



build



DuraRend Systems

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ABOUT KILSARAN

Kilsaran International are the market leader in dry mortar products and systems.

Founded in 1964, Kilsaran are a well-established and trusted name within the construction industry. We pride ourselves on our vast product range and tightly controlled processes, with specific emphasis placed on quality, service, sustainability and above all customer needs.



➤ Facility

Our dry mortar production facility, commissioned in 2006, is a state-of-the-art computerised plant which has an annual output capacity in excess of 100,000 tonnes, and has the ability to bag 1400 bags of product every hour.

We have invested heavily in our on-site laboratories, allowing us to carry out a vast range of analysis, testing, research and development of dry mortar products.

➤ Our Team

Kilsaran International has a dry products team consisting of production staff, and technical personnel with engineering backgrounds and unrivalled experience in dry mortar products and systems spanning 20 years. Our technical team are responsible for the research and development of our new products, the on-going testing and analysis of our products and assisting our clients in the specification and use of our product range.



DuraRend – WHAT IS IT?

Kilsaran Durarend is a natural grey coloured rendering mortar designed for single coat application to most common brick work and block work backgrounds. DuraRend is suitable for finishing with scraped, sponge, float or nap finishes.

DuraRend is used as a levelling preparatory coat for a range of finishes including synthetic resin thin coat renders and paints.



➤ Systems

- DuraRend Classic
- DuraRend Ultra
- DuraRend Flex

Product Yield

Approximately
1.9kg/mm/m²

Availability

- 25Kg bags
- Silos

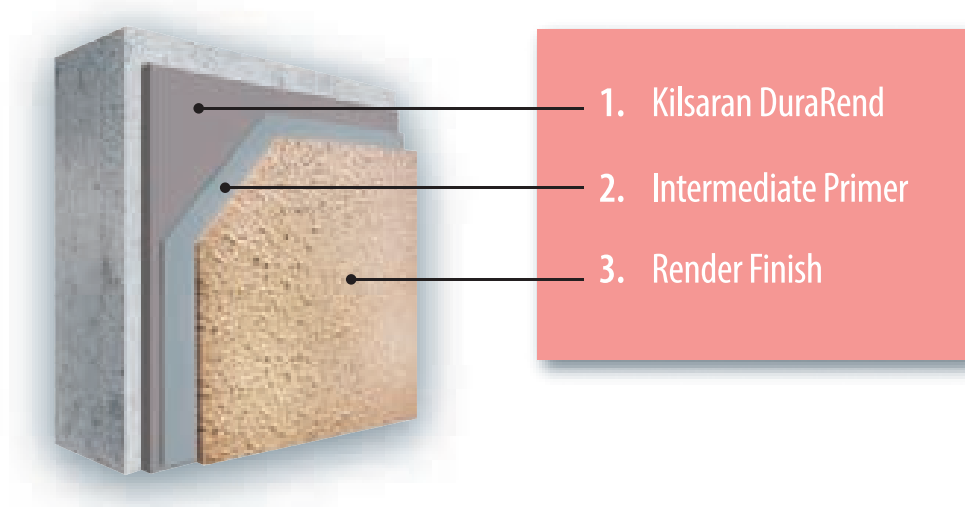
➤ Benefits

This product offers many advantages over conventional site mixed or ready-mixed rendering mortars:

- Increased productivity due to one coat application
- Polymer modified
- Eliminates inaccurate site mixing
- Excellent workability and adhesion
- Low shrinkage / good crack resistance
- Suitable as float coat



Cost effective system suitable for low movement risk



SYSTEM COMPONENTS

Kilsaran DuraRend	Cementitious Polymer Modified Sand & Cement Render applied at 15 - 25mm thickness
Primer	Ceresit CT 16 Primer: Synthetic resin dispersion with mineral fillers and pigments
Render	Ceresit CT74 Silicone, CT79 Elastomeric, CT174 Silicate-Silicone etc.

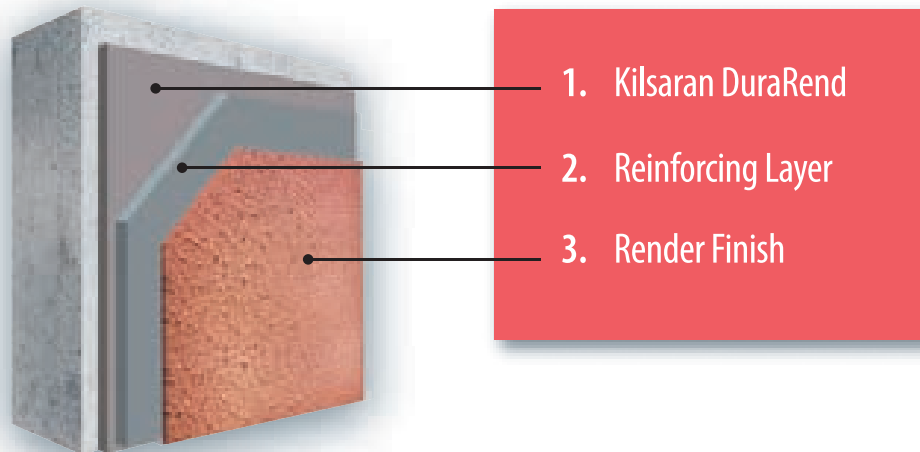
> Benefits

- The **DuraRend Classic** system brings the benefit of a low maintenance, weather resistant coloured render with a moderate budget.
- The Classic system should primarily be used where there is a low risk of substrate movement.

SYSTEM OVERVIEW

Application Areas	Masonry Substrates of blockwork & brickwork
	New build and existing structures
Application	Kilsaran DuraRend applied in a single coat application providing a level substrate for the top thin coat render. Render allowed to cure prior to priming.
	Coloured Primer applied by brush and allowed to dry for 2-3 hours.
Render Finish	Stone or rustic texture in a large range of colour options.
	Render applied by machine or trowel and textured to the desired finish.

Cost effective system suitable for medium movement risk



SYSTEM COMPONENTS

Kilsaran DuraRend	Cementitious polymer modified sand & Cement Render applied at 12 - 25mm thickness
Reinforcing Layer	Ceresit CT 87 : <ul style="list-style-type: none"> Cementitious white "2 in 1" reinforcing mortar with fibres, polymers and hydrophobic agents. Ceresit CT325: <ul style="list-style-type: none"> Alkali resistant glass fibre mesh fabric
Render	Ceresit CT74 Silicone, CT79 Elastomeric, CT174 Silicate-Silicone etc.

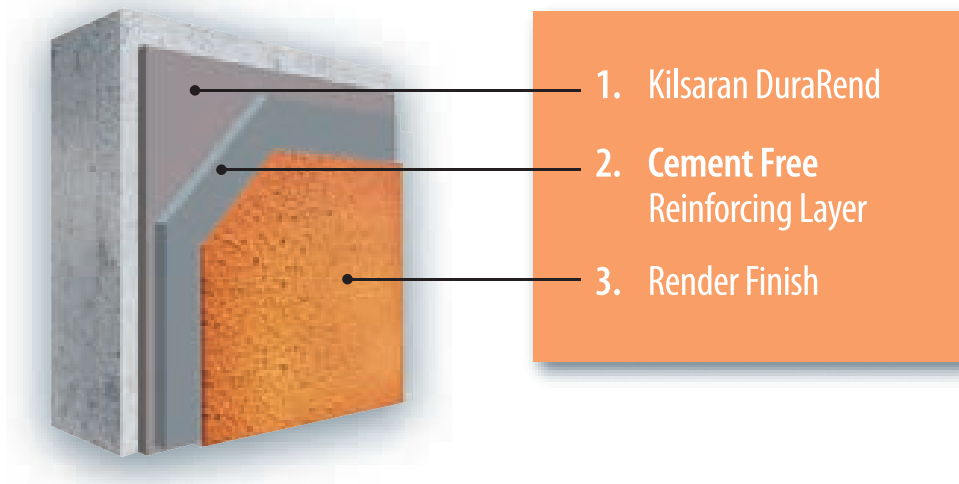
➤ Benefits

- The **DuraRend Ultra** system brings the benefit of a low maintenance, weather resistant coloured render with extra crack resistance.
- The Ultra system should primarily be used where there is a medium risk of substrate movement.

SYSTEM COMPONENTS

Application Areas	Masonry Substrates of blockwork & brickwork
	New build and existing structures
Application	Kilsaran DuraRend applied in a single coat application providing a level substrate for the top thin coat render. Render allowed to cure prior to priming.
	Reinforcing coat applied at 3-4mm thickness with glass fibre mesh embedded.
Render Finish	Stone or rustic texture in a large range of colour options.
	Render applied by machine or trowel and textured to the desired finish.

Cost effective system suitable for high movement risk



SYSTEM COMPONENTS

Kilsaran DuraRend	Cementitious polymer modified sand & Cement Render applied at 12 - 25mm thickness
Reinforcing Layer	Ceresit CT 100 : <ul style="list-style-type: none"> Specially selected fillers and rheology controllers which, along with a special system of polymer emulsions, create the so-called dispersion matrix with a combination of fibres. Ceresit CT325: <ul style="list-style-type: none"> Alkali resistant glass fibre mesh fabric
Render	Ceresit CT74 Silicone, CT79 Elastomeric, CT174 Silicate-Silicone etc.

Benefits

- The **DuraRend Flex** system brings the benefit of a low maintenance, weather resistant coloured render with a n extremely high level of crack resistance.
- The Flex system should primarily be used where there is a high risk of substrate movement.

SYSTEM OVERVIEW

Application Areas	Masonry Substrates of blockwork & brickwork
	New build and existing structures
Application	Kilsaran DuraRend applied in a single coat application providing a level substrate for the top thin coat render. Render allowed to cure prior to priming.
	Reinforcing coat applied at 3mm thickness with glass fibre mesh embedded.
Render Finish	Stone or rustic texture in a large range of colour options.
	Render applied by machine or trowel and textured to the desired finish.

Renders technical parameters

European standards of the EN 1062 series define the following values for thermal insulation systems:

- absorption,
- water vapour permeability,
- self-cleaning ability

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

Class	Water permeability coefficient W (kg/m ² x h0.5)	Classification
I	below 0.1	resistant to water
II	0.1-0.5	water repellent
III	0.5-2.0	water limiting
IV	above 2.0	water permeable

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 water vapour permeation than the given material [m]

d – Layer thickness [m]

Sd = $\mu \times d$ [m]

Classification of facade materials according to their Sd coefficient:

Type of coating system	Loss of whiteness degree (%)	Sprinkling angle (°)
Silicate-organic system	0.11	79
Silicone system	0.19	120
Acrylic system	2.12	104

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 rate of absorption.

The characteristics of different plasters according to their binders are summarised below.

➤ Flexibility

- In the acrylic and silicone plasters the amount of 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 settling 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.

RENDERS (PLASTERS)

➤ 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.

➤ 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.

➤ 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.

➤ 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.

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	++++	+++++	+++++	+++++	+++++

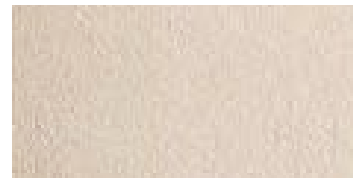
RENDERS (PLASTERS)

Ceresit Plasters textures

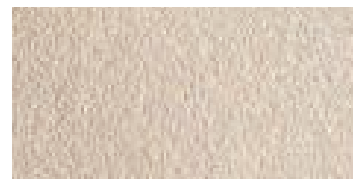
The choice of plaster texture and the technique of application influence the final appearance of the facade. One can decide between more definite rustic texture and a subtle stone texture. The expected effect is obtained by choosing the adequate grain size and the floating technique, which can be vertical,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

➤ '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 137 mineral plaster, grain size 2.5 mm, obtained by floating with a plastic float



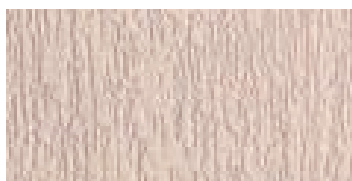
Stone texture produced with Ceresit CT 60 acrylic plaster, grain size 1.5 mm, obtained by floating with a plastic float

➤ '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.



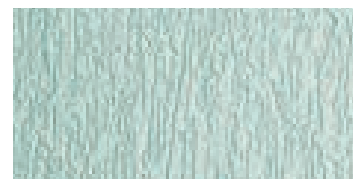
Rustic texture produced with Ceresit CT 35 mineral plaster, grain size 2.5 mm, obtained by circular floating with a plastic float



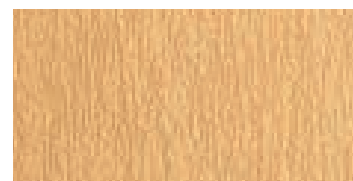
Rustic texture produced with Ceresit CT 35 mineral plaster, grain size 2.5 mm, obtained by floating with a plastic float in one direction



Rustic texture produced with Ceresit CT 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 3.5mm, obtained by floating with a plastic float in one direction



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



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



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

RENDERS (PLASTERS)

Benefits of Ceresit Plasters

➤ Long-lasting and strong colour

- Self-cleaning property, high resistance to dirt pick up and protection against extreme weather conditions provide a long-lasting, resistant colours.

➤ Higher value of your house

- Long-lasting and attractive look of the facade as well as better protection properties cause significant increase of general property value.

➤ Improved protection properties

- Best protection of the facade is guaranteed thanks to advanced features like: high elasticity, BioProtect formula and lower absorbability of water.

➤ Better overall durability of facade

- Thanks to higher protection against damage, weather conditions and water penetration facade keeps the best protection properties and perfect look for longer.

CERESIT PLASTERS TYPES AND CHARACTERISTICS

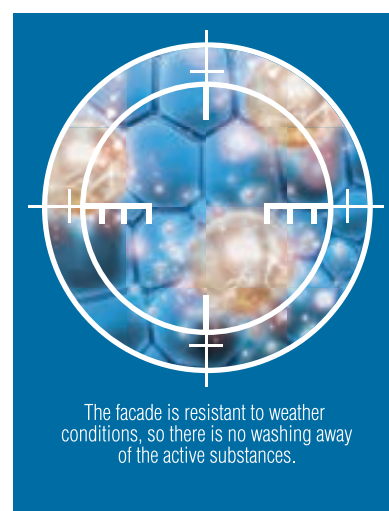
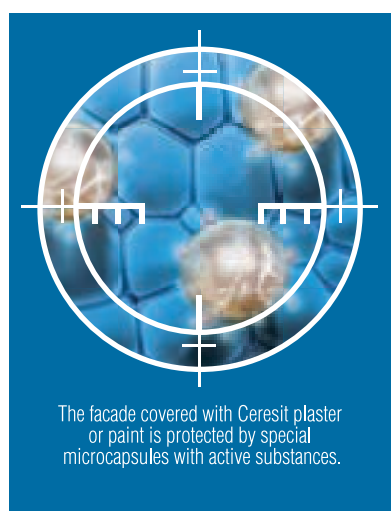
Type	Name	Structure and grain	Characteristics
Acrylic	CT 60	'stone' structure grain 1.5mm grain 2.0mm grain 2.5mm	• weather resistant • ready to use • low absorption and high flexibility • resistant to exploitation damages • vapour permeable (breathing) • BioProtect formula – resistant to mould, fungi and algae • colour stability • possibility of mechanical application • available in full colour range of Ceresit Colours of Nature®
	CT 63	'rustic' structure grain 3.0mm	• weather resistant • ready to use • low absorption and high flexibility • resistant to exploitation damages • vapour permeable (breathing) • BioProtect formula – resistant to mould, fungi and algae • colour stability • available in full colour range of Ceresit Colours of Nature®
	CT 64	'rustic' structure grain 2.0mm	• weather resistant • ready to use • low absorption and high flexibility • resistant to exploitation damages • vapour permeable (breathing) • BioProtect formula – resistant to mould, fungi and algae • colour stability • available in full colour range of Ceresit Colours of Nature®
Silicate-Silicone	CT 174	'stone' structure grain 1.5mm grain 2.0mm	• vapour permeable (breathing) • ready to use • low absorption • resistant to exploitation damage • highly weather resistant • BioProtect formula – resistant to mould, fungi and algae • colour stability • possibility of mechanical application • available in full colour range of Ceresit Colours of Nature®
	CT 175	'rustic' structure grain 2.0mm	• vapour permeable (breathing) • ready to use • low absorption • resistant to exploitation damage • highly weather resistant • BioProtect formula – resistant to mould, fungi and algae • colour stability • possibility of mechanical application • available in full colour range of Ceresit Colours of Nature®
Silicate	CT 72	'stone' structure grain 1.5mm grain 2.0mm grain 2.5mm	• highly vapour permeable (breathing) • ready to use • highly durable – resistant to exploitation damage and cleaning • weather resistant • BioProtect formula – resistant to mould, fungi and algae • possibility of mechanical application • available in full colour range of Ceresit Colours of Nature®
	CT 73	'rustic' structure grain 2.0mm	• highly vapour permeable (breathing) • ready to use • highly durable – resistant to exploitation damage and cleaning • weather resistant • BioProtect formula – resistant to mould, fungi and algae • available in full colour range of Ceresit Colours of Nature®
Silicone	CT 74	'stone' structure grain 1.5mm grain 2.0mm grain 2.5mm	• high dirt resistance • ready to use • highly flexible and impact resistant • high colour stability • highly durable • very limited absorption and high vapour permeability (breathing) • highly weather resistant • BioProtect formula – resistant to mould, fungi and algae • available in full colour range of Ceresit Colours of Nature®
	CT 75	'rustic' structure grain 2.0mm	• high dirt resistance • ready to use • highly flexible and impact resistant • high colour stability • highly durable • very limited absorption and high vapour permeability (breathing) • highly weather resistant • BioProtect formula – resistant to mould, fungi and algae • available in full colour range of Ceresit Colours of Nature®
Silicone-Acrylic Mosaic	CT 77	grain 1.0 - 1.6mm grain 1.4 - 2.0mm	• 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
Elastomeric	CT 79	'stone' structure grain 1.5mm	• extremely resistant to operating damage – 100 J force • extremely resistant for thermal stresses • very low water uptake and high hydrophobicity • highly vapour permeable • available in Ceresit Colours of Nature® and Ceresit Intense Colour System palette • highly resistant to fungi, algae and mould development • self-cleaning properties

The use of Ceresit plasters and paints with the BioProtect formula on 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.

➤ 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.



➤ 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. This also means that the active substances release process is completely safe for humans, animals, and the environment.

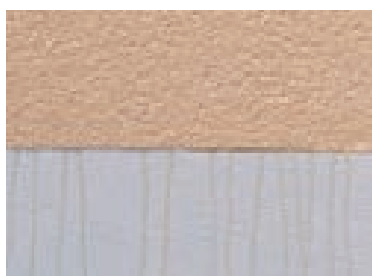


CT 79 ELASTOMERIC PLASTER

➤ 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.





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