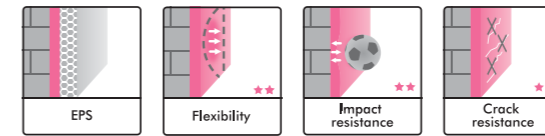
#### Packaging:

Bags of 25 kg

### CT 85 FLEX Adhesive and Reinforcing mortar for EPS



Ceresit CT 85 mortar is designed to insulate external walls of the buildings by using EPS-boards. It is an element within Ceresit Ceretherm ETICS (External Thermal Insulation Composite Systems). CT 85 mortar is used for fixing EPS-boards as well as applying the armoured protection layer to insulate the newly erected objects and also the buildings to be thermo-renovated. CT 85 is additionally reinforced with fibres, therefore it is more resistant to mechanical damage and to the formation of hairline cracks.



#### Characteristic:

- highly resistant to mechanical damage
- reinforced with fibres
- resistant to weather conditions
- resistant to hairlines and cracks
- high adhesion to mineral substrates and EPS-boards
- flexible

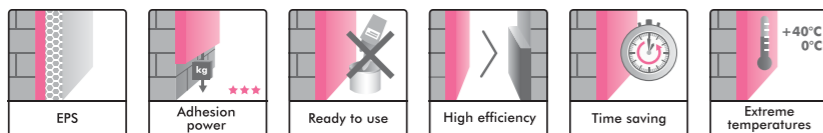
#### Packaging:

Bags of 25 kg

### CT 84 EXPRESS Polyurethane adhesive



Ceresit CT 84 is a polyurethane adhesive used to fix EPS-boards (Expanded Polystyrene boards) to facade walls during the thermal insulation of buildings by means of ETICS. It is an element of the Ceresit Ceretherm Express system. Ceresit CT 84 can be used for applying EPS-boards to the newly erected objects or the buildings to be thermo-renovated. Approximately 2 hours after the application, the EPS-boards may be smoothed (by grinding or rasping), anchored and, then the armoured layer may be applied using the Ceresit CT 85, CT 82 or ZU. CT 84 PU adhesive can be also used for fixing such materials as EPS and XPS polystyrene boards and mineral wool to the substrates such as: wood, OSB, glass, bitumen, ceramic brick, concrete, coated sheet and galvanized, cellular concrete dry and after treatment of water, plasterboard and for layered gluing of the EPS and mineral wool boards in normal and low temperatures, also in thermal insulation systems.



#### Characteristic:

- efficiency: 10 m<sup>2</sup> – 100% more yield than traditional cement adhesives
- 15% higher adhesive strength than traditional cement adhesives
- low expansion
- anchoring already after ca. 2 h
- application from 0°C and at high humidity conditions
- very good in case of ETICS on ETICS insulation
- enhanced thermal insulation properties similar to EPS or mineral wool
- high homogeneity thanks to the metal ball inside the can

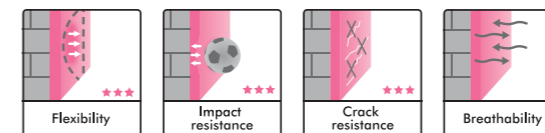
#### Packaging:

Metal containers of 850 ml

### CT 87 WHITE FLEXIBLE Adhesive and Reinforcing mortar for EPS and MW



Ceresit CT 87 mortar is designed to insulate external walls of the buildings by the application of an external thermal insulation composite system using EPS-boards or mineral wool facade boards. It is an element of Ceresit Ceretherm ETICS. CT 87 mortar is used for the fixing of EPS- or mineral wool facade boards and for applying the reinforcing protection layer to insulate the newly constructed objects as well as older buildings to be thermo-renovated. Ceresit CT 87 is additionally reinforced with fibres, therefore it is more resistant to the formation of hairline cracks and larger ones. The application of CT 87 (colour, surface and organic modifiers) allows for omitting the substrate preparation process by priming with the priming paints before the application of any Ceresit plasters. The content of special light fillers gives the more flexible, light and homogenous consistency. It is easier to be stirred, applied and spread, thus increasing the efficiency of the mortar.



#### Characteristic:

- 2 in 1 – does not need priming before the application of plaster
- considerably lower consumption
- high adhesion to mineral substrates, EPS-boards and mineral wool
- vapour permeable
- flexible
- reinforced with fibres
- resistant to hairlines and cracks
- resistant to weather conditions

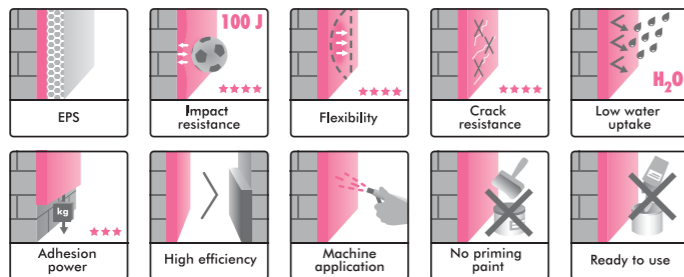
#### Packaging:

Bags of 25 kg

**CT 100 IMPACTUM Reinforcing compound**



Ceresit CT 100 mortar is a ready to use compound for making a reinforced layer while insulating the external walls of buildings with the use of EPS. It is a component of Ceresit of insulation system (ETICS). It can also be used for fixing damaged or cracked existing insulation systems. CT 100 is additionally fibre-reinforced, which increases its impact resistance and eliminates scores and cracks. Recommended especially for facades exposed to mechanical damage – entrances, parking areas, buildings socles, etc.



**Characteristic:**

- highly flexible
- fibre-reinforced
- resistant to extreme mechanical loads over 100 J and thermal stresses
- highly hydrophobic
- joins cracks up to 2 mm
- does not require the use of a priming paint
- possibility of tinning in mass
- possibility of machine application
- excellent working parameters
- high-performance

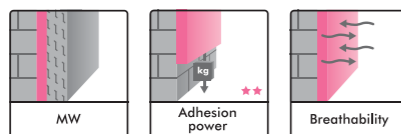
**Packaging:**

Plastic buckets 25 kg

**CT 180 MW STRONG FIX Adhesive mortar for mineral wool**



Ceresit CT 180 mortar is designed to insulate the external walls of buildings by the application of an external thermal insulation composite system using mineral wool facade boards and to insulate ceilings (from the ceiling side) using mineral wool lamella boards. It is an element within Ceresit Ceretherm ETICS (External Thermal Insulation Composite Systems) Wool. CT 180 mortar is used for the fixing of mineral wool facade boards to insulate the newly erected objects as well as buildings to be thermo-renovated.



**Characteristic:**

- high adhesion to mineral substrates and mineral wool
- very good working parameters
- resistant to weather conditions
- vapour permeable
- highly durable

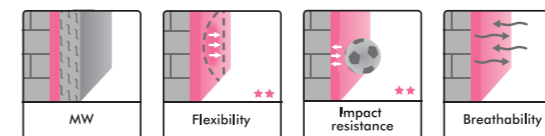
**Packaging:**

Bags of 25 kg

**CT 190 MW FLEX Adhesive and Reinforcing mortar for mineral wool**



Ceresit CT 190 mortar is designed to insulate the external walls of buildings by the application of an external thermal insulation composite system using mineral wool facade boards and to insulate ceilings (from the ceiling side) using mineral wool lamella boards. It is an element within Ceresit Ceretherm ETICS (External Thermal Insulation Composite Systems) Wool. CT 190 mortar is used for fixing of mineral wool facade boards and for applying the reinforcing protection layer to insulate the newly constructed objects as well as older buildings to be thermo-renovated.



**Characteristic:**

- highly resistant to mechanical damage
- high adhesion to mineral substrates and mineral wool
- resistant to hairlines and cracks
- reinforced with fibres
- resistant to weather conditions
- flexible
- vapour permeable

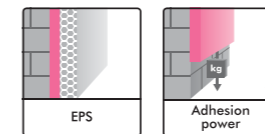
**Packaging:**

Bags of 25 kg

**ZS Adhesive mortar for EPS**



Ceresit ZS mortar is designed to apply EPS-boards within Ceresit Ceretherm Popular ETICS. ZS mortar is used for applying to the newly erected objects as well as the buildings to be thermo renovated. The applied boards require additional fixing by means of mechanical anchors, i.e. proper expansion pins made of plastic. Ceresit ZU mortar should be used to apply a fibre glass armoured layer on the EPS-boards.



**Characteristic:**

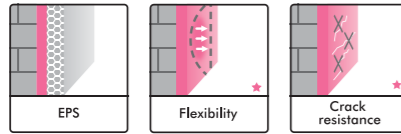
- economical in use
- good adhesion
- resistant to weather conditions

**Packaging:**

Bags of 25 kg

**ZU Adhesive and Reinforcing mortar for EPS**

Ceresit ZU mortar is designed to apply EPS-boards within Ceresit Ceretherm Popular ETICS. ZU mortar is used for applying the EPS boards as well as to prepare a reinforced layer of newly erected objects and buildings to be thermo-renovated.

**Characteristic:**

- economical in use
- flexible
- durable
- good adhesion
- resistant to weather conditions

**Packaging:**

Bags of 25 kg

**Facade Plasters****CT 34 Mineral plaster for Thermal Insulation Systems, 'smooth' structure**

CT 34 is recommended for making smooth finishing coats on reinforced layers of Ceresit ETICS. It is also used to repair traditional and cement-lime plasters inside and outside buildings. It may be applied both to fill deep losses (e.g. chases after installation work) and to smooth the plaster surface as well. The properties of CT 34 make it possible to apply thin layers on the walls and ceilings, to cover rough and uneven cement and cement-lime plaster surfaces. The thickness of complete plaster layer must be up to 5 mm.

**Characteristic:**

- vapour permeable
- hydrophobic
- flexible
- resistant to weather conditions
- good adhesion
- reinforced with microfibres
- easy to apply

**Packaging:**

Bags of 25 kg

**CT 35 Mineral plaster, 'rustic' structure, grain size 2.5 mm or 3.5 mm**

Ceresit CT 35 is used for making thin-layer plasters on concrete substrates, traditional plasters, gypsum substrates and gypsum cardboards, gypsum-fibre boards, etc. We recommend the application of the plaster CT 35 as a facade plaster within Ceresit ETICS with the application of EPS-boards or facade mineral wool boards. The plaster CT 35 is manufactured in a white colour as the final layer of the facade and in the option to be painted, e.g. with Ceresit CT 54 Silicate paint, Ceresit CT 48/CT 49 Silicone paint, Ceresit CT 42/CT 44 Acrylic paints (in the case of insulation with EPS-boards).

**Characteristic:**

- highly vapour permeable
- highly durable and resistant to weather conditions
- naturally resistant to the development of fungi, algae and mould
- hydrophobic
- manufactured in white colour as well as in the option to be painted

**Packaging:**

Bags of 25 kg



**CT 137 Mineral plaster, 'stone' structure, grain size 1.5 mm, 2.0 mm or 2.5 mm**



Ceresit CT 137 is used for making thin-layer plasters on concrete substrates, traditional plasters, gypsum substrates and gypsum cardboards, gypsum-fibre boards, etc. We recommend the application of the plaster CT 137 as facade plaster within Ceresit ETICS with EPS-boards or facade mineral wool boards. It is recommended for the thermal insulation of ceilings (from the ceiling side) using mineral wool lamella boards. The plaster CT 137 is manufactured in a white colour to be applied as the final layer of the facade as well as in the option to be painted, e.g. with Ceresit CT 54 Silicate paint or Ceresit CT 48/CT 49 Silicone paints and Ceresit CT 42/ CT 44 Acrylic paints ((in the case of insulation with EPS-boards).

**Characteristic:**

- highly vapour permeable
- highly durable and resistant to weather conditions
- naturally resistant to the development of fungi, algae and mould
- hydrophobic
- possibility of machine application
- manufactured in a white colour as well as in the option to be painted

**Packaging:**  
Bags of 25 kg



**CT 60 Acrylic plaster, 'stone' structure, grain size 1.5 mm, 2.0 mm or 2.5 mm**



Ceresit CT 60 is used for making thin-layer plasters on concrete substrates, traditional plasters, gypsum substrates and chipboards, gypsum cardboards, etc. We recommend the application of the plaster CT 60 as a facade plaster within Ceresit ETICS with the application of EPS-boards. In the case of intensive dark colours, the material application should be limited to small areas, e.g. architectural details. This product, with BioProtect formula, protects against biological corrosion (fungi, mould and algae). Thanks to the special content of the capsules with a biocide, release of the substance occurs in a controlled way, providing a long-lasting effect.

**Characteristic:**

- resistant to weather conditions
- low water uptake and high flexibility
- resistant to exploitation damage
- vapour permeable
- BioProtect formula – resistant to mould, fungi and algae
- colour stability
- possibility of machine application
- available in **Colours of Nature** palette

**Packaging:**  
Plastic containers of 25 kg

**CT 63 Acrylic plaster, 'rustic' structure, grain size 3.0 mm**



Ceresit CT 63 is used for making thin-layer plasters on concrete substrates, traditional plasters, gypsum substrates and chipboards, gypsum cardboards, etc. We recommend the application of the plaster CT 63 as a facade plaster within Ceresit ETICS with the application of EPS-boards. In the case of intensive dark colours, the material application should be limited to small areas, e.g. architectural details. This product, with BioProtect formula, protects against biological corrosion (fungi, mould and algae). Thanks to the special content of the capsules with a biocide, release of the substance occurs in a controlled way, providing a long-lasting effect.

**Characteristic:**

- resistant to weather conditions
- low water uptake and high flexibility
- resistant to exploitation damage
- vapour permeable
- BioProtect formula – resistant to mould, fungi and algae
- colour stability
- available in **Colours of Nature** palette

**Packaging:**  
Plastic containers of 25 kg



**CT 64 Acrylic plaster, 'rustic' structure, grain size 2.0 mm**



Ceresit CT 64 is used for making thin-layer plasters on concrete substrates, traditional plasters, gypsum substrates and chipboards, gypsum cardboards, etc. We recommend the application of the plaster CT 64 as a facade plaster within Ceresit ETICS with the application of EPS-boards. In the case of intensive dark colours, the material application should be limited to small areas, e.g. architectural details. This product, with BioProtect formula, protects against biological corrosion (fungi, mould and algae). Thanks to the special content of the capsules with a biocide, release of the substance occurs in a controlled way, providing a long-lasting effect.

**Characteristic:**

- resistant to weather conditions
- low water uptake and high flexibility
- resistant to exploitation damage
- vapour permeable
- BioProtect formula – resistant to mould, fungi and algae
- colour stability
- available in **Colours of Nature** palette

**Packaging:**  
Plastic containers of 25 kg



**CT 72 Silicate plaster, 'stone' structure, grain size 1.5 mm, 2.0 mm or 2.5 mm**

Ceresit CT 72 is used for making thin-layer plasters on concrete substrates, traditional plasters, gypsum substrates and chipboards, gypsum cardboards, etc. We recommend the application of the plaster CT 72 as a facade plaster within Ceresit ETICS with the application of EPS-boards and mineral wool boards. CT 72 plaster is recommended to be applied on the partitions where high permeability is required. CT 72 is available in a wide range of colours, but in the case of intensive dark colours, the material application on the facades should be limited to small areas, e.g. architectural details. This product, with BioProtect formula, protects against biological corrosion (fungi, mould and algae). Thanks to the special content of the capsules with a biocide, release of the substance occurs in a controlled way, providing a long-lasting effect.

**Characteristic:**

- highly vapour permeable
- highly durable – resistant to exploitation damage and cleaning
- resistant to weather conditions
- BioProtect formula – resistant to mould, fungi and algae
- possibility of machine application
- available in **Colours of Nature** palette

**Packaging:**

Plastic containers of 25 kg

**CT 73 Silicate plaster, 'rustic' structure, grain size 2.0 mm**

Ceresit CT 73 is used for making thin-layer plasters on concrete substrates, traditional plasters, gypsum substrates and chipboards, gypsum cardboards, etc. We recommend the application of the plaster CT 73 as a facade plaster within Ceresit ETICS with the application of EPS-boards and mineral wool boards. Ceresit CT 73 plaster is recommended to be applied on the partitions where high permeability is required. CT 73 is available in a wide range of colours, but in the case of intensive dark colours, the material application on the facades should be limited to small areas, e.g. architectural details. This product, with BioProtect formula, protects against biological corrosion (fungi, mould and algae). Thanks to the special content of the capsules with a biocide, release of the substance occurs in a controlled way, providing a long-lasting effect.

**Characteristic:**

- highly vapour permeable
- highly durable – resistant to exploitation damage and cleaning
- resistant to weather conditions
- BioProtect formula – resistant to mould, fungi and algae
- available in **Colours of Nature** palette

**Packaging:**

Plastic containers of 25 kg

**CT 74 Silicone plaster, 'stone' structure, grain size 1.5 mm, 2.0 mm or 2.5 mm**

Ceresit CT 74 is used for making thin-layer plasters on concrete substrates, traditional plasters, gypsum substrates and chipboards, gypsum cardboards, etc. We recommend the application of the plaster CT 74 as a facade plaster within Ceresit ETICS with the use of EPS-boards and mineral wool boards. Ceresit CT 74 plaster is recommended to be applied to the partitions where high permeability is required. CT 74 is available in a wide range of colours, but in the case of intense dark colours, the material application on the facades should be limited to small areas, e.g. architectural details. BioProtect formula protects against biological corrosion (fungi, mould and algae). Thanks to the special content of the capsules with a biocide, release of the substance occurs in a controlled way, providing a long-lasting effect.

**Characteristic:**

- highly dirt resistant
- highly flexible and resistant to mechanical damage
- high colour stability
- highly durable
- low water uptake and highly vapour permeable
- highly resistant to weather conditions
- BioProtect formula – resistant to mould, fungi and algae
- available in **Colours of Nature** palette

**Packaging:**

Plastic containers of 25 kg

**CT 75 Silicone plaster, 'rustic' structure, grain size 2.0 mm**

Ceresit CT 75 is used for making thin-layer plasters on concrete substrates, traditional plasters, gypsum substrates and chipboards, gypsum cardboards, etc. We recommend the application of the plaster CT 75 as a facade plaster within Ceresit ETICS with the application of EPS-boards and mineral wool boards. Ceresit CT 75 plaster is recommended to be applied to the partitions where high permeability is required. CT 75 is available in a wide range of colours, but in the case of intense dark colours, the material application on the facades should be limited to small areas, e.g. architectural details. BioProtect formula protects against biological corrosion (fungi, mould and algae). Thanks to the special content of the capsules with a biocide, release of the substance occurs in a controlled way, providing a long-lasting effect.

**Characteristic:**

- highly dirt resistant
- highly flexible and resistant to mechanical damage
- high colour stability
- highly durable
- low water uptake and highly vapour permeable
- highly resistant to weather conditions
- BioProtect formula – resistant to mould, fungi and algae
- available in **Colours of Nature** palette

**Packaging:**

Plastic containers of 25 kg

**CT 77 Silicone-Acrylic Mosaic plaster, grain size 1.0-1.6 mm or 1.4-2.0 mm**



Ceresit CT 77 is used for applying decorative colourful plasters to traditional plasters, concrete substrates, gypsum substrates and chipboards, gypsum cardboards, etc. Transparent acrylic resins with silicone additives are the binder for coloured quartz gravels which are the fillers. CT 77 is especially recommended to be applied to walls exposed to abrasion, and inside the buildings, e.g. at the entrance, corridors, staircases. Outside the buildings, CT 77 is recommended on the substrates easy to get dirty: on the pedestals, railings, door and window frames, fences. In the case of the intense dark colours, the application of CT 77 as the facade layer within Ceresit Ceretherm Systems with EPS should be limited to small areas, e.g. pedestals or architectural details.

**Characteristic:**

- resistant to weather conditions
- resistant to impact and abrasion
- with silicone additive
- low water absorption
- resistant to dirt
- BioProtect formula – resistant to mould, fungi and algae
- available in 48 colours from new Ceresit **Mosaics of the World** palette

**Packaging:**

Plastic containers of 25 kg

**CT 79 IMPACTUM Elastomeric plaster, 'stone' structure, grain size 1.5 mm**



Ready to use elastomeric plaster Ceresit CT 79 is recommended as a facade finishing render in the Ceresit Ceretherm Impactum external thermal insulation composite system (ETICS) of walls with polystyrene boards. CT 79 render is specially recommended for applications on partitions where high damage and operating resistance (such as plinth part, garage entrance, parking zone, neighbourhood of playgrounds, etc.) and also a good resistance to dirt is required. CT 79 plaster is available in a wide range of Ceresit colours, including a specially selected choice of dark and intense hues, whose application in the case of traditional renders is very limited or impossible. Elastomeric plaster CT 79 can also be used to make thin-layer plaster coatings on concrete substrates, traditional plasters, gypsum substrates and on chipboards, gypsum boards etc.

**Characteristic:**

- extremely flexible
- extremely resistant to weather conditions, mechanical impacts and thermal stresses
- highly dirt resistant
- very low water uptake
- highly vapour permeable
- highly resistant to fungi, algae and mould development
- high colour stability
- available in **Colours of Nature** palette and **Ceresit Intense Colour System**
- possibility of machine application

**Packaging:**

Plastic containers of 25 kg

**CT 174 Silicate-silicone plaster, 'stone' structure, grain size 1.5 mm or 2.0 mm**



Ceresit CT 174 combines the good points of silicate plaster and silicone plaster. It is vapour permeable, of low absorption and dirt resistant. CT 174 is used for making thin-layer plasters on concrete substrates, traditional plasters, gypsum substrates and chipboards, gypsum cardboards, etc. We recommend the application of the plaster CT 174 as facade plaster within Ceresit ETICS with the application of EPS-boards and mineral wool boards. In the case of intensive dark colours, the material application should be limited to small areas, e.g. architectural details. BioProtect formula protects against biological corrosion (fungi, mould and algae). Thanks to the special content of the capsules with a biocide, release of the substance occurs in a controlled way, providing a long-lasting effect.

**Characteristic:**

- vapour permeable
- low water uptake
- resistant to exploitation damage
- highly resistant to weather conditions
- BioProtect formula – resistant to mould, fungi and algae
- high colour stability
- possibility of machine application
- available in **Colours of Nature** palette

**Packaging:**

Plastic containers of 25 kg

**Ceresit CT 174 MACHINE Silicate-silicone plaster, 'stone' structure, grain size 1.0 mm**



Ceresit CT 174 MACHINE is a plaster dedicated for machine application, which combines the good points of silicate plaster and silicone plaster. It is vapour permeable, of low absorption and dirt resistant. Product is used for making thin-layer plasters on concrete substrates, traditional plasters, gypsum substrates and chipboards, gypsum cardboards, etc. We recommend the application of the plaster CT 174 as facade plaster within Ceresit ETICS with the application of EPS-boards and mineral wool boards. Thanks to machine application of the plaster, work can be finished with less effort and in shorter time when compared with manual technique. For dedicated ETICS applications and bigger objects we recommend to use SPG Baumaschinen PG 20 Plaster spraying machine or Wagner PC 830 Compact plaster aggregate. While plastering smaller objects (walls up to 100m<sup>2</sup>), it is advised to use 100 l air compressor with plaster spray gun. Due to several advantages of machine application product is especially recommended to finish large objects e.g. commercial or multi-family residential buildings.

**Characteristic:**

- fast and easy machine application
- low consumption 1,5 kg/m<sup>2</sup>
- homogenous 'stone' structure
- perfect for both large and small objects
- resistant to exploitation damage
- highly resistant to weather conditions
- high colour stability
- indoor and outdoor application
- available in **Colours of Nature** palette

**Packaging:**

Plastic containers of 25 kg

**CT 175 Silicate-Silicone plaster, 'rustic' structure, grain size 2.0 mm**

Ceresit CT 175 combines the good points of silicate plaster and silicone plaster. It is vapour permeable, of low absorption and dirt resistant. CT 175 is used for making thin-layer plasters on concrete substrates, traditional plasters, gypsum substrates and chipboards, gypsum cardboards, etc. We recommend the application of the plaster CT 175 as facade plaster within Ceresit ETICS with the application of EPS-boards and mineral wool boards. In the case of intensive dark colours, the material application should be limited to small areas, e.g. architectural details. BioProtect formula protects against biological corrosion (fungi, mould and algae). Thanks to the special content of the capsules with a biocide, release of the substance occurs in a controlled way, providing a long-lasting effect.

**Characteristic:**

- vapour permeable
- low water uptake
- resistant to exploitation damage
- BioProtect formula – resistant to mould, fungi and algae
- high colour stability
- possibility of machine application
- available in **Colours of Nature** palette

**Packaging:**

Plastic containers of 25 kg

**Facade Paints****CT 42 Acrylic paint**

Ceresit CT 42 is used for protecting facades, concrete constructions and interiors. It can be applied on the mineral substrates (concrete, cement plasters, lime-cement plasters and lime plasters). This paint can be used for painting Ceresit plasters: CT 35/CT 36/CT 137 mineral plasters, Ceresit CT 60/CT 63/CT 64 acrylic plasters applied on traditional substrates and within Ceresit ETICS with the application of EPS-boards. The facades covered with the paint CT 42 can be washed with washing devices operating under low pressure. The exposure of the facade to the sun causes dangerous tensions, therefore dark colours should be used only on small areas, e.g. architectural details. BioProtect formula protects against biological corrosion (fungi, mould and algae). Thanks to the special content of the capsules with a biocide, release of the substance occurs in a controlled way, providing a long-lasting effect.

**Characteristic:**

- low water uptake
- resistant to exploitation damage
- resistant to weather conditions
- BioProtect formula – resistant to mould, fungi and algae
- available in **Colours of Nature** palette

**Packaging:**

Plastic containers of 15 l

**CT 44 Acrylic paint**

Ceresit CT 44 is used for protecting facades, concrete constructions and interiors. It can be applied on the mineral substrates (concrete, cement plasters, lime-cement plasters and lime plasters). This paint can be used for painting Ceresit plasters: CT 35/CT 36/CT 137 mineral plasters, Ceresit CT 60/CT 63/CT 64 acrylic plasters applied on traditional substrates and within Ceresit ETICS with the application of EPS-boards. This paint is a part of the concrete repair and concrete protection system Ceresit PCC. The structure of the coating ensures a high degree of protection against CO<sub>2</sub> diffusion, which considerably reduces the process of concrete carbonisation. The facades covered with the paint CT 44 can be washed with washing devices operating under low pressure. The exposure of the facade to the sun causes dangerous tensions, therefore dark colours should be used only on small areas, e.g. architectural details. BioProtect formula protects against biological corrosion (fungi, mould and algae). Thanks to the special content of the capsules with a biocide, release of the substance occurs in a controlled way, providing a long-lasting effect.

**Characteristic:**

- limits the process of concrete carbonatization
- crack-bridging
- low water uptake and high flexibility
- resistant to exploitation damage
- resistant to weather conditions
- BioProtect formula – resistant to mould, fungi and algae
- available in **Colours of Nature** palette

**Packaging:**

Plastic containers of 15 l



## CT 48 Silicone paint



Ceresit CT 48 is used for protecting facades, concrete constructions and interiors. It can be applied on the mineral substrates (concrete, cement plasters, lime-cement plasters and lime plasters). This paint can be used for painting Ceresit plasters: CT 35/CT 36/CT 137 mineral plasters, Ceresit CT 60/CT 63/CT 64 acrylic plasters, Ceresit CT 72/CT 73 silicate plasters Ceresit CT 174/CT 175 silicate-silicone plasters as well as silicone plasters Ceresit CT 74/CT 75 applied on traditional substrates and within Ceresit ETICS with the application of EPS-boards and mineral wool boards. The structure of the coating ensures fast moisture evaporation from the substrate and at the same time creates an efficient protection against the substrate moisture and humidity. The binder used in the paint CT 48 causes a pearl-like effect of water droplets after wetting the coat. It is highly recommended to use CT 48 in historical objects, on the renovation and aerated plasters as well as on all the surfaces where aesthetic qualities and the duration of the coating is required. The facades covered with the paint CT 48 can be washed with washing devices operating under low pressure. The exposure of the facade to the sun causes dangerous tensions, therefore dark colours should be used only on small areas, e.g. architectural details. BioProtect formula protects against biological corrosion (fungi, mould and algae). Thanks to the special content of the capsules with a biocide, release of the substance occurs in a controlled way, providing a long-lasting effect.

**Characteristic:**

- low water uptake
- vapour permeable
- especially resistant to dirt
- durable
- UV and weather resistant
- BioProtect formula – resistant to mould, fungi and algae
- available in **Colours of Nature** palette

**Packaging:**

Plastic containers of 15 l



## CT 49 Silix XD® Nanosilicone paint



Ceresit CT 49 Silix XD® nano-silicone paint is equipped with selected modified silicone and polysiloxane resins together with special fillers and pigments. Thanks to extremely high hydrophobia of the coat surface, reached by use of PTFE additives, the “pearl” effect appears – immigration of water and dirt is strongly limited. Nevertheless the coat is highly permeable to water vapour. CT 49 Silix XD® extends the aesthetic effect and the durability of the coated surface. CT 49 Silix XD® is used outdoor and indoor, especially suggested for protecting coated areas against weathering (e.g. sour rain), biological corrosion and in cases where high durability and dirt-resistance is required. It can be applied on the mineral substrates (concrete, cement plasters, lime-cement plasters and lime plasters). This paint can be used for painting Ceresit plasters: CT 35 / CT 137 mineral plasters, Ceresit CT 60/CT 63/CT 64 acrylic plasters, Ceresit CT 72/CT 73 silicate plasters, Ceresit CT 74/CT 75 silicone plasters, as well as Ceresit CT 174 /CT 175 silicate-silicone plasters applied on traditional substrates and within Ceresit ETICS with the application of EPS-boards or mineral wool boards. It is highly recommended to use CT 49 in historical objects, on the renovation and aerated plasters as well as on all the surfaces where aesthetic qualities and the duration of the coating is required. Thanks to the crack-bridging abilities of CT 49, the coat is highly recommended for the application on mineral plasters as well during the application of ETICS and during the renovation of aged insulation systems. The facades covered with the paint CT 49 can be washed with washing devices operating under low pressure. The exposure of the facade to the sun causes dangerous tensions; therefore dark colours should be used only on small areas, e.g. architectural details. BioProtect formula protects against biological corrosion (fungi, mould and algae). Thanks to the special content of the capsules with a biocide, release of the substance occurs in a controlled way, providing a long-lasting effect.

**Characteristic:**

- low absorption
- high vapour permeability
- self-cleaning (especially resistant to dirt)
- BioProtect formula – resistant to mould, fungi and algae
- high durability thanks to the Silix XD® formula
- crack-bridging
- highly resistant to UV and weather conditions
- ficsotropic
- resistant to biological contamination (fungi, algae, etc.)
- available in full palette of Ceresit **Colours of Nature**

**Packaging:**

Plastic containers of 15 l



**CT 54 Silicate paint**



Ceresit CT 54 is used for painting facades and interiors (walls and ceilings). It can be applied on the mineral substrates: concrete, cement plasters, lime-cement plasters and lime plasters. The paint is permanently bound with the substrate as a result of chemical reactions. It is highly recommended to paint new plasters because it allows for the starting of the painting work immediately, without any threats that the alkaline reaction of the fresh substrate may damage the paint coat. CT 54 Silicate paint, by the addition of water, can be used for colour alignment. It can be applied to the surfaces of colour mineral plasters, where there were blemishes or efflorescence, e.g. due to the application of plaster in unsuitable atmospheric conditions. This paint can be used for painting Ceresit plasters: CT 35/CT 36/CT 137 mineral plasters, as well as Ceresit CT 72/CT 73 silicate plasters and Ceresit CT 174/CT 175 silicate-silicone ones applied on traditional substrates and within Ceresit ETICS. Owing to no flammability and excellent vapour permeability, CT 54 is recommended in the case of Ceresit Wool System, in which the insulation materials are mineral wool boards. The exposure of the facade to the sun causes dangerous tensions, therefore dark colours should be used only on small areas, e.g. architectural details. It cannot be used on acrylic and non-mineral paint coatings. BioProtect formula protects against biological corrosion (fungi, mould and algae). Thanks to the special content of the capsules with a biocide, release of the substance occurs in a controlled way, providing a long-lasting effect.



**Characteristic:**

- excellent vapour permeability
- highly durable – resistant to exploitation damage and cleaning
- resistant to weather conditions
- BioProtect formula – resistant to mould, fungi and algae
- available in 160 colours from **Colours of Nature** palette

**Packaging:**

Plastic containers of 15 l

**VISAGE 'Natural effect' plasters and paints**

**CT 710 VISAGE Natural Stone Plaster**



The Ceresit CT 710 plaster is used for the execution of decorative plasters on traditional plasters, concrete and gypsum surfaces and chipboards, drywall boards, etc. CT 710, as a facade plaster, is one of the components used in the Ceresit Ceretherm VISAGE system for the thermal insulation for external building walls (ETICS) with the application of expanded polystyrene boards. Ceresit CT 710 is a dedicated spray application. The application on small areas is possible with a metal long float. After setting, a natural stone pattern is obtained. In the case of strong, dark colours, using CT 710 as a facade layer in the Ceresit Ceretherm system of insulation for buildings (with expanded polystyrene boards) should be limited e.g. for execution of plinths or architectural details.

**Characteristic:**

- granite or sandstone effect in several dozen colours
- plaster including mix of natural and modified aggregate for natural stone effect
- resistant to weather conditions
- resistant to scrubbing
- easy to maintain clean
- adaptive for machine application
- may be applied with stencils
- ready to use

**Packaging:**

Plastic containers of 20 kg and 20,3 kg

**CT 720 VISAGE Wood Plaster**



The Ceresit CT 720 plaster is used for the execution of decorative plasters on traditional plasters, concrete and gypsum surfaces and chipboards, drywall boards, etc. CT 720, as a facade plaster, is one of the components used in the Ceresit Ceretherm VISAGE system for thermal insulation for external building walls (ETICS) with the application of expanded polystyrene boards. CT 720 is manufactured as a white mass to be painted with CT 721 VISAGE Wood Colour Impregnate available in 6 colours.

**Characteristic:**

- ready for modelling wooden structure with templates
- highly vapour permeable
- highly durable and resistant to weather conditions
- naturally resistant to growth of fungi, algae and mould
- hydrophobic

**Packaging:**

Bags of 25 kg

**CT 60 VISAGE Acrylic Plaster 0.5 mm**

Ceresit CT 60 0.5 mm plaster is used for making building facades with the use of stencils which imitate clinker bricks or natural stones. CT 60 0.5 mm plaster, as a facade plaster, is one of the components used in the Ceresit Ceretherm systems for the thermal insulation for external building walls (ETICS) with the application of expanded polystyrene boards. Plaster may be used on concrete surfaces, traditional cement plasters, gypsum surfaces and chipboards, drywall boards, etc. In the case of strong, dark colours, the application of the material over thermal systems should be limited to small areas, e.g. architectural details. Ceresit CT 60 0.5 mm is protected against biological contamination, e.g. with fungi, mould or algae. BioProtect formula protects against biological corrosion thanks to the special content of the capsules with a biocide, release of the substance occurs in a controlled way, providing a long-lasting effect.

**Characteristic:**

- recommended for stencils
- resistant to weather conditions
- low absorption and high flexibility
- resistant to exploitation damage
- vapour permeable
- BioProtect formula – resistant to biological contamination (mould, fungi and algae)
- colour stability
- available in 12 VISAGE colours and full palette of the Ceresit **Colours of Nature**

**Packaging:**

Plastic containers of 25 kg

**CT 730 VISAGE Luminous Plaster**

The Ceresit CT 730 plaster is used for executing thin-layer plasters on concrete surfaces, traditional plasters, gypsum surfaces and chipboards, drywall boards, etc. CT 730, as a facade plaster, is one of the components used in the Ceresit Ceretherm Visage system for the thermal insulation for external building walls (ETICS) with the application of expanded polystyrene boards. Recommended specifically for elements and details in traffic and evacuation passages, passages and underground garages, warehouse halls, etc. For the execution of information and advertising signs or architectural details on walls. The intensity of the luminescence effect of the plaster is conditioned on the existing source of energy and their intensity, so it is limited in time like similar luminescent products.

**Characteristic:**

- luminescence effect (light shining in the darkness)
- resistant to weather conditions
- low absorption and high flexibility
- resistant to exploitation damage

**Packaging:**

Plastic containers of 25 kg

**CT 721 VISAGE Wood Colour Impregnate**

The Ceresit CT 721 Impregnate is used for executing a decorative layer with natural wood colours on the surface of the Ceresit CT 720 VISAGE Wood Plaster, thin-layer mineral plasters, traditional plasters, concrete and gypsum surfaces. The CT 721 Impregnate is one of the components used in the Ceresit Ceretherm VISAGE system for the thermal insulation for the external building walls (ETICS) with the application of expanded polystyrene boards. The material may be sprayed or applied with brush, roller or sponge. The impregnate features exceptional durability and resistance to soiling.

**Characteristic:**

- available in 6 natural wood colours
- resistant to weather conditions
- exceptionally durable and resistant to dirt
- hydrophobic
- high stability of colour
- ready to use

**Packaging:**

Plastic containers of 25 kg

**CT 740 VISAGE Metallic Paint**

The Ceresit CT 740 paint is dedicated to protecting facades, concrete structures, and interiors. It may be applied on mineral surfaces (concrete, cement plasters, cement-lime and lime plasters). It may be used to paint over mineral, acrylic and silicone Ceresit plasters applied on traditional surfaces and included in the Ceresit Ceretherm systems for the insulation of the external walls in buildings (ETICS), with the application of expanded polystyrene boards. The facades covered with the CT 740 paint are given a metallic effect. It is specifically recommended for small areas and architectural details.

**Characteristic:**

- low absorption
- resistant to weather conditions
- available in 3 colours

**Packaging:**

Plastic containers of 4 l



**CT 750 VISAGE Opal Lack**

The Ceresit CT 750 lack is used for making decorative layers on the surface of thin-layer plasters, traditional plasters, concrete and gypsum surfaces. The CT 750 lack is one of the components used in the Ceresit Ceretherm VISAGE system for the thermal insulation for the external building walls (ETICS), with the application of expanded polystyrene boards. The material is dedicated to being applied with a roller, brush, sponge or by spraying. It is specifically recommended for small areas and architectural details.

**Characteristic:**

- glow of opalescence colour changes depending on light angle
- ready to use
- resistant to weather conditions
- available in 2 colours

**Packaging:**

Plastic containers of 2 l

**CT 760 Architectural Concrete Plaster**

Ceresit CT 760 Visage plaster is used for creating thin-layer decorative coatings on building facades, with the effect of architectural concrete. CT 760, as a facade plaster, is one of the components used in the external thermal insulation composite Ceresit Ceretherm system for building walls (ETICS) with the application of expanded polystyrene boards. The plaster can also be used on concrete substrates, traditional plasters, gypsum substrates and on chipboards, gypsum boards, etc. Different techniques of application and surface finish can produce the effects of raw architectural concrete of various forms, e.g. formwork, honeycombing, pitting, etc. Additional decorative effects, such as imprinted bolt heads, tie rods, the connections between the formwork panels or other items, can be created at a time when the compound is still fresh and are obtained on the plaster through the use of simple tools or materials, such as iron or steel plumbing pipe elbows, spirit level or darby float, various types of leather or foil rollers, brush or paintbrush.

**Characteristic:**

- flexible
- resistant to scratches and damages
- resistant to weather conditions
- ready for use and easy to apply
- tinted in mass
- available in three shades of grey
- a wide range of possible structures and application techniques
- for indoor and outdoor applications

**Packaging:**

Plastic containers of 20 kg

**Impregnation agents, anti-fungus and other materials****CT 13 Facade and Balcony impregnation agent**

For impregnating clinker and faced clay bricks, mineral exterior plasters and paintwork and roof tiles. For producing a water-repellent effect on absorbent, alkaline surfaces, e.g. concrete, fibrous cement, sandlime brickwork, fresh plasters and newly grouted joints. For protecting facades against the penetration of driving rain and aggressive substances in the air. For preventing efflorescence, frost damage and the formation of mildew and moss. For reliable, water of a repellent impregnation, even with existing hairline cracks of up to 0.2 mm width. Do not use on tiles and to protect substrates from ground moisture, surface waters, water under pressure, etc., as well as synthetic resin plasters and dispersion based facade paints.

**Characteristic:**

- reducing absorption
- alkali resistant
- vapour permeable
- dirt resistant
- deeply penetrating

**Packaging:**

Plastic canisters of 10 l

**CT 99 Anti-fungus**

For removing fungi (Alternaria) and algae (Apatococcus Vulgaris). For destroying micro-organisms, bacteria etc. without causing risk to humans and the environment. For indoor and outdoor use, for substrates like: paint coating, plasters, concrete, etc. Fungi Alternaria appear mainly in the external environment, but, at the present time due to the high hermeticity of the interiors, are more and more inside buildings. They usually colonize damp and dusty walls and around windows and window sills. In the case of high spores concentration, there is a risk for people who are allergic to fungal allergens. In the case of a facade exposed to the algae it destroys them very effectively without causing the destruction of the plasters. For indoor and outdoor use.

**Characteristic:**

- easy to use
- heavy-metal-free
- can be painted
- vapour permeable

**Packaging:**

Plastic containers of 1 l, plastic containers with atomiser of 0,5 l



**CT 240 Winter additive for wet plasters and paints**



This additive accelerates binding and drying of Ceresit plaster coatings and paints in conditions of low temperature and high air humidity. Can be used as additive to thin-coat acrylic plasters (CT 60, CT 63, CT 64), silicone-silicate plasters (CT 174, CT 175), silicone plasters (CT 74, CT 75), priming paints (CT 15, CT 16), acrylic paints (CT 42, CT 44) and silicone paints (CT 48, CT 49). The additive enables conducting works in the late autumn and early spring periods, when the temperature at night drops below zero. Application of Ceresit products should take place when the air and ground temperatures are above zero and the fall of the temperature below zero is permissible after 6-8 hours after finishing application.

**Characteristic:**

- enables conducting works in low temperature and high air humidity
- easy to use
- neutral for other materials properties

**Packaging:**

Plastic container 100 ml

**CT 280 Winter additive for ETICS adhesives and rendering mortars**



The product is intended for use as an additive in the late autumn and early spring periods, when the temperature at night drops below zero. It is used as an additive for Ceresit cementbase mineral adhesive mortars and adhesive and reinforcing mortars (CT 83, CT 85, CT 87, CT 180, CT 190), in order to accelerate binding and drying in low temperatures and high air humidity. The additive enables conducting works in the late autumn and early spring periods, when the temperature at night drops below zero. Application of Ceresit products should take place when the air and ground temperatures are above zero and the fall of the temperature below zero is permissible after 6-8 hours after finishing application.

**Characteristic:**

- enables conducting works in low temperature and high air humidity
- easy to use
- neutral for other materials properties

**Packaging:**

Plastic container 250 g

**CT 29 Plaster filler**



Plaster filler Ceresit CT 29 is mainly used for repairing cement-lime plasters inside and outside the buildings. It may be applied both to fill deep losses (e. g. chases after installation work) and to smooth the plaster surface as well. The properties of CT 29 make it possible to apply thin 'putties' on the walls and ceilings, to cover rough and uneven cement and cement-lime plaster surfaces. Due to its good adhesion property this material may be used for applying single layer plasters on the concrete substrates (monolithic and prefabricated ones) as well as on the even walls. CT 29 is also designed to smooth mineral substrates before the application of ceramic tiles and thermal insulation boards, for traditional plasters and small masonry work. Recommended thickness: up to 5 mm in one operating activity, total thickness (a few layers) to 30 mm.

**Characteristic:**

- vapour permeable
- resistant to weather conditions
- good adhesion
- reinforced with microfibres
- easy to apply

**Packaging:**

Bags of 5 kg and 25 kg

**Polyurethane sealant CS 29**



Ceresit CS 29 is a one component polyurethane sealant. It creates a filling, resistant to various weather conditions. This product is part of the Ceresit System solutions.

CS 29 is ideal for:

- sealing and filling joints in buildings,
- on the terraces and balconies, and thermal insulation of walls (such as expansion joints on buildings),
- sealing of industrial tanks, trays, tanks, industrial floors, and floors in multistation garages,
- sealing of the joints of the parking surfaces, roof elements,
- sealing connections at crossing technological piping,
- external and internal seals in concrete, wood, steel, aluminum, zinc, tiles and PVC,
- sealing the joints of construction buildings,
- sealing of window frames and door frames made of wood, metal, aluminum or PVC with a wall and plaster,
- sealing of the curtain wall joints,
- filling gaps, cracks, cracks in buildings, in particular before painting and plastering.

Ceresit CS 29 should not be used for work related to the glazing or sealing of a window, and to connections from PE, PP and bituminous surfaces. Should not be used for setting and mounting the mirrors.

**Characteristic:**

- excellent adhesion to many materials
- highly flexible
- waterproof
- UV resistance
- permanently flexible even at low temperatures
- resistant to salt water, weak acids and lime
- resistant to various petroleum products
- can be painted
- easy to use

**Packaging:**

Metal cartridges of 300 ml (colours: grey, beige, brown)  
Aluminium tubes of 600 ml (only grey)

**CT 97 Acrylic for plaster**



Ceresit CT 97 is a special acrylic sealant, which resembles the structure of the plaster after drying due to the content of fine fractions of aggregates. The product is a component of Ceresit Ceretherm Repair system used to repair damaged and cracked facades made in ETICS technology. It may be used to fill the external and internal cracks and scratches in the insulation systems, but also in all the mineral structural materials, as well as in rough structure.

**Characteristic:**

- to repair cracks in the facade
- suitable for painting
- excellent adhesion to mineral materials
- waterproof
- UV resistant
- permanently flexible even at low temperatures
- easy to use

**Packaging:**

Plastic cartridge of 300 ml

**CT 98 Concentrate for removing impurities**



Ceresit CT 98 allows for the washing and degreasing of the heavily dirty facades of the buildings constructed in the ETICS technology finished with thin coats of mineral, acrylic, silicate, silicone and silicate-silicone plasters, in the traditional technologies, such as cement and lime plasters, facades made of natural stone, artificial stones or finished with ceramic coating and facades made of glass and aluminum. The product is a component of the Ceresit Ceretherm Repair system. After washing the facade with the concentration, surfaces may be renewed by painting with Ceresit paints. It may also be used to clean and degrease the mineral floors which are contaminated before successive layers of floor are applied. It removes motor oil, dry dirt, salt sprinkled on the roads, soot and light hydrocarbons. It can also be used to clean glass and plastic. It is intended for indoor and outdoor applications.

**Characteristic:**

- effectively removes dirt from the facade
- high performance
- for indoor and outdoor use
- does not contain caustic substances
- removes dirt, oils, greases

**Packaging:**

Plastic canisters of 5 l

**Supplementary products**

**CT 315 Foamed Polystyrene Thermal Insulation Boards**



50 x 100 cm, 2-30 cm thick foamed polystyrene boards designed for use in Ceresit Ceretherm ETICS systems, EN 13163 compliant. Available in different characteristics / classifications / types. Flammability class: min. E.

**CT 320 Mineral Wool Thermal Insulation Boards**



60 x 120 cm, 5-30 cm thick mineral wool thermal insulation boards designed for use in Ceresit Ceretherm Wool System, EN 13162 compliant. Flammability class: A1.



20 x 120 cm, 5-30 cm thick lamella-type mineral wool thermal insulation boards designed for use in Ceresit Ceretherm Wool System, EN 13162 compliant. Flammability class: A1.

**CT 325 TT160 Glass-Fibre Mesh**



Reinforcing mesh for embedding into reinforcing mortars for Ceresit External Thermal Insulation Composite Systems (ETICS). For facades or pedestals exposed to higher mechanical loads, it is preferred to use CT 325 in two layers or use higher density mesh of 330 g/m<sup>2</sup>.

**Packaging:**

Roll of 1,1 m width and 50 m length

**CT 327 TT330 Glass-Fibre Armoring Mesh**



Reinforcing and armoring 'panzer' glass fibre mesh for embedding into reinforcing mortars for Ceresit External Thermal Insulation Composite Systems (ETICS). It is preferred to use for facades with higher stress or higher mechanical loads.

**Packaging:**

Roll of 1,0 m width and 25 m length





# Ceresit

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Ceretherm Systems. Advanced and durable solutions.



Henkel CEE  
Erdbergstrasse 29  
1030 Vienna

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