CLAY

Building with Clay.

YOSIMA
CLAY PLASTER
CLAYFIX CLAY DIRECT

PRODUCT CATALOGUE

DRYWALL CONSTRUCTION
CLAYBOARDS
INTERNAL INSULATION
PAVADENTRO
RAMMED EARTH
MASONRY
TIMBER RENDER
LIME RENDER
LIGHT CLAY
EARTH FILL MATERIALS

CLAYTEC – MORE THAN 25 YEARS' KNOW-HOW IN EARTH CONSTRUCTION

Earth is one of the most aesthetically pleasing building materials that nature has to offer. Whether used in its pure form as a raw material, formed into rammed earth walls or applied as a smooth wall plaster, the presence of the material can always be felt. Rooms made with clay are more than just skin deep. They are not just natural and ecological; they are also elegant and appealing to the senses – each and every day.

Earth contributes to creating healthy and comfortable interiors, a product of the specific properties of the clay minerals it contains. Rooms made with clay are healthy, relaxing and promote a sense of well-being. In fact, many of our customers say that their homes feel as restful as being on holiday

Earth also helps resolve technical problems. Building boards made of clay lend drywall constructions much improved sound insulation properties. Earth-based internal insulation systems are ideal for renovating beautiful historical facades. And special earth building products and techniques have proven themselves over hundreds of years for the building and repair of timber frame constructions.

At Claytec we have been working with clay and earth for nearly 30 years. During this time we have not only perfected the professional production of building materials but have also acquired extensive know-how on building with earth. Whether you are a contractor or a private homeowner working with earth building products, we can tell you how it works.

For planners and architects, we provide a comprehensive library of detailed technical information and media. All this reinforces Claytec's reputation as a leading provider of building products made of clay and earth.

FREQUENTLY ASKED QUESTIONS ON BUILDING WITH EARTH

WHAT IS THE DIFFERENCE BETWEEN YOSIMA AND CLAYFIX?

YOSIMA is a clay mortar and is applied as a 2 mm thick topcoat using a trowel. CLAYFIX *clay direct* is a coating that is applied like paint with a broad brush. YOSIMA is available in 140 colours and 8 surface textures, while CLAYFIX *clay direct* is provided in 12 of the most popular colours and 2 textures.

WHAT ARE TEXTURAL ADDITIVES?

Organic and mineral additives can be added to YOSIMA mortar to give it a particular texture and character, for example a glittering finish using FLASH or a harmonious grain using JAPAN. Very aesthetic surface finishes can still be achieved without the addition of textural additives, and indeed most customers choose this option.

ARE SMOOTH SURFACE FINISHES ALSO POSSIBLE?

YOSIMA plaster mortar surfaces are usually rubbed to create a fine-grain finish but they can also be polished to create a smooth finish. This especially exacting technique can be used to create particularly elegant wall finishes. In many cases, however, the fine-grain rubbed texture produces a calmer overall impression. Bear in mind that it is hard to judge the overall effect of surface finishes from a small test sample.

CAN PLASTERS BE APPLIED TO ALL SUBSTRATES?

Yes, clay plasters can be applied onto all conventional substrates in buildings as long as they are stable and sufficiently absorbent. For less suitable substrates, we provide special primers which make it possible, for example, to coat plasterboard with a skim coat of clay plaster.

WHAT OPTIONS EXIST FOR DRYWALL CONSTRUCTION?

The Claytec Clayboard is drywall building board made of earth with a proven track record over many years. A particularly cost-effective option is our new system with clay adhesive mortar and Claytec Pavaboard tongue and groove woodfibre board.

IS CLAY PLASTER ALSO FOR "NORMAL" PEOPLE?

Clay plaster is now recognised as a thoroughly modern building material and our customers come from all walks of life. Our Mineral 16 Clay Plaster, for example, can be processed with the same plastering pumps as conventional gypsum plaster.

CAN CLAY AND EARTH BE USED IN OFFICE BUILDINGS?

Yes. In recent years the use of clayboards and clay plasters in office building has become increasingly widespread. The offices of the United Nations Framework Convention on Climate Change in Bonn, Germany, is a case in point. Good sound insulation and a pleasant indoor working environment are widely regarded as being important and positive for the productivity and well-being of office staff.

DOES CLAY PLASTER REALLY IMPROVE THE INDOOR AIR CLIMATE?

Tests show that good clay plasters are able to store significantly more water vapour than other building materials. This effect is even more pronounced for many kinds of odours. The clay minerals actively bind water molecules. As humidity or odour levels in a room subside, the clay gradually releases the molecules back into the room, without any traces of emissions or odours.

HOW THICK DOES CLAY PLASTER HAVE TO BE TO HAVE AN EFFECT ON ROOM CLIMATE?

Various reliable investigations suggest a thickness of around 15 mm. This thickness contains sufficient clay minerals to produce a noticeable effect. Fine-finish applications are therefore mostly decorative, although a 2–3 mm layer of clay plaster still has a greater effect than most other wall coatings.

WE ARE PLANNING TO INSTALL AIR-CONDITIONING. IS CLAY PLASTER STILL A GOOD IDEA?

An air-conditioning plant circulates a specific minimum quantity of air on a continuous basis. Clay and earth building materials work instead by buffering strong swings in temperature and humidity. Clay plaster is in effect a self-regulating low-tech air conditioner.

ARE CLAY PLASTERS SUITABLE FOR USE IN KITCHENS AND BATHROOMS?

Clay plasters are often used in kitchens and bathrooms in private houses where its moisture-regulating properties are particularly useful. To maximise this effect, tiling should be restricted to those areas where it is needed. Tiling can be applied to a clay plaster substrate if the area is not exposed to splash water. Where splash water is to be expected, for example in showers and around bathtubs, other mortars or plasterboard are more suitable as a base for tiling.

WHAT KIND OF EARTH BUILDING PRODUCTS ARE SUITABLE FOR TIMBER CONSTRUCTIONS?

Dry earth building products are most suitable for timber construction as they avoid introducing moisture into the building site. The Claytec Clayboard can be used for drywall constructions along with clay dry lining panels for cladding. A particularly cost-effective solution is the use of Claytec Pavadentro woodfibre insulation panels in combination with a thin layer of clay adhesive mortar. YOSIMA clay plaster mortar can be applied to this as a top coat.

ARE EARTH BUILDING PRODUCTS SUITABLE FOR USE IN BUILDINGS THAT CONFORM TO PASSIVE HOUSE ENERGY STANDARDS?

Absolutely! In conjunction with a special drywall construction method, earth bricks are a good way to add thermal mass to superinsulated passive house buildings, reducing the

risk of overheating in summer. Instead of laying bricks in mortar as masonry walls, they are "stacked" inside a drywall construction. Wall heating systems embedded in clay plaster are also an effective way of heating using alternative energy sources.

DOES INTERNAL INSULATION WORK?

CLAYTEC has helped pioneer the use of internal insulation for many years. Earth building products are often mentioned in connection with internal insulation, due to their advantageous material properties. Internal insulation is increasingly being specified and adopted as a means of insulating external walls while retaining their external features.

HOW IS A RAMMED EARTH CONSTRUCTION BUILT?

The earth mixture is poured between two securely anchored pieces of formwork and carefully compacted using considerable force. The building of rammed earth walls requires experience. A simpler and easy-to-calculate option is to use our new prefabricated rammed earth building elements and objects.

WHY ARE EARTH BUILDING PRODUCTS SO WELL SUITED FOR THE RENOVATION OF TIMBER FRAME STRUCTURES?

Earth building materials and techniques have proven themselves over many hundreds of years, and have been scientifically verified in studies and research projects. But even without this knowledge, one can sense that timber and earth – as authentic, natural and historical building materials – are a good match for one another.

CAN CLAY PLASTERS BE MADE WATER IMPERVIOUS FOR USE AS EXTERNAL RENDER?

No, as they would then no longer count as true earth materials. Special coatings can provide a certain degree of protection, but generally speaking surfaces exposed to the weather should be coated with an additional layer of lime render.

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FINE-FINISH SURFACES

RADIANT SURFACES

YOSIMA clay design plasters are made of naturally occurring coloured soils. Carefully graded with natural materials, and without any colour additives or pigments, they are a pleasure to behold – the perfect choice for beautiful living environments. Create elegant and refined architectural interiors with YOSIMA design clay plasters in a range of specially selected coloured earth mixtures ranging from pure white to vibrant red.

The choice is yours: 7 carefully selected colour palettes are available in a total of 140 different tones and 1120 colour and textural variants. Pre-mixed and ready to use.

YOSIMA CLAY DESIGN PLASTER

YOSIMA = wall design with coloured clays and earth. What makes it unique: the clay is binder and colour in one. Its subtle colour variations give surfaces a natural and authentic character. We do not add any pigments or artificial colours.

YOSIMA is available in three classic colours and five base colours. These base colours along with white and seven further blended colour palettes, also available mixed with white, result in a total range of 140 different colours. Further surface finishes can be achieved through the addition of seven textural additives to the plaster. Altogether there are 1120 different possible variants of colour and texture, including the variants without textural additives.

YOSIMA clay design plaster is applied at a thickness of 2 mm.

All variants are available premixed by Claytec or a regional YOSIMA mixing centre. The base colours are available in 2 kg bags. The minimum quantity is a 20 kg bucket, sufficient for approximately 6 m². For larger surfaces we can also provide 500 kg heavy-duty big-bags.

CLASSIC COLOURS

WHITE

ANTIQUE WHITE

KOLUMBA GREY

BASE COLOURS IN A VARIETY OF LIGHTER TONES

RED

YELLOW

GREEN

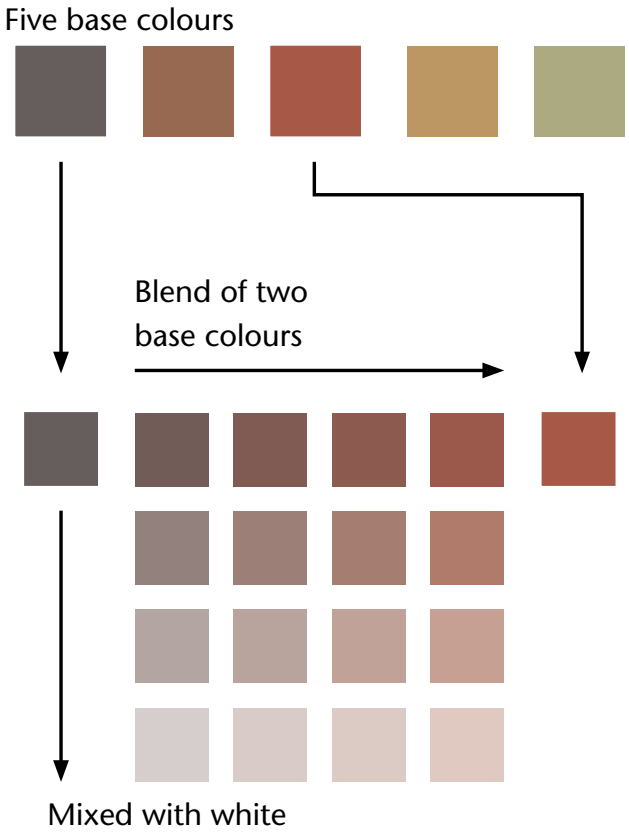
BROWN

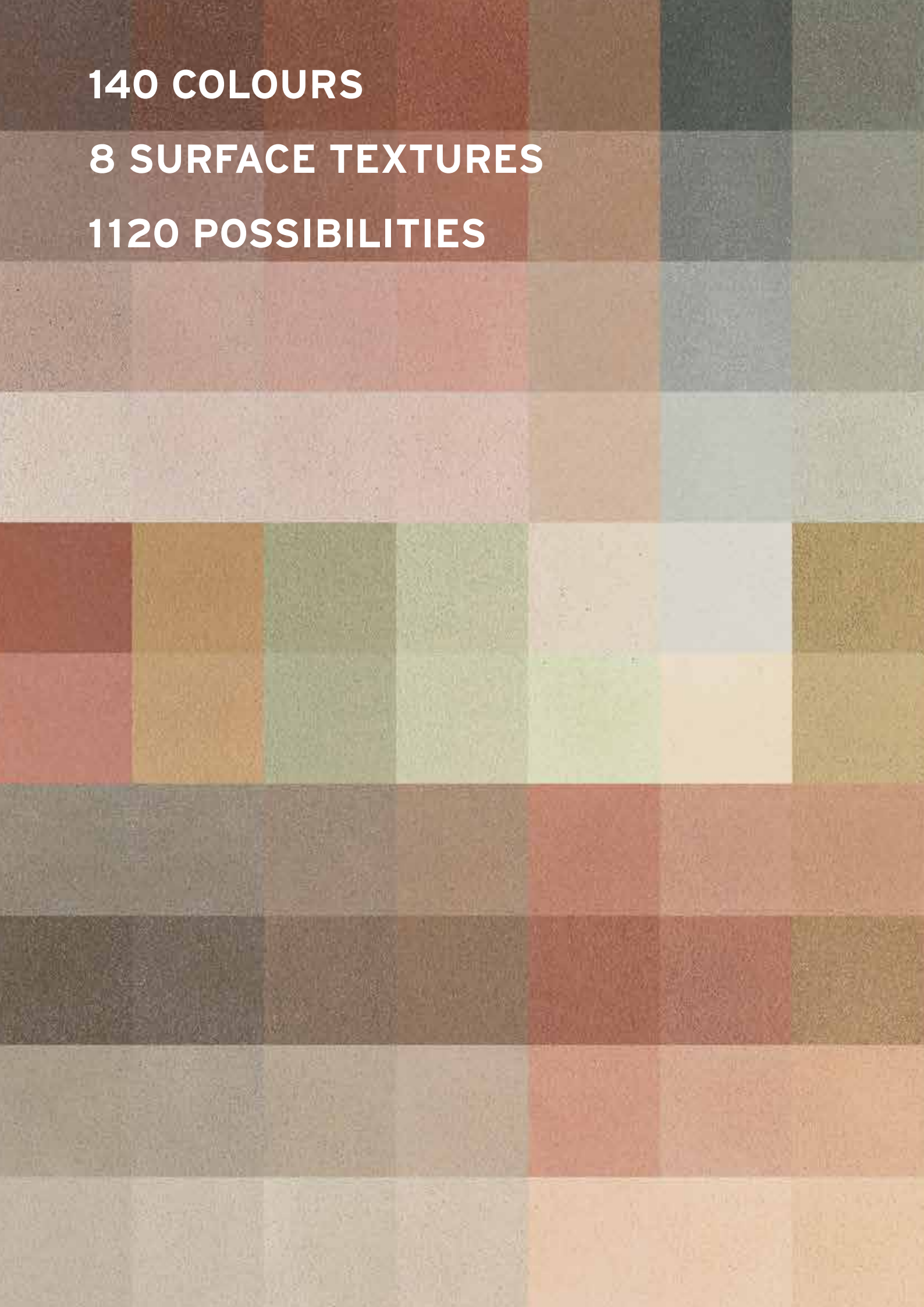
BLACK

COLOUR PALETTES

Claytec has selected seven especially attractive colour palettes from the vast range of possible colours. Each colour palette is made from two base colours, available in four different blends. These blends are additionally available in three lighter tones. Together with the base colours, this results in a finely graded spectrum of possible colours.

German langure




140 COLOURS
8 SURFACE TEXTURES
1120 POSSIBILITIES

RICHNESS AND VARIETY

YOSIMA comprises a new range of rich colours made entirely of natural materials. Spanning an exceptionally broad spectrum of earth tones, YOSIMA provides you with a wealth of options for designing your interiors, organised in a system of tones and lightnesses for easy combination.

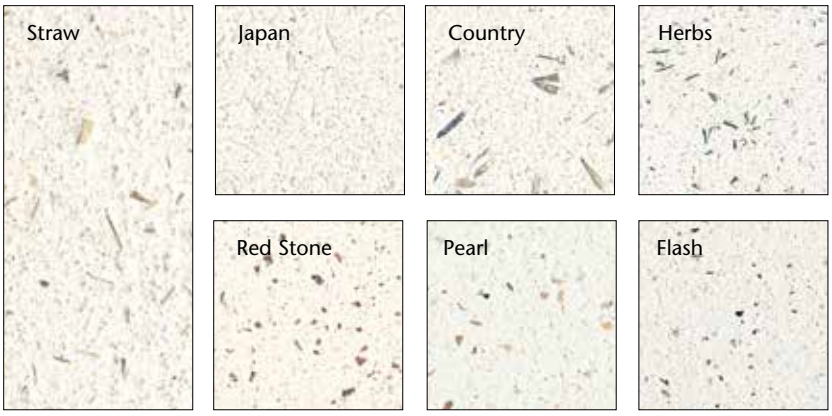
The spectrum of colours results from the blending of five primary base colours. Our clay design plasters are not "coloured" but are mixtures of pure earth tones. The wall surface itself is a refined blend of the raw material. YOSIMA reproduces the manifold colours of nature for the design of interiors of the highest quality – available in 140 different colours and 8 surface textures.

TEXTURAL ADDITIVES

Claytec produces textural additives made of straw and three other plant fibres: *Japan* (sisal), *Country* (grasses) and *Herbs* (dill).

The three mineral additives are *Red Stone* (granite), *Pearl* (mother-of-pearl) and *Flash* (glitter).

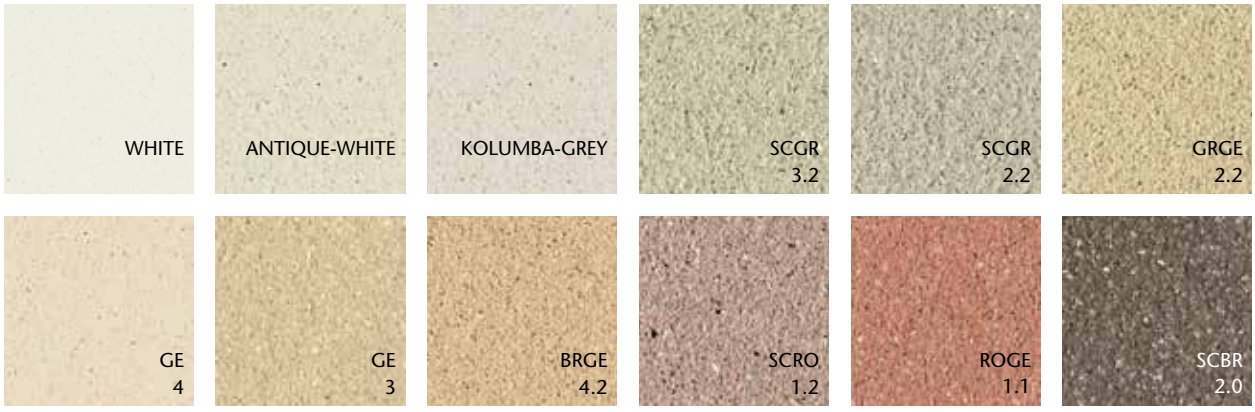
Textural additives are available pre-mixed with the plaster. Suppliers also sell single packages containing a pre-measured quantity for mixing into a 20 kg bucket.



YOSIMA EDITION

The YOSIMA EDITION is a collection of the 12 best colours available pre-mixed through wholesalers. The collection is a harmonious, colour-graded series of the most popular colours from the range of 140 possible YOSIMA colours.

The colours also correspond to the CLAYFIX *Clay direct* series of brushable clay coatings, making it possible to perfectly match plaster surfaces with other painted surfaces.



YOSIMA PRODUCTS (PRICE CATEGORIES) AND SUPPLY FORMS

YOSIMA products are grouped in price categories for *base colours, mixed colours* (all colour blends and colours mixed with white), *products with organic textural additives* (and red stone), *products with pearl and products with flash.*

The standard supply form is in 20 kg plastic buckets, sufficient for ~6 m². 500 kg heavy-duty big-bags are also available, sufficient for ~150 m². The base colours are also available for mixing in 2 kg bags.

YOSIMA products are mixed individually for you per order.

FINE PRIMER

Universal fine-grain primers are used to prepare a substrate for coating with a clay plaster or brushable clay coating. Primers can be applied to most conventional absorbent substrates.

Clay plaster primers do not contain any dispersion and are for preparing clay plasters for a second clay coating.

Article	Product	Supply form	Coverage
13.225	Universal fine-grain primer	putty, 12.5 l bucket	42-83 m² depending on substrat
13.220	Universal fine-grain primer	putty, 5 l bucket	17-33 m² depending on substrate
19.025	Clay plaster primer	dry, 12.5 kg bucket	60-85 m² depending on texture
19.020	Clay plaster primer	dry, 5 kg bucket	25-35 m² depending on texture
19.029	Clay plaster primer	dry, 1.5 kg bucket	8-11 m² depending on texture

VARIETY

YOSIMA clay design plaster is available in 140 different tones of colour and eight surface textures.

The base colours are *red, yellow, green, brown, black* and *white.*

Our colour palettes: I*ndian red, natural umbra, Sahara beige, gold ochre, reed yellow, jade green,* and *sienna brown.*

Further information and visual impressions of all the colours can be found in our YOSIMA Brochure, which can be downloaded from www.yosima.de.

CLAYFIX *clay direct* WALL COATINGS

CLAYFIX *clay direct* is a brushable wall coating with a binder comprised of a combination of clay and plant adhesive. This ecological high-quality product is vapour-permeable, breathable and free of solvents and toxic substances.

CLAYFIX *clay direct* brushable plasters are clay paints with a granular additive comprised of fine grains of less than 0.5 mm in diameter. The appearance of the fine-grain surface finish is similar to that of a finely rubbed plaster surface.

CLAYFIX *clay direct* clay coatings do not have a visible granular component, and are usually applied to smooth surfaces.

They are available in 12 selected colours, and are usually applied in two coats.

CLAYFIX *clay direct* is the easy way to create the ambience of clay wall surfaces.

Article	Product	Supply form	Coverage
18. ..., 19. ...	CLAYFIX *clay direct*	trocken 10 kg-Eimer	65-140 m² je nach Untergrund
18. ... /K, 19. .../K	CLAYFIX *clay direct*	trocken 1,5 kg-Beutel	10-21 m² je nach Untergrund

WHITE | ANTIQUE-WHITE | KOLUMBA-GREY | JADE-GREEN 2.2 | JADE-GREEN 1.2 | REED-YELLOW 2.2

GOLD-OCHRE 4.3 | YELLOW 3 | GOLD-OCHRE 4.2 | SIENNA-BROWN 1.2 | INDIAN-RED 1.1 | NATURAL-UMBRA 2.0

CLAY PLASTERS

INDOOR CLIMATE

As we strive to reduce energy consumption, the buildings we live in are becoming increasingly airtight. To improve the quality of the indoor climate, we need high-quality surfaces and building components.

We spend a large amount of time indoors. How can we make our indoor environments feel as restful as being on holiday? CLAYTEC clay plasters are natural air conditioners that regulate the indoor climate. The clay minerals they contain help maintain a balanced indoor environment that is healthy and good for our sense of well-being. CLAYTEC clay plaster brings the power of nature to your own home.

MINERAL CLAY PLASTER

Mineral clay plaster is a basecoat and topcoat plaster in one. It consists of selected building earth and washed and graded sands. For especially environmentally conscious customers, this product does not include any plant fibres, which also quickens the drying process. After application, the plaster mortar adheres and dries quickly making it possible to apply a second coat soon after. Naturally-moist mixtures can be mixed and applied manually or with a compulsory mixer and (gypsum) plastering machine. Basecoat plasters are applied with a thickness of 5–20 mm, topcoat plasters with a thickness of 5–10 mm. The plaster should be allowed to dry thoroughly before subsequent applications. See below for notes on drying.

Article	Product	Supply form	Coverage
05.030	Mineral Clay Plaster 20	naturally-moist, 1.2 t big-bag	47–70 m² at D = 15–10 mm
10.030	Mineral Clay Plaster 16	dry, 30 kg sack	1.3–2.0 m² at D = 15–10 mm

CLAY PLASTER WITH STRAW

Clay undercoat plaster is a plaster mortar for filling and levelling substrates and as a basecoat for two-coat plaster applications. Clay topcoat plasters (coarse) are for topcoats with a rough finish. The mortar consists of building earth, sand and straw fibres for added reinforcement. Clay undercoat plasters can be applied to suitable substrates (undertake a test first!) up to a thickness of 35 mm in one layer. Topcoats are applied with a thickness of 7–10 mm. Naturally-moist undercoat and topcoat plasters can be applied by hand or with a compulsory mixer and mortar pump, dry plaster mixes with a (gypsum) plastering machine. The plaster should be allowed to dry thoroughly before subsequent treatment. Cay plasters must be allowed to dry out as quickly as possible. If natural ventilation (cross-ventilation with all doors and windows open 24 hours a day) is not sufficient, artificial forced drying may be necessary.

Further information on the correct procedure for the drying of clay plasters can be found online on www.claytec.com.

Article	Product	Supply form	Coverage
05.001	Clay Undercoat Plaster, Straw	naturally-moist, 1.2 t big-bag	47 m² at D= 15 mm
05.002	Clay Undercoat Plaster, Straw	dry, 1.0 t big-bag	42 m² at D= 15 mm
10.110	Clay Undercoat Plaster, Straw	dry, 25 kg sack	1.1 m² at D= 15 mm
05.010	Clay Topcoat Plaster, Straw	naturally-moist, 1.2 t big-bag	70 m² at D= 15 mm
05.012	Clay Topcoat Plaster, Straw	dry, 1.0 t big-bag	63 m² at D= 15 mm
10.112	Clay Topcoat Plaster, Straw	dry, 25 kg sack	1.7 m² at D= 15 mm

FINE-FINISH CLAY TOPCOAT PLASTER WITH FLAX

Fine-finish clay topcoat plasters are for smooth surface finishes, or as a smooth basecoat for YOSIMA clay design plasters. It is usually prepared using a mixer drill attachment.

The plaster can also be applied with a (Gypsum) plastering machine.

The application thickness is 2–3 mm. For manual application, we recommend using a smoothing trowel or CLAYTEC Japanese trowel.

Article	Product	Supply form	Coverage
10.011	Clay Fine-Finish Topcoat Plaster, Flax	dry, 30 kg sack	5–7 m² at D = 3 mm

Clay Topcoat Plaster, coarse
rustic

Clay Topcoat Plaster, coarse
smooth-finish

Fine-finish Clay Topcoat Plaster
standard

Fine-finish Clay Topcoat Plaster
finely rubbed

COARSE PRIMER

Universal coarse-grain primers can be used to prepare substrates for receiving mineral clay plaster or clay undercoat or topcoat plasters with straw. The use of a primer is only necessary for certain substrates. Our clay plasters adhere well to substrates with a sufficiently good mechanical key without the need for additional priming.

Artikel	Product	Supply form	Coverage
13.325	Universal primer, coarse	putty, 12.5 l bucket	25–83 m² depending on substrate
13.320	Universal primer, coarse	putty, 5 l bucket	10–33 m² depending on substrate

REED MAT PLASTER BASE AND REED BOARDS

Reed mats with 70 reeds per linear metre (supplied as rolls) are used as a plaster base or as a stabilisation layer for thick layers of levelling plaster. In light clay constructions they are also used as "lost formwork" that remains in place to hold the earth mass.

Reed boards serve as a rigid backing for plastering interiors. When bedded in mortar (full surface), they can serve as insulation to reduce thermal transmission through the walls of old buildings.

Article	Product	Supply form	Coverage
34.001	Reed mat ST70	roll, 2.0 × 10.0 m	20 m² per roll
34.010	Reed board, 50 mm	25 boards, 1.0 × 2.0 m on a pallet	2 m² per board
34.020	Reed board, 20 mm	50 boards, 1.0 × 2.0 m on a pallet	2 m² per board

REINFORCEMENT MESH

CLAYTEC flax reinforcement mesh is a plaster reinforcement layer specially developed for use with clay plasters. Made of non-crimp biaxial flax yarn, bonded with a solvent-free dispersion adhesive, it has a mesh aperture of approx. 5 × 5 mm.

Hessian meshes have a mesh aperture size of approx. 4.5 × 4.5 mm.

Glassfibre mesh is made of glassfibre strands with a polymer coating, and has an mesh aperture size of approx. 5.5 × 5.5 mm.

The 1 metre wide mesh is used to reinforce undercoat plasters that bridge different substrates or where plaster bases are soft, unstable or otherwise difficult. The mesh is applied to the entire surface and worked into the wet surface of the undercoat plaster.

8 or 10 cm wide scrim jointing tape is used to bridge joints between Claytec clayboards.

Article	Product	Supply form	Coverage
35.020	Flax mesh, 1 m wide	roll, 1.0 × 100 m	100 m²/roll
35.001	Hessian mesh, 1 m wide	roll, 1.0 × 50 m	50 m²/roll
35.010	Glassfibre mesh, 1 m wide	roll, 1.0 × 100 m	100 m²/roll
			Length (coverage)
35.025	Flax scrim jointing tape, 10 cm	roll, 10 cm × 100 m	100m / roll (for 45–33 m² clayboard*)
35.006	Hessian scrim jointing tape, 10 cm	roll, 10 cm × 50 m	50m / roll (for 22–16 m² clayboard*)
35.015	Glassfibre scrim jointing tape, 8 cm	roll, 8 cm × 100 m	100m / roll (for 45–33 m² clayboard*)

*Quantity of jointing tape for the given square meterage of clayboards. The smaller clay dry lining panels are usually given full-surface reinforcement.

CLAY DRYWALL CONSTRUCTION

SOUND INSULATION

CLAYTEC Clayboards are ideal for quick, dry and lightweight construction. They are also … quiet! The combination of excellent sound insulation properties and natural materials is a formula that has won over the buyers of several large-scale projects. Invest in some peace and quiet.

EXCLUSIVE: DRYWALL CONSTRUCTION WITH CLAYTEC PAVABOARD T+G

Clay plasters and woodfibre insulation boards are a perfect team. Both materials have good sorption properties, which benefits the indoor room climate. The construction system combines special woodfibre insulation board with a new kind of high-strength clay reinforcing mortar to open up a range of new possibilities. **Never before has clay and timber construction been so cost-effective!**

The lightweight boards are easily cut with a jigsaw or circular saw. Its special tongue and groove edge profile on all sides makes it possible to abut boards between supports. In combination with clay reinforcing mortar (clay adhesive mortar) and glassfibre reinforcement mesh, they provide an exceptionally stable facing surface for all kinds of drywall stud constructions.

Article	Product	Supply form	Coverage
09.220	CLAYTEC Pavaboard T&G D 20 mm	112 boards, 60 x 150 cm, on pallets	0.88 m²/board*

* Tongue and groove joint on all four sides. The length and breadth specify the board dimensions (0.90 m²), which is also the basis for the price per m². Use the coverage (59 × 149 cm = 0.88 m²) for calculating the required quantities.

CLAY REINFORCING MORTAR (CLAY ADHESIVE)

Clay adhesive mortar is an adhesive and reinforcing mortar made of clay with a cellulose component. With an especially high compressive strength (for earth mortars) of 3.9 MPa and a corresponding bonding strength of 0.85 MPa, CLAYTEC reinforcing mortar can be used to strengthen the stability of all kinds of constructions.

Article	Product	Supply form	Yield
13.550	Clay adhesive mortar	dry, 30 kg sack	5-7 m²

TIMBER CONSTRUCTION WITH CLAYTEC PAVABOARD 40 AND 60 MM

Our construction system of special woodfibre insulation board with a new kind of high-strength clay reinforcing mortar opens up new cost-effective methods for timber construction.

The 40 or 60 mm thick boards are thick enough to accommodate conduits or cabling and electrical sockets can be mounted directly in the boards. As such, they serve as an "installations lining" applied to plywood or solid wood panels. The thin boards function as a plaster base.

The boards are fastened with brackets or screws and can be plastered directly with a skim coat of clay plaster. Drying times are therefore kept to a minimum.

The combination of clay and woodfibre are an ideal match and benefit the indoor room climate. The aesthetically pleasing finish of the clay plaster complements the ecological qualities of the timber construction perfectly.

Article	Product	Supply form	Coverage
09.240	CLAYTEC Pavaboard D 40 mm	100 boards, 60 × 102 cm, on pallets	0.612 m²/board
09.260	CLAYTEC Pavaboard D 60 mm	68 boards, 60 × 102 cm, on pallets	0.612 m²/board

CLAYBOARDS

The CLAYTEC clayboard is made of reed-reinforced clay and is a building board and clay plaster in one. It represents a natural alternative to other drywall building boards and can be used to clad stud walls and other lath constructions for partitioning walls, wall linings, suspended ceilings and roof spaces. The supporting construction should have 37.5 cm centres (walls and ceilings) for the D 20 boards and 50 cm (wall) and 37.5 cm (ceiling) centres for the D 25 boards. The boards should be fastened with 5 × 50 mm clayboard panel screws. After applying scrim jointing tape to the board joins, the entire surface is plastered with a fine layer of clay fine-finish plaster. Very smooth finishes can be achieved using clay surface filler; see below.

Article	Product	Supply form	Coverage, quantities
09.004	Clayboard D 20 mm	60 boards, 62.5 × 150 cm, on pallets	0.94 m²/board
09.002	Clayboard D 25 mm	60 boards, 62.5 × 150 cm, on pallets	0.94 m²/board
35.120	Clayboard panel screws	box, 100 pcs*	für 6-8 m²

CLAY DRY LINING PANELS

The CLAYTEC clay dry lining panel D16 is adhered to a stable base across its full surface. Suitable substrates include concrete, lime sandstone or brick masonry. The boards help improve the indoor room climate and indoor comfort levels. The D 16 boards can also be used to clad wood composite or plywood surfaces. The boards are bonded to the substrate using clay adhesive mortar (Article 13.550, see page 22). Additional stapling or screw-fixing is only necessary for ceilings and inclined roof surfaces and on composite wood materials. Reinforcement mesh is usually bedded in a skim coat applied to the entire surface.

Article	Product	Verpackungseinheit	Coverage
09.010	Clay dry lining panel D 16 mm	120 boards, 62.5 × 62.5 cm, on pallets	0.39 m²/board

CLAY SURFACE FILLER

CLAYTEC surface filler is an especially fine-grain clay mass that can be used to close and smooth gaps, joins and holes in clayboard panels. It is applied at a maximum thickness of 0.5 mm, where necessary in several layers. The filler can be sanded.

Article	Product	Supply form	Yield
13.511	Clay surface filler	dry, 10 kg bucket	20 m²

INTERNAL INSULATION WITH CLAY

BEAUTIFUL OUTSIDE, WARM INSIDE

External thermal insulation measures often entail covering up a building's external features, thereby sacrificing its character and flair. But that need not be so: internal insulation using CLAYTEC products offers an alternative that is both safe and effective. The advantage of internal insulation is that rooms warm up more quickly. And in combination with wall-heating systems, it is also possible to make effective use of energy from alternative energy sources. Last but not least: your rooms remain bright and airy.

PAVADENTRO INSULATION BOARD

CLAYTEC Pavadentro woodfibre insulation board has been specially developed for the internal insulation of smaller, more complex wall surfaces in brick buildings and timber frame constructions. It is fixed with adhesive mortar to the internal face (room-side) of external walls across its full surface (i.e. not just with mortar dabs).

The insulation board is available in a range of thicknesses up to 80 mm and as a thinner reveal board for lining the openings of windows and doors.

Internal insulation is often used as a base for installing wall-heating systems. Heating pipes are mounted on the board and embedded in clay plaster.

Article	Product	Supply form	Area
09.340	CLAYTEC Pavadentro D 40 mm	150 boards, 40 × 102 cm, on pallets	Coverage 0.39 m²/board
09.360	CLAYTEC Pavadentro D 60 mm	102 boards, 40 × 102 cm, on pallets	Coverage 0.39 m²/board
09.380	CLAYTEC Pavadentro D 80 mm	72 boards, 40 × 102 cm, on pallets	Coverage 0.39 m²/board
09.320	CLAYTEC Laibungsplatte D 20 mm	204 boards, 60 × 102 cm*, on pallets	0.61 m²/board

** Tongue and groove joint on all four sides. The length and breadth specify the board dimensions (0.41 m²), which is also the basis for the price per m². Use the coverage (39 × 101 cm = 0.39 m²) for calculating the required quantities.*

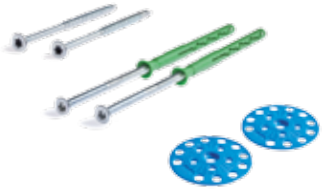
CLAY ADHESIVE MORTAR

Clay adhesive mortar is an adhesive and reinforcing mortar made of clay with a cellulose component. It is used to fix internal insulation board and clay dry lining panels to mineral substrates.

Clay adhesive mortar can also be used to embed reinforcement mesh in the skim coat of a two coat plaster by working the mesh into the still wet surface of the clay adhesive mortar.

Article	Product	Supply form	Coverage
13.550	Clay adhesive mortar	dry, 30 kg sack	5-7 m²

FASTENING ANCHORS



Screws for wooden bases and screw anchors for masonry bases are available from CLAYTEC to fasten insulation board to the substrate. It is advisable to have different lengths on hand. Screw fastenings should be sufficiently deep to ensure that the boards are pressed evenly across their entire surface into the adhesive mortar. The pressure plates are suitable for use with both screws and screw anchors.

Artikel	Produkt	Lieferform	Bedarf
35.132/60-80, 35.130/100-140	Insulation fastening screws L 60 - L 140	box, 100 pcs / 200 pcs	6-8 per m²
35.140/100-160	Insulation fastening anchors L 100 - L 160	box, 100 pcs	6-8 per m²
35.150	Insulation pressure plates Ø 6 cm	box, 100 pcs	6-8 per m²




RAMMED EARTH AND MASONRY

BEAUTIFUL WALLS

CLAYTEC rammed earth and earth blocks are some of our most aesthetic building products. They not only have an excellent effect on the indoor room climate. They are elegant, attractive and timeless.

Our new prefabricated rammed earth elements and objects make building with rammed earth more predictable to plan and to cost. Contact us for a cost calculation of your rammed earth requirements.

RAMMED EARTH (RAW MIXTURE)

Rammed earth construction is the purest and most archaic of all earth construction methods.

We offer different coloured rammed earth mixtures for the making of rammed earth walls and floors on site. The material's colour and structure is a product of the earth used and its granular composition. We can also recommend professional consultants for the planning and execution of this complex but fascinating building technique.

Article	Product	Supply form	Yield
02.004	Rammed earth, natural (wall)	naturally-moist, 1.2 t big-bag	0,6 m³
02.100	Rammed earth, natural-white (wall)	naturally-moist, 1.2 t big-bag	0,6 m³
02.200	Rammed earth, natural-yellow (wall)	naturally-moist, 1.2 t big-bag	0,6 m³
02.400	Rammed earth, natural-red (wall)	naturally-moist, 1.2 t big-bag	0,6 m³
02.600	Rammed earth, natural-grey (wall)	naturally-moist, 1.2 t big-bag	0,6 m³
02.008	Rammed earth, natural fine (floor)	naturally-moist, 1.2 t big-bag	0,6 m³

PREFABRICATED RAMMED EARTH OBJECTS AND ELEMENTS

Rammed earth is experiencing a renaissance. The expressive design qualities of this archaic building technique appeal to designers and clients alike. It's visual weight and solidity contrasts pleasingly with modern architecture and high-tech materials such as steel and glass.

But the construction of rammed earth walls is often laborious and time-consuming. Until now, that is: we offer prefabricated rammed earth construction elements built to order for an agreed delivery date that makes it possible to exploit the haptic qualities and design possibilities of rammed earth without being constrained by local space and time restrictions. In short: we make building with rammed earth more predictable to plan and to cost.

Prefabricated CLAYTEC rammed earth objects and elements can be made to meet your specific design requirements. Using electronically controlled formwork manufacturing, we can also produce complex shapes and forms.

Typical elements include wall planes and wall lining panels as well as objects such as benches or counters to mention just a few.

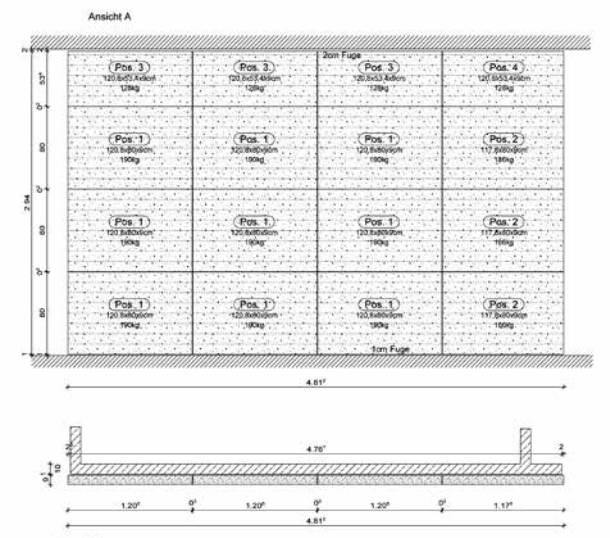
The bulk density of the building elements is 2400 kg/m³.

The dimensions given below are intended as an example. Other dimensions are, of course, possible. If you need help call us.

Building element	Thicknesses	Typical dimensions and weight
Wall plane	25 cm oder 30 cm	≤ 5 t per individual element is generally easy to handle
Wall lining panels	≤ 8 cm	0.80 m × 1.50 m







Ansicht A
2cm Fuge
Pos. 3
Pos. 4
Pos. 1
Pos. 2
1cm Fuge
4.81*
4.76*
1.20*
1.17*

EARTH BRICKS AND CLAY MASONRY MORTAR

Earth blocks classified as *Application Class I* may be used for external masonry walls exposed to the weather provided they are rendered. Our Application Class I products are solid, machine-formed compressed blocks. The production method and material composition has been optimised for use as unfired bricks.

Claytec 1200 NF light earth blocks (1200 = bulk density in kg/m³, NF = normal format) are typically used as brick infill in timber-frame constructions that will subsequently be plastered with lime render.

Claytec 700 2DF (2DF = double thin format) light earth blocks can be used as insulation due to its lighter bulk density, for example as an insulating wall lining on the internal face (room-side) of external walls.

Claytec 1800 NF earth blocks are solid enough for use in loadbearing wall constructions and have a strength class of 2 N/mm².

Earth blocks classified as *Application Class II* (previously *green unfired bricks*) are used for non-loadbearing internal walls. The blocks are manufactured using an extrusion-moulding process.

Claytec 1600 2DF and 1300 3DF earth blocks are used for masonry internal walls. The 1600 2DF contains vertical perforations (< 15 % perforations) while the 1300 3DF is a high perforation block (> 15 % perforations).

Claytec 1900 DF and NF are usually used in drywall construction for added thermal mass, for example stacked in drywall constructions or laid between floor joists. Both formats are solid blocks.

Article	Product	Supply form	Quantity
07.011	1200, NF, I	416 blocks on pallets	50 blocks / m², wall thickness 11.5 cm
07.012	700, NF, I	416 blocks on pallets	50 blocks / m², wall thickness 11.5 cm
07.013	700, 2DF, I	350 blocks on pallets	33 blocks / m², wall thickness 11.5 cm
07.002	1800, NF, I loadbearing	416 blocks on pallets	99 blocks / m², wall thickness 24 cm
06.003	1600, 2DF, II (green unfired)	224 blocks on pallets	33 blocks / m², wall thickness 11.5 cm
06.004	1300, 3DF, II (green unfired)	160 blocks on pallets	33 blocks / m², wall thickness 17.5 cm
06.010	1900, DF, II (green unfired)	448 blocks on pallets	38 blocks / m², stacked flush horizontally*
06.012	1900, NF, II (green unfired)	336 blocks on pallets	38 blocks / m², stacked flush horizontally*

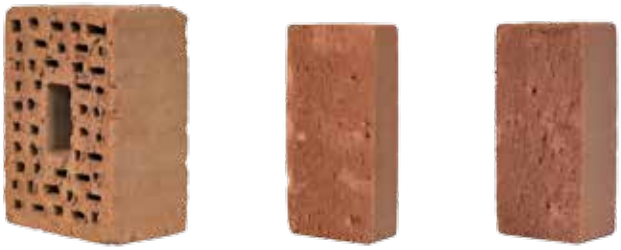
* These blocks are used primarily as mass for ceilings or stacked wall constructions.

Article	Article	Supply form	Yield
05.022	Light clay masonry mortar[1]	naturally-moist, 1.0 t big-bag	24 m², wall thickness 11.5 cm
05.020	Clay masonry mortar [2]	naturally-moist, 1.4 t big-bag	24 m², wall thickness 11.5 cm

[1] For earth block masonry ≤ 1200 kg/m³

[2] For earth block masonry > 1200 kg/m ³

07.011/07.012 07.002 06.003



06.004 06.010 06.012

TIMBER FRAME RENOVATION

THE TIMBER FRAME PROFESSIONALS

The renovation of timber frame and half-timbered buildings requires expertise and sensitivity. CLAYTEC offers professional solutions and systems that are based on over 25 years of experience in the field. This knowledge has informed the development of all our subsequent products and applications.

Over the years we have perfected a range of authentic building materials and techniques for panel infill, insulation, external render and internal plaster.

For our contribution to the preservation of the stock of timber-frame structures in Germany, we were awarded the *German National Award for Historic Building Preservation.*

Deutsches Nationalkomitee für Denkmalschutz

SPECIALISED PRODUCTS FOR TIMBER-FRAME RENOVATION

Straw clay can be used for the repair and infill of larger sections of timber-frame panels or ceilings made of earth using historical techniques. The mix consists of earth mixed with long strands of straw and its preparation is more laborious than for plaster mortar.

Stakes made of sawn oak battens are used as supports for larger repairs, additions and new sections of timber-frame panelling and in slatted timber ceilings made with historical techniques.

Split *willow rods* are used to repair or renew sections of wattle.

Triangular battens are made of especially durable larch wood. They are used to line brick masonry infill panels where the brick infill meets the timber frame.

Stainless steel mesh plaster lath is specially moulded to provide a key for heavily weathered timber-frame structures. Note: it is still essential to ensure a sufficient bond between earth panel infill and lime render, just as if no mesh were present. The mesh is held in place with facade fixing screws (article 35.110).

Article	Product	Supply form	Quantity required
04.004	Straw clay (raw mass)	naturally-moist, 1.05 t big-bag	for ~7 m² panel infill
30.001	Oak stakes, 26 × 60 mm, L ≤ 4 m	bundle, as ordered	4 m for ~1 m² panel infill**
31.001	Willow rod D ~2.5 cm × 3 m	bundle, ~40 rods	for ~3–4 m² panel infill
00.050	Triangular batten H = 12 mm* × 2 m	bundle, 12 battens	for ~8 m² panel infill***
35.100	Stainless steel mesh plaster lath	roll, 1 × 5 m	for ~5 m² panel infill
35.110	Facade fixing screws	box, 100 pcs	for ~5–6.5 m² panel infill

* H = height of projection into the panel

** applies to stakes for holding wattle, for a lath comprised solely of vertical stakes, the quantity required is 10–12 m for ~1 m² panel

*** Mean value, quantity depends largely on the geometry of the panels

LIME RENDER AND LIME COATINGS

gräfix lime plaster mortars are hydrated lime mortars that do not contain cement or similar additives. Claytec lime renders are special products for conservation and renovation work and are ideally suited for use as exterior render or interior plaster on clay plaster substrates.

Coarse lime basecoat render with hair contains hair and is used to render clay infill panels in timber-frame constructions.

Fine lime thin-coat render is for fine-grain finishes on infill panels.

Smooth lime render is for very fine or smooth exterior finishes. Both fine-finish lime renders can also be applied to clay undercoat plaster substrates in interiors.

Lime basecoat render is for basecoat layers or coarse exterior renders, and is sometimes used for thicker layers of plaster in interiors.

White lime paints are applied as a final coating to lime rendered infill panels. Like traditional limewash it evens out colour variations and provides added weathering protection. Lime paints can be applied wet-on-wet ("fresco") and wet on dry.

Article	Product	Supply form	Coverage
21.200	61 Coarse lime basecoat render with hair	30 kg sack	2.3 m² at D = 10 mm
21.300	61 Coarse lime basecoat render	30 kg sack	2.3 m² at D = 10 mm
21.350	61 Fine lime thin-coat render	30 kg sack	8 m² at D = 3 mm
21.400	66k Smooth lime render	25 kg sack	24 m² at D = 1 mm
21.525	680 Lime paint	10 l bucket	45-85 m²

LIGHT CLAY, BUILDING CLAY, EARTH FILL MATERIALS

Naturally-moist, loose *light clay mixtures* containing *woodchip* or *expanded clay* granules together with other organic or mineral aggregates are used as an infill material for wall linings applied to the interior face of external timber frame walls.

Naturally-moist, loose *light clay mixtures* containing *volcanic pumice* are primarily used as an infill material poured between ceiling joists to add mass. A heavier alternative is naturally-moist *clay masonry mortar or building clay*.

The bulk densities and yield of the light clay and earth fill materials depend on the degree of compaction.

Dry *building clay* is available in big-bags or 30 kg sacks and is used by experienced stove builders and local producers as a binder for custom clay and earth mortars mixed on site, for example to match existing materials in historic buildings.

Dry *earth fill material* is available as clay granules (pellets, largely dust-free) that are used when there is insufficient time to allow other products to dry or where additional moisture in the building site must be avoided.

Article	Product	Supply form	Yield
03.011	Light clay, woodchip	naturally-moist, 1.2 t big-bag	0.9 m^3
03.040	Light clay, expanded clay	naturally-moist, 1.2 t big-bag	1.0 m^3
03.052	Light clay, pumice	naturally-moist, 1.2 t big-bag	0.85 m^3
01.003	Building clay	naturally-moist, 1.2 t big-bag	0.85 m^3
01.002	Building clay	dry powder, 1.2 t big-bag	as required as binder
10.001	Building clay	dry powder, 30 kg sack	as required as binder
03.060	Dry earth fill material	dry, 1.2 t big-bag	0.9 m^3
03.100	Dry earth fill material	dry, 25 kg sack	0.022 m^3

03.011/03.040/03.052
01.003/01.002

03.060 Dry earth fill material 1.2 t

10.001 Building clay 30 kg

03.100 Dry earth fill material 25 kg

QUANTITY TABLES FOR PLASTERS AND COATINGS

Plaster surface areas in m² for different application thicknesses in mm, along with coating areas in m²

Product	Supply form	3,0	2,0	1,5	1,0	0,5	0,3	0,2	Coating area
YOSIMA Clay Design Plaster	20 kg bucket							**6.0**	
Universal primer, fine	12.5 l bucket								**42-83**
	5 l bucket								17-33
Universal primer, fine	12.5 kg bucket								**60-85**
	5 kg bucket								25-35
CLAYFIX *clay direct*	10 kg bucket								65-140
Mineral clay plaster 20	1.2 t big-bag, naturally-moist		35.0	46.7	**70.0**	140			
Mineral clay plaster 16	30 kg sack		1.0	1.3	**2.0**	4.0			
Clay basecoat plaster	1.2 t big-bag, naturally-moist	23.3	35.0	**46.7**	70.0				
	1.0 t big-bag, dry	20.8	31.3	**41.7**	62.5				
	25 kg sack	<0.6	0.8	**1.1**	1.7				
Clay topcoat plaster, coarse	1.2 t big-bag, naturally-moist				**70.0**				
	1.0 t big-bag, dry				**62.5**				
	25 kg sack				**1.7**				
Clay topcoat plaster, fine	30 kg sack						**6.7**	10.0	
Universal primer, coarse	12.5 l bucket								**25-83**
	5 l bucket								10-33
Clay adhesive mortar	30 kg sack						**6.7**		
Clay surface filler	10 kg bucket								20*

* Very thin applications (≤ 0.5 mm thick) are only for closing pores

QUANTITY TABLES FOR BRICKS AND MORTAR

Brick/block and mortar quantities in bricks (pcs) / litres (l) for different wall thicknesses

Brick format	Dimensions in cm	11.5	17.5	24	36.5
DF (Thin format)	24.0×11.5×5.2	**66 pcs/29 l**		132 pcs/70 l	198 pcs/109 l
NF (Normal format)	24.0×11.5×7.1	**50 pcs/27 l**		99 pcs/65 l	148 pcs/101 l
2DF (Double thin format)	24.0×11.5×11.3	**33 pcs/20 l**		**66 pcs/50 l**	99 pcs/80 l
3DF (Triple thin format)	24.0×17.5×11.3		**33 pcs/29 l**	**45 pcs/42 l**	

CONTAKT

CLAYTEC®
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YOUR LOCAL CLAYTEC SUPPLIER: