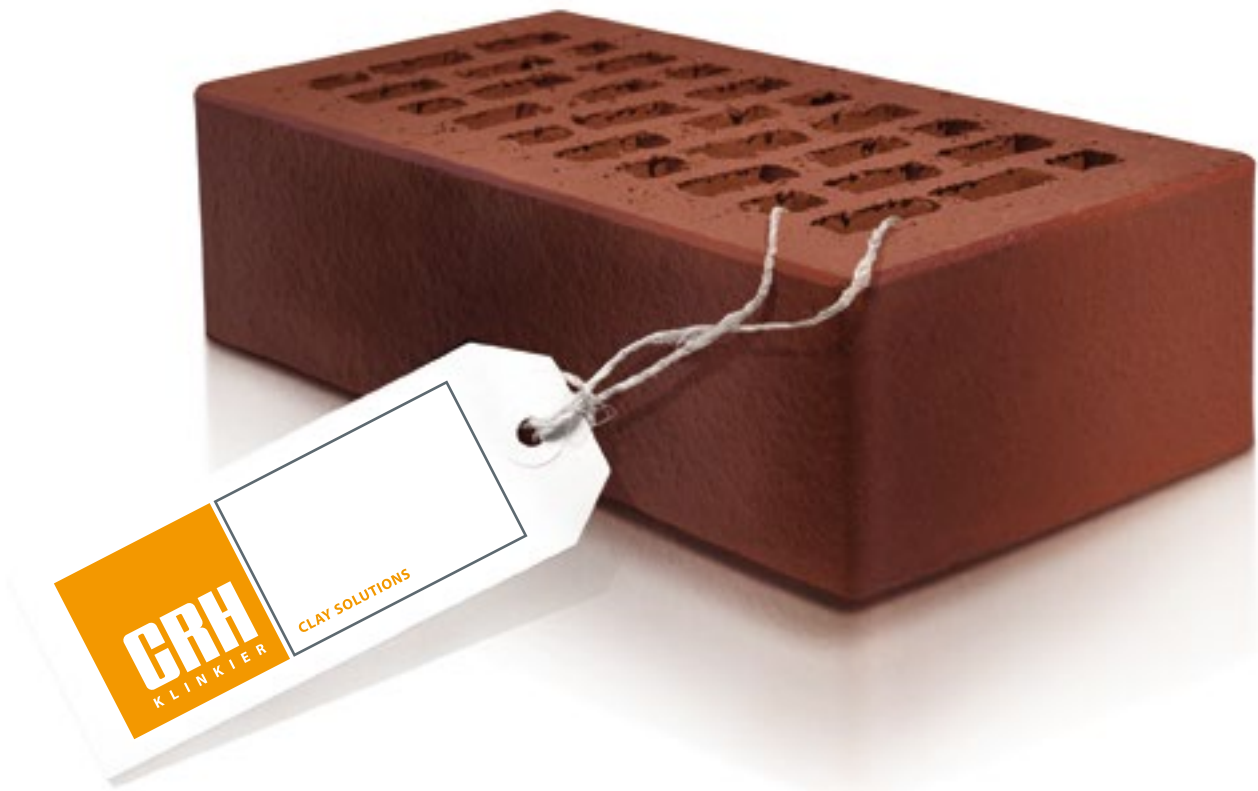


# Clay bricks – Brick slips – Pavers



**Fencings and barbecues**  
**Facades and interiors – Driveways and terraces**



[www.klinkier.com](http://www.klinkier.com)



# OFFER

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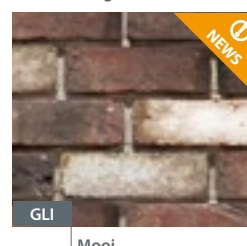
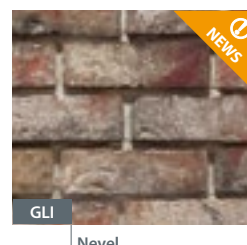
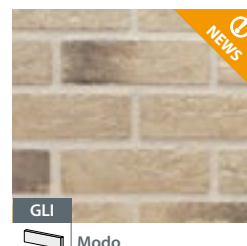
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**High quality, beautiful, timeless ...** Clinker bricks, slips and pavers are made of natural materials which harmonize with the surrounding landscape. They can be a stylish addition to an avant-garde interior or a warm finish to a cosy house. The customers appreciate their durability, beautiful colours and textures, while the designers value their unlimited design possibilities.



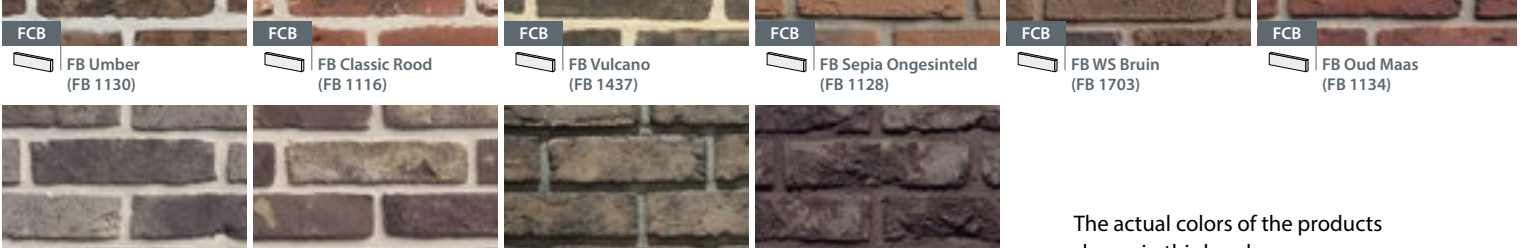
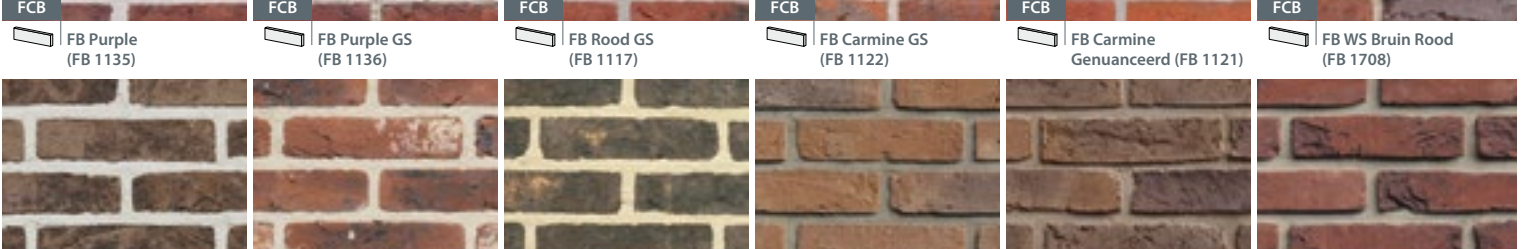
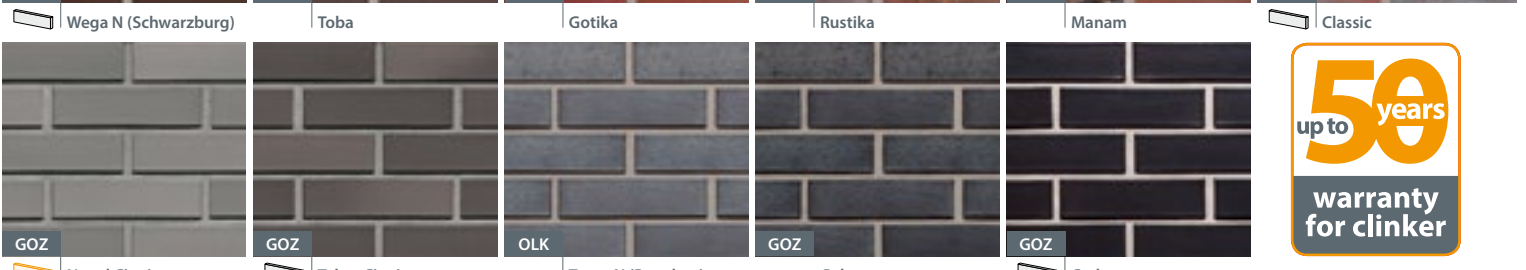
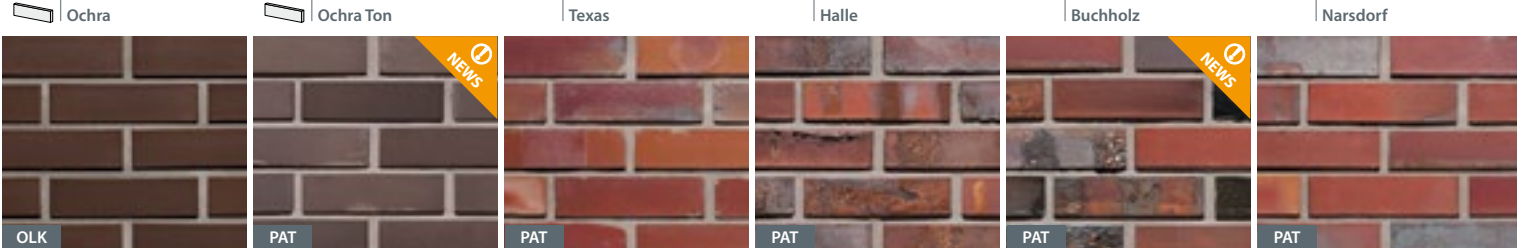
PLACE OF COLLECTION: **GLI** GLIWICE

# Clinker and handmade BRICKS and SLIPS

COUNTRY OF ORIGIN: **POLAND, GERMANY, NETHERLANDS**



# CRH KLINKIER - CLAY SOLUTIONS OFFER

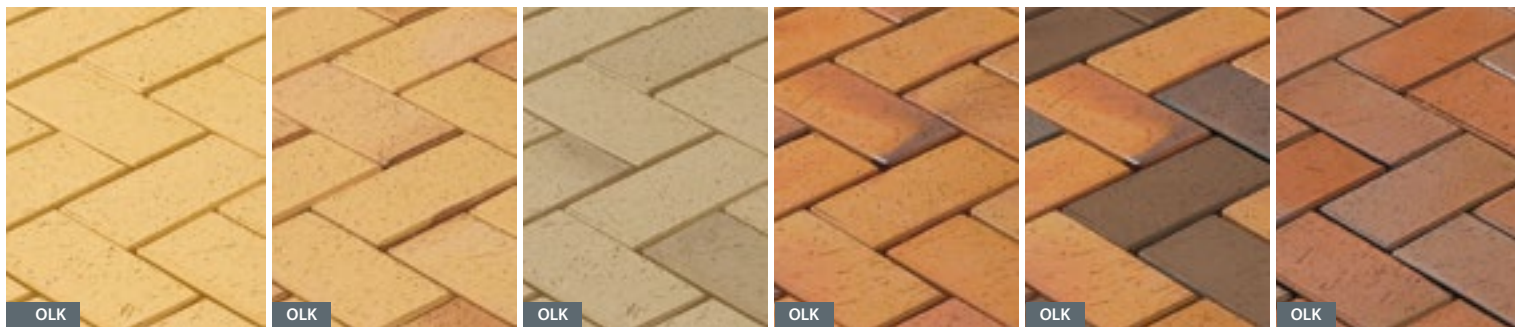


The actual colors of the products shown in this brochure may differ slightly from those shown in the photographs.

Available also in the form of slips. Available only in the form of slips.

# Clay and handmade PAVERS

COUNTRY OF ORIGIN: **POLAND, GERMANY, NETHERLANDS**



OLK

Kamenz (Sahara N)

OLK

Plauen (Sahara Cieniowana N)

OLK

Pisa

OLK

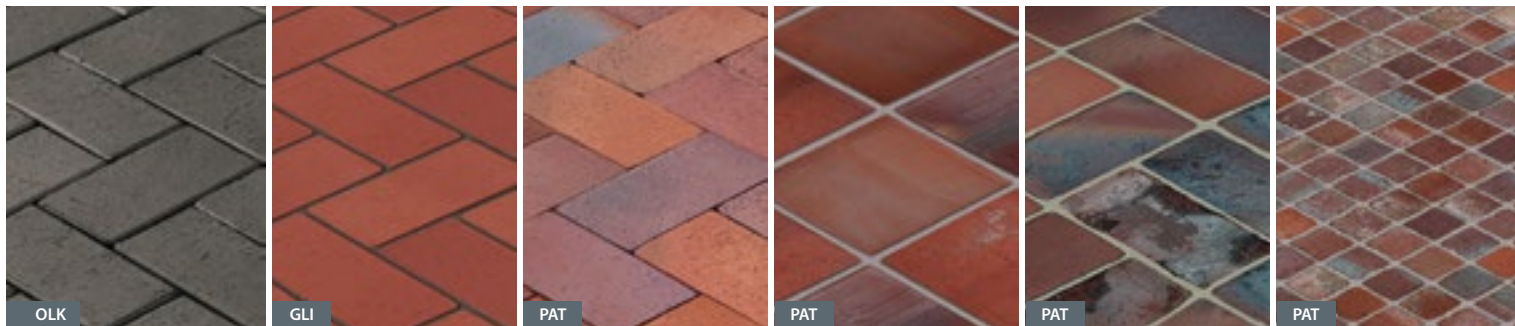
Radeberg (Ochra Miodowa N)

OLK

Bergen

OLK

Zittau (Amber N)



OLK

Meißen (Tytan N)

GLI

Staromiejski Alfa

PAT

Classic

PAT

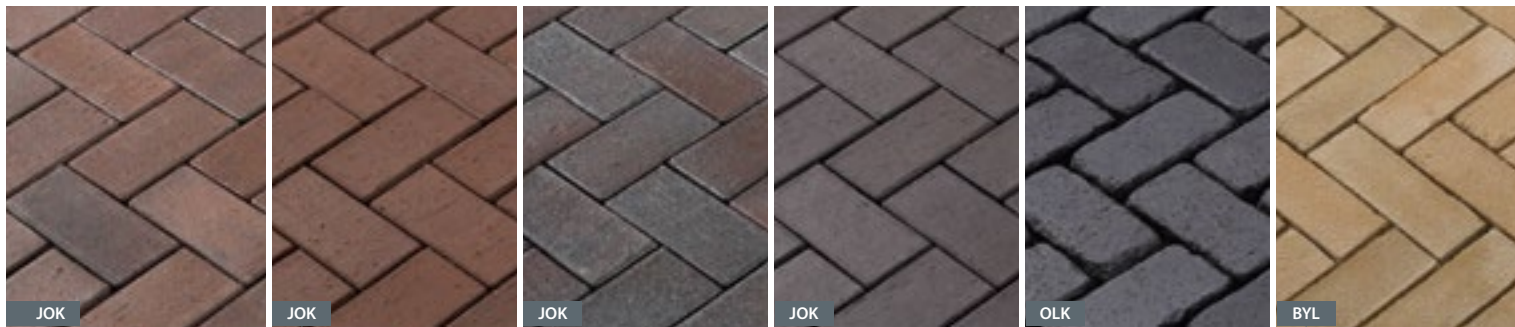
Slip Classic Smooth / Hand Moulded

PAT

Antika

PAT

Mozaika



JOK

Terra Ferrara

JOK

Terra Salerno

JOK

Terra Genova

JOK

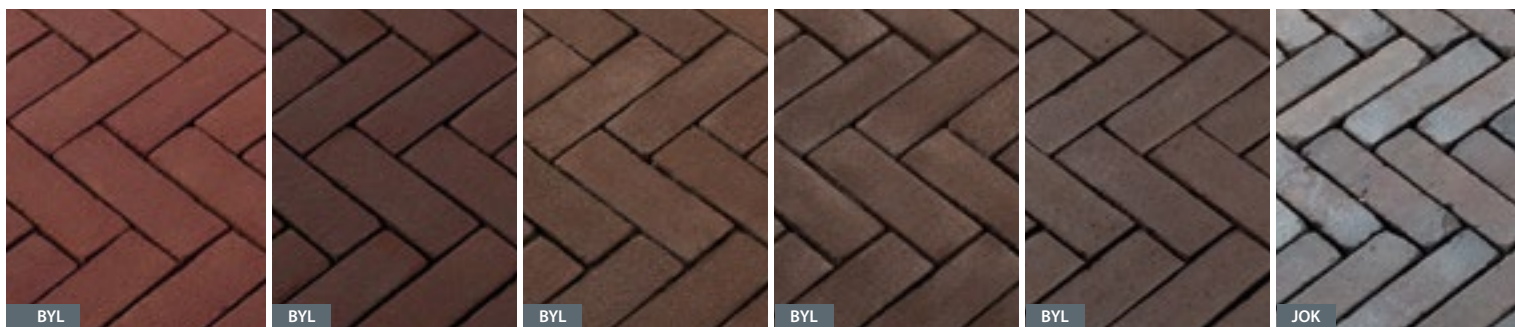
Terra Milano

OLK

Meißen Antica

BYL

Terra Odra



BYL

Terra Robina

BYL

Terra Romana

BYL

Terra Marrone

BYL

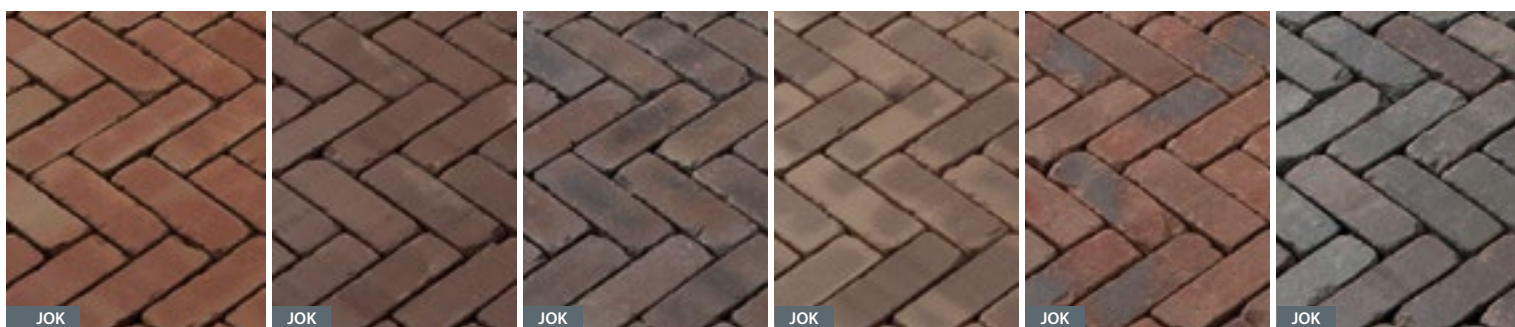
Terra Anthra

BYL

Terra Inverno

JOK

Terra Lugano Antica



JOK

Terra Roma Antica

JOK

Terra Napoli Antica

JOK

Terra Iseo Antica

JOK

Terra Verona Antica

JOK

Terra Vulcano Antica

JOK

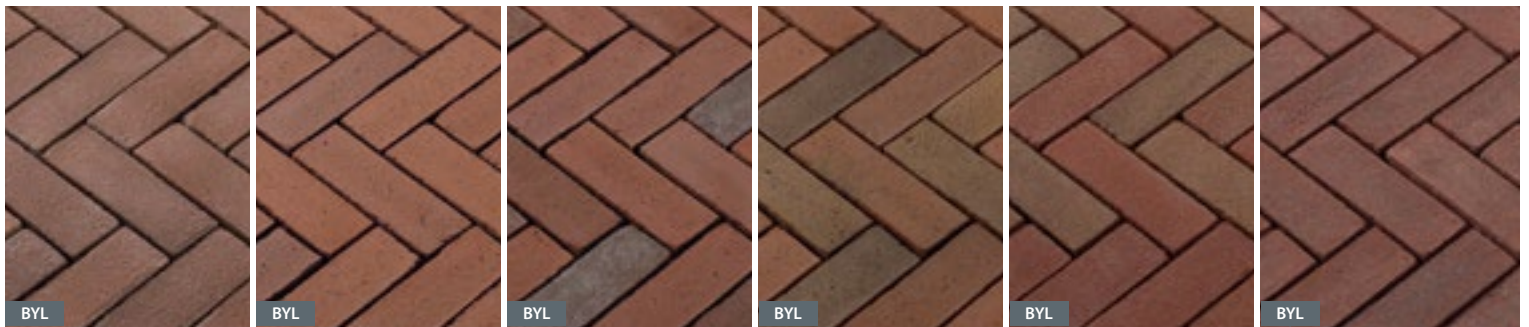
Terra Modena Antica



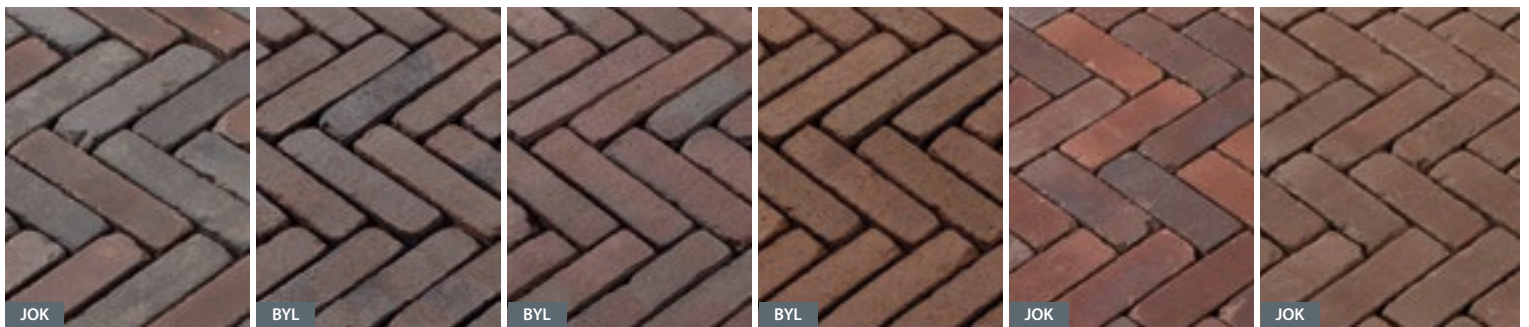
OLK | Görnitz (Kalahari N) | Rostock | Meran | Calau 45 (Etna N) | Calau 52 | Wega N



JOK | Terra Reggio | Terra Castella | Terra Cortona | Terra Catania | Terra Vittoria | Terra Vesuvio



BYL | Terra Argento | Terra Caldo | Terra Autunno Riva | Terra Autunno | Terra Nova | Terra Rossa



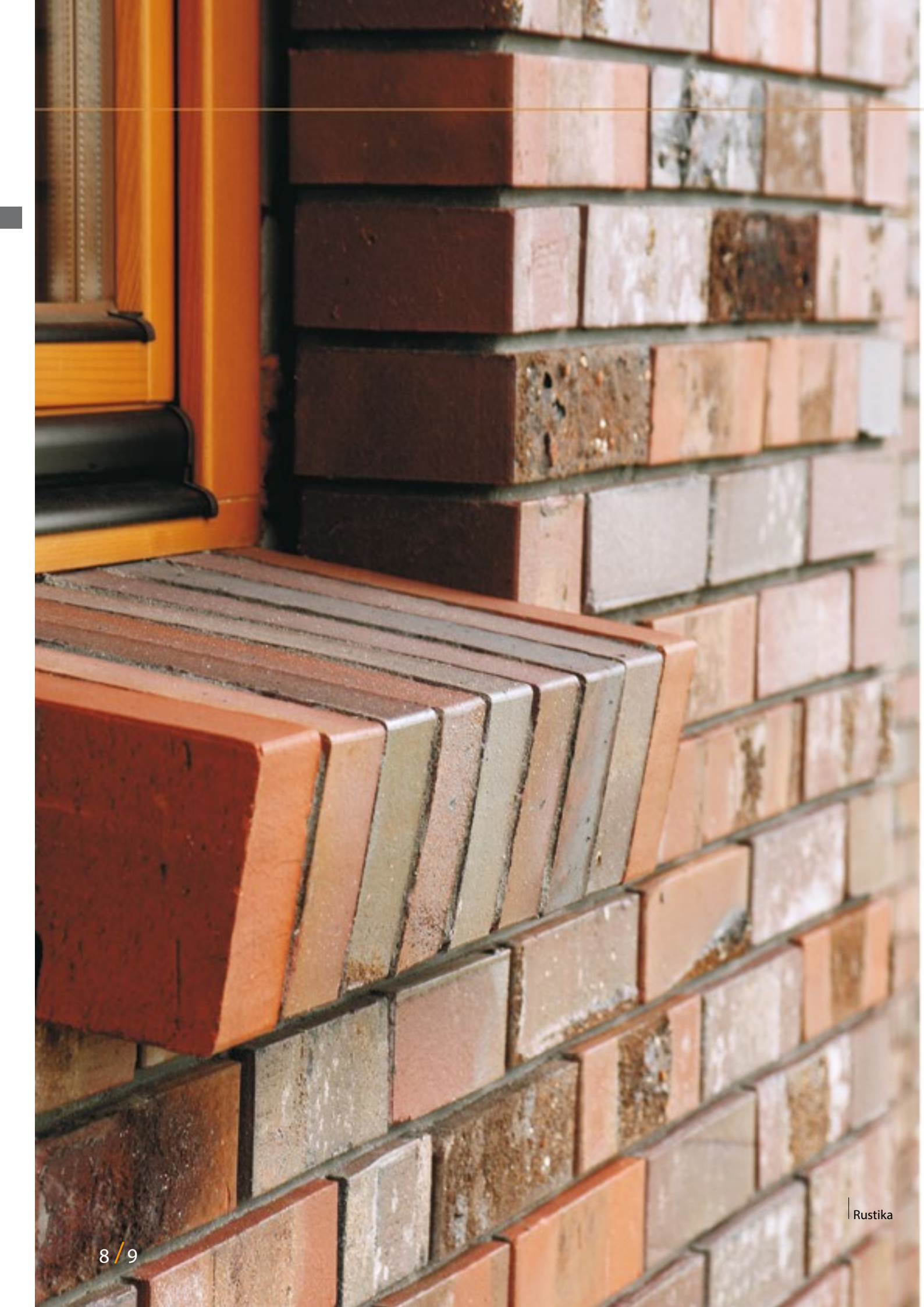
JOK | Terra Ancona Antica | BYL | Terra Umbria Antica | BYL | Terra Autunno Riva Antica | BYL | Terra Chiara Antica | JOK | Terra Novara Antica | JOK | Terra Riva Antica



JOK | Terra Lucca Antica | JOK | Terra Carbona Antica

The actual colors of the products shown in this brochure may differ slightly from those shown in the photographs.



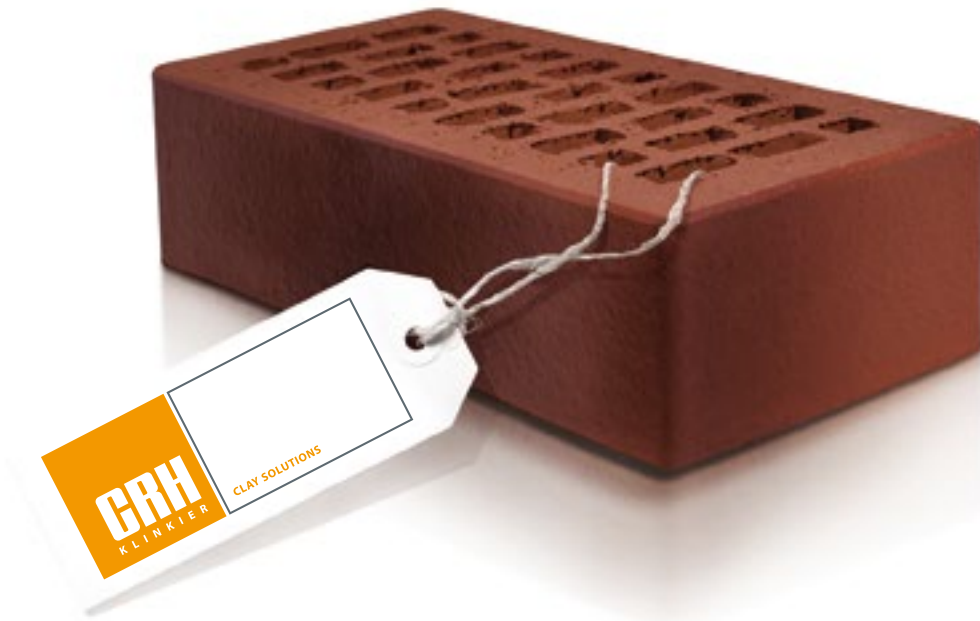




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Clinker and handmade BRICKS and SLIPS



Classic



Sahara



Rustika

# NATURALLY BEAUTIFUL CLINKER



Etna, Calau 45 (Etna N)



When building a house or arranging a flat, we think about the final result and atmosphere we would like to create. We do our best to design ideal functional solutions that would match our lifestyle and standards. Selection of proper materials is also an important issue. They should be durable, natural and environmentally-friendly, but they should also inspire us on an everyday basis with their aesthetics. The CRH Klinkier - Clay Solutions clinker bricks and slips are exactly like that. The range of available colours and textures is very wide, which is why we present our products as part of specially selected collections. We believe that mere watching of them will evoke in you wonderful memories and associations ranging from sunny beaches, fresh and crystal clear streams, to the warmth of a fireplace.

Choosing products from your favourite collection will surely help you create in your house, interior or garden an individual and unique atmosphere. The number of applications is virtually infinite, the more so because our products are used increasingly more frequently not only in facades or gardens, but also in original decorations of bathrooms, kitchens or living rooms. Our products perfectly suit both a subdued and warm rustic style and a modern minimalism. They can cover entire surfaces or be a single, original decorative element. Depending on the concept, they may calmly blend in with the background or be an eccentric accent. We hope that our products will stir your imagination and help you make your dreams come true.

CRH Klinkier - Clay Solutions

## WHY CHOOSE CLINKER?

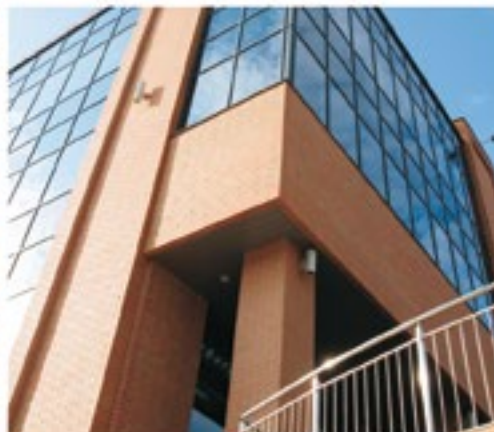
- It guarantees a durable and elegant facade for many years to come. It doesn't require renovations or repairs, as the low absorptivity of bricks and slips prevents the dirt from setting.
- It increases the value of investment. The cost of clinker slips and bricks used for the facade accounts only for a few percent of total costs of the building. They considerably improve the aesthetics of the building and its surroundings
- It is fire resistant
- It is completely frost proof and resistant to chemical and biological corrosion, as well as to fungi, algae and moss that may cause allergy.
- It has high mechanical strength
- It provides perfect acoustic insulation for cavity walls (the insulation factor: 40-50 dB).
- It ensures a proper micro-climate in summer and thermal comfort in winter (for cavity walls).
- It is environmentally friendly – made only of clay and sand.
- It is available in a wide variety of colours of bricks, slips, pavers, and a full range of shaped clinker bricks.
- It can be easily combined with other materials, such as wood, glass or aluminium.



Classic



FB Rosé Wit (FB 1210)



Ochra



FB Carmine Genuanceerd (FB 1121)



Sahara



sand  
sand



## Clinker **BRICKS** and **SLIPS**



Sahara



Sahara Cieniowana



Sahara Miodowa



Sahara Ton



Vesuvio



Ochra



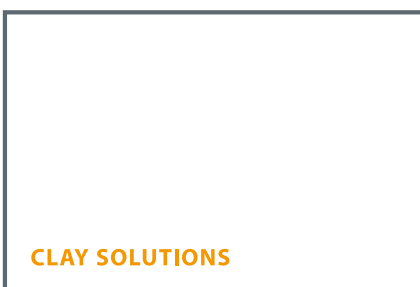
Sahara



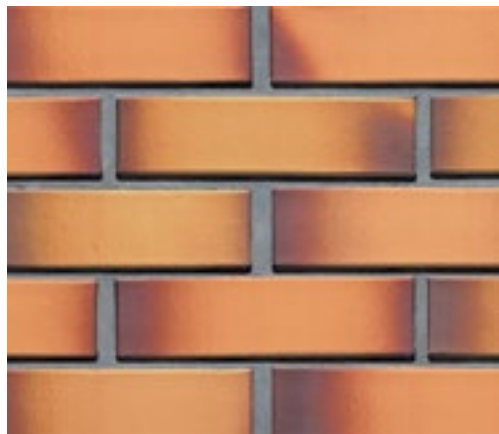
Sahara Cieniowana



Sahara Piaskowa



[www.klinkier.com](http://www.klinkier.com)




Ochra Ton



Texas



Halle

 Available also in the form of slips.



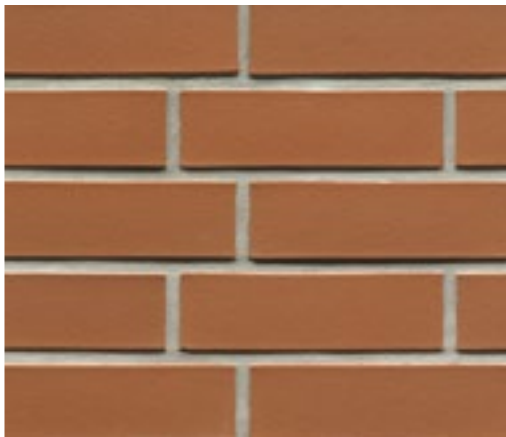
Kalahari



fire  
fire



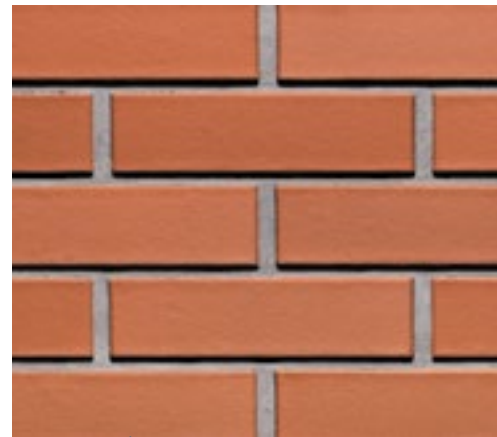
# Clinker **BRICKS** and **SLIPS**



Buchholz



Narsdorf



Kalahari



Starobrowarna



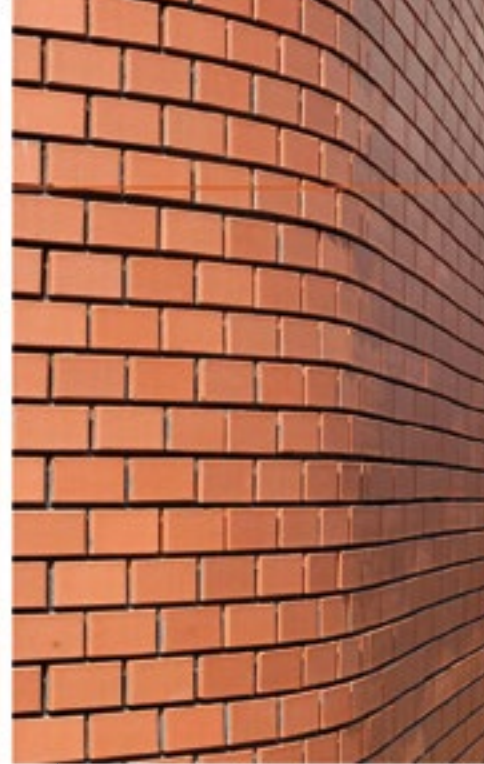
Kalahari Ton



Fenix



Kalahari Ton

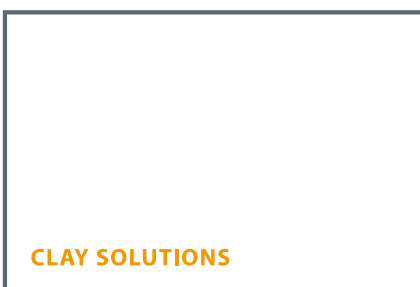


Alfa

Clinker and handmade BRICKS and SLIPS



 Alfa



CLAY SOLUTIONS

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Canion



 Wega N (Schwarzburg)



Toba

 Available also in the form of slips.



Rustika

earth  
earth



## Clinker BRICKS and SLIPS



Gotika



Rustika



Manam



Classic



Cottbus / Maximus



Rubin Cieniowany



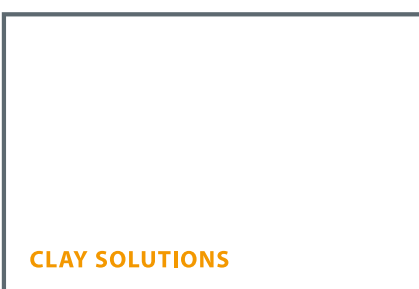


Clinker and handmade BRICKS and SLIPS

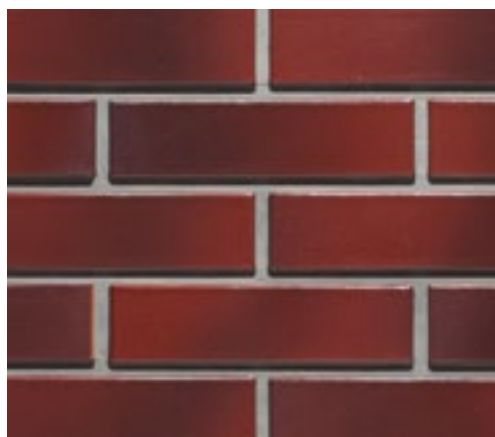


Etna

Cottbus / Maximus




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 Luna

 Etna

 Colorado

 Available also in the form of slips.



Tytan N (Potsdam)



## Clinker **BRICKS** and **SLIPS**



Syriusz Cieniowany



Nepal Cieniowany



Tybet Cieniowany





Syriusz Cieniowany



Syriusz Cieniowany

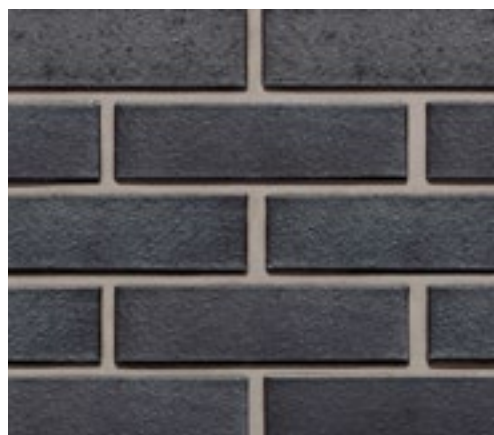
Clinker and handmade BRICKS and SLIPS



[www.klinkier.com](http://www.klinkier.com)




Tytan N (Potsdam)



Galaxy



Carbon

 Available also in the form of slips.



earth  
earth

Nevel

## Handmade **BRICKS** and **SLIPS**



 Vogue



 Modo



Nevel



 Tango



Mooi



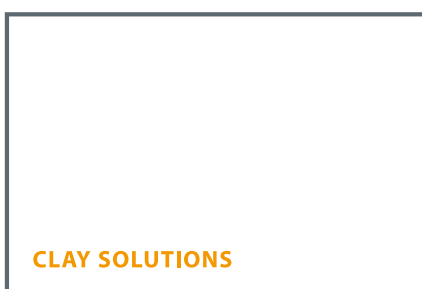
Salsa



Clinker and handmade BRICKS and SLIPS

Mooi


Salsa



[www.klinkier.com](http://www.klinkier.com)



 Moderna

 Available also in the form of slips.



FB Rosé Wit (FB 1210)

sand  
sand



## Handmade **BRICKS** and **SLIPS**



FB Wit  
(FB 1406)



FB WS Wit  
(FB 1704)



FB WS Wit GS  
(FB 1709)



FB Rosé Wit  
(FB 1210)

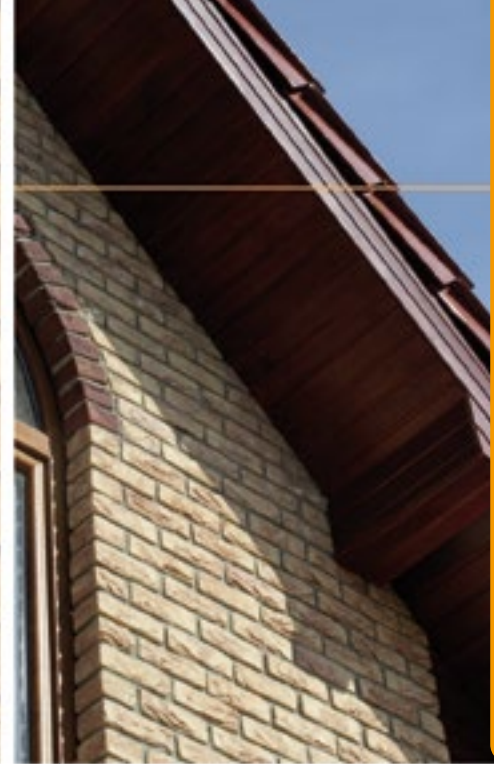
22 / 23



FB Classic FBL  
(FB 1315)

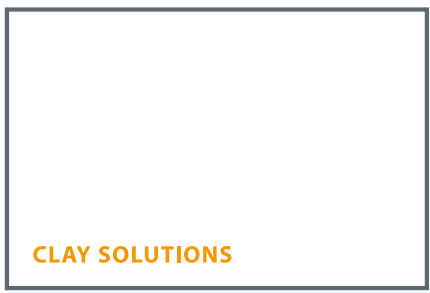


FB FBGD  
(FB 1208)



FB Rosé Wit (FB 1210)


FB FBGD (FB 1208)





[www.klinkier.com](http://www.klinkier.com)



 **FB FBL GS**  
(FB 1311)

 **FB Classic Terra Cotta**  
(FB 1108)

 **FB Classic Carmine**  
(FB 1115)

 Available also in the form of slips.



FB Terra Cotta (FB 1106)



earth  
earth

## Handmade **BRICKS** and **SLIPS**



 **FB Rustiek**  
(FB 1206)




 **FB Retro**  
(FB 1241)




 **FB Ruvio**  
(FB 1240)



 **FB Terra Cotta**  
(FB 1106)  
24 / 25



 **FB Terra Cotta GS**  
(FB 1107)



 **FB Havanna GS**  
(FB 1124)



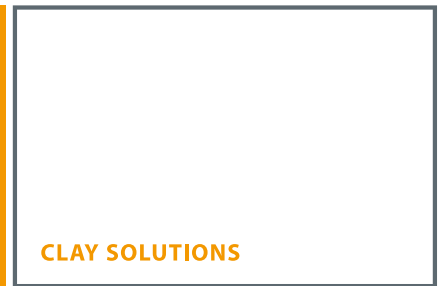


FB Rustiek (FB 1206)



FB Terra Cotta (FB 1106)

Clinker and handmade BRICKS and SLIPS




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 FB Castello  
(FB 1242)



 FB Castello Geel  
(FB 1244)



 FB Castello Oranje  
(FB 1243)

 Available also in the form of slips.



FB Carmine Genuanceerd (FB 1121)



fire  
fire



## Handmade **BRICKS** and **SLIPS**



 **FB Purple**  
(FB 1135)



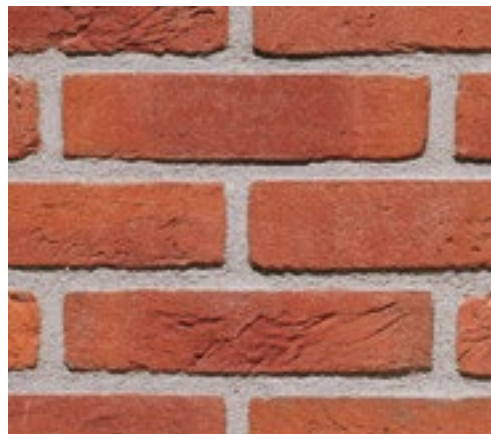
 **FB Purple GS**  
(FB 1136)



 **FB Rood GS**  
(FB 1117)




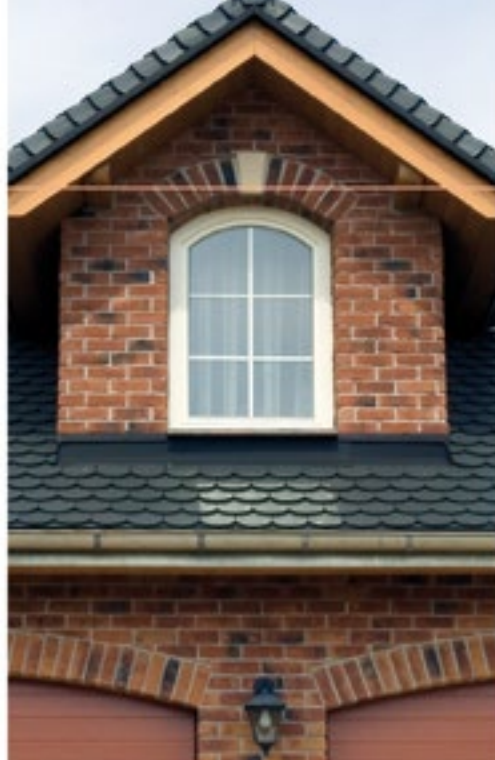
 **FB Carmine GS**  
(FB 1122)



 **FB Carmine Genuanceerd** (FB 1121)



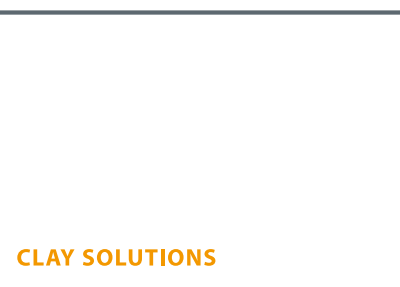
 **FB WS Bruin Rood**  
(FB 1708)



FB Carmine GS (FB 1122)



FB Carmine GS (FB 1122)



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FB WS Rood  
Genuanceerd (FB 1706)



FB Kardinaal Rood  
Metallic (FB 1150)



FB Kardinaal Rood GS  
(FB 1148)

 Available also in the form of slips.



FB Sepia GS (FB 1126)



## Handmade **BRICKS** and **SLIPS**



FB Sepia GS  
(FB 1126)



FB WS Sepia  
(FB 1707)



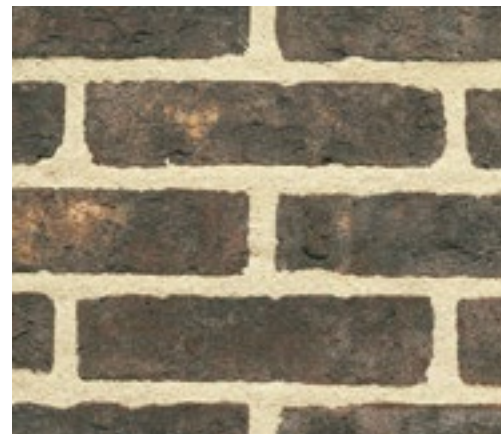
FB Oud Eik  
(FB 1520)



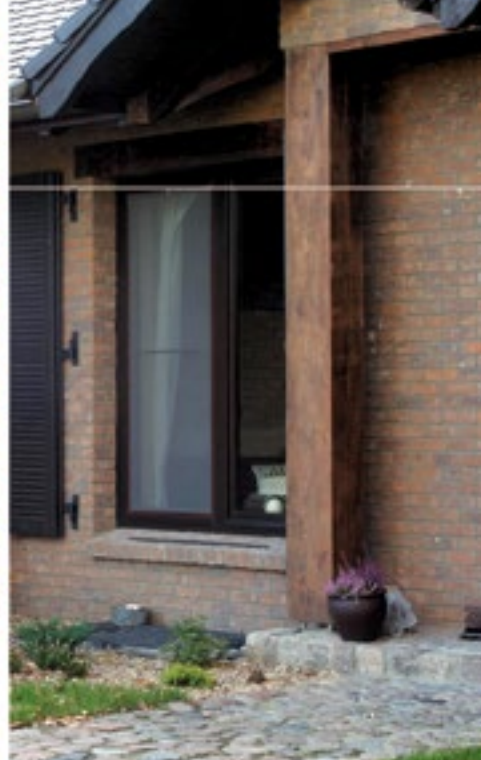
FB Umber  
(FB 1130)



FB Classic Rood  
(FB 1116)



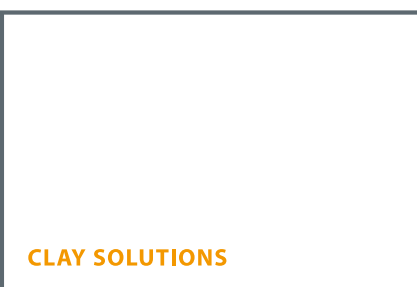
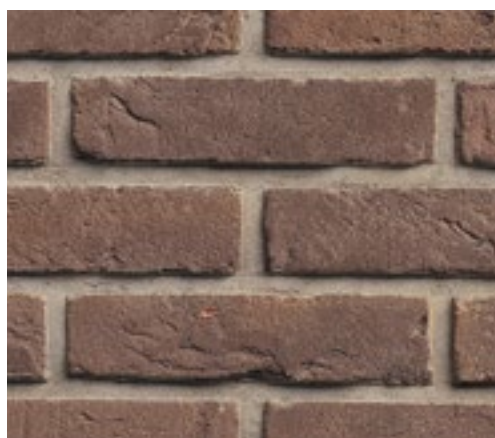
FB Vulcano  
(FB 1437)



Clinker and handmade BRICKS and SLIPS

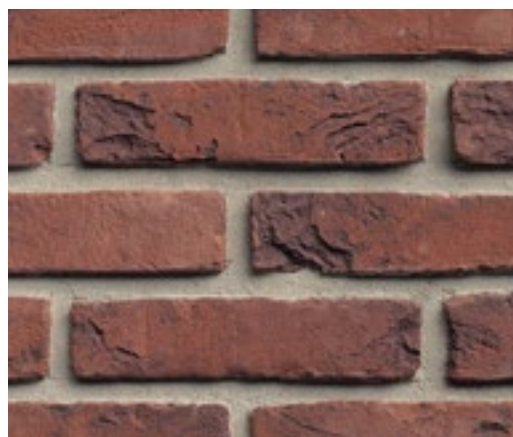
FB Oud Maas (FB 1134)

FB Sepia GS (FB 1126)



 **FB Bruin**  
(FB 1144)


[www.klinkier.com](http://www.klinkier.com)



 **FB Sepia Ongesinteld**  
(FB 1128)

 **FB WS Bruin**  
(FB 1703)

 **FB Oud Maas**  
(FB 1134)

 Available also in the form of slips.



FB Nevado Oranje (FB 1439)



water  
water



## Handmade **BRICKS** and **SLIPS**



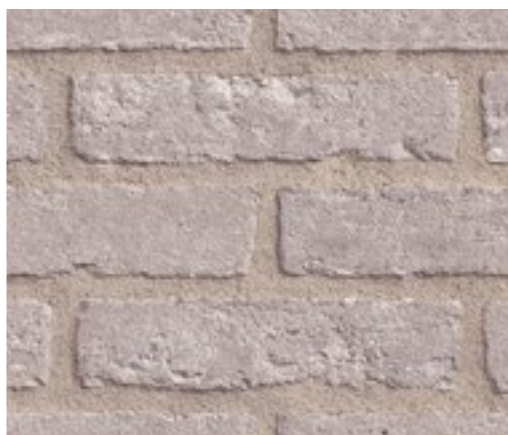
FB Rainbow Wit  
(FB 1422)



FB Rainbow Zilver  
(FB 1420)



FB Sepia Snowdust  
(FB 1129)



FB Kiezelgrijs  
(FB 1450)

30 / 31



FB Nevado Oranje  
(FB 1439)



FB Nevado Geel  
(FB 1440)



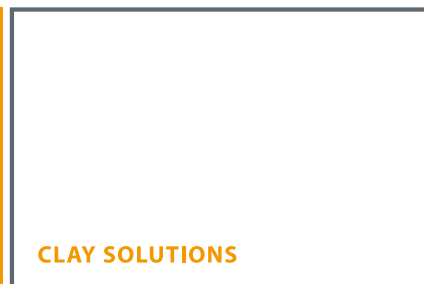
FB Rainbow Wit (FB 1422)



FB Nevado Oranje (FB 1439)



 FB WS Wit GS Gesmoord (FB 1449)



[www.klinkier.com](http://www.klinkier.com)




 FB Nevado (FB 1438)



 FB Zwart Mangan (FB 1145)



 FB Pinta (FB 1435)

 Available also in the form of slips.

# FACADES







Cottbus / Maximus



FB Castello (FB 1242)

## INSPIRATIONS



Rustika



Kalahari Ton



Sahara

# FACADES





Classic, Alfa



Classic

# INSPIRATIONS



Cottbus / Maximus

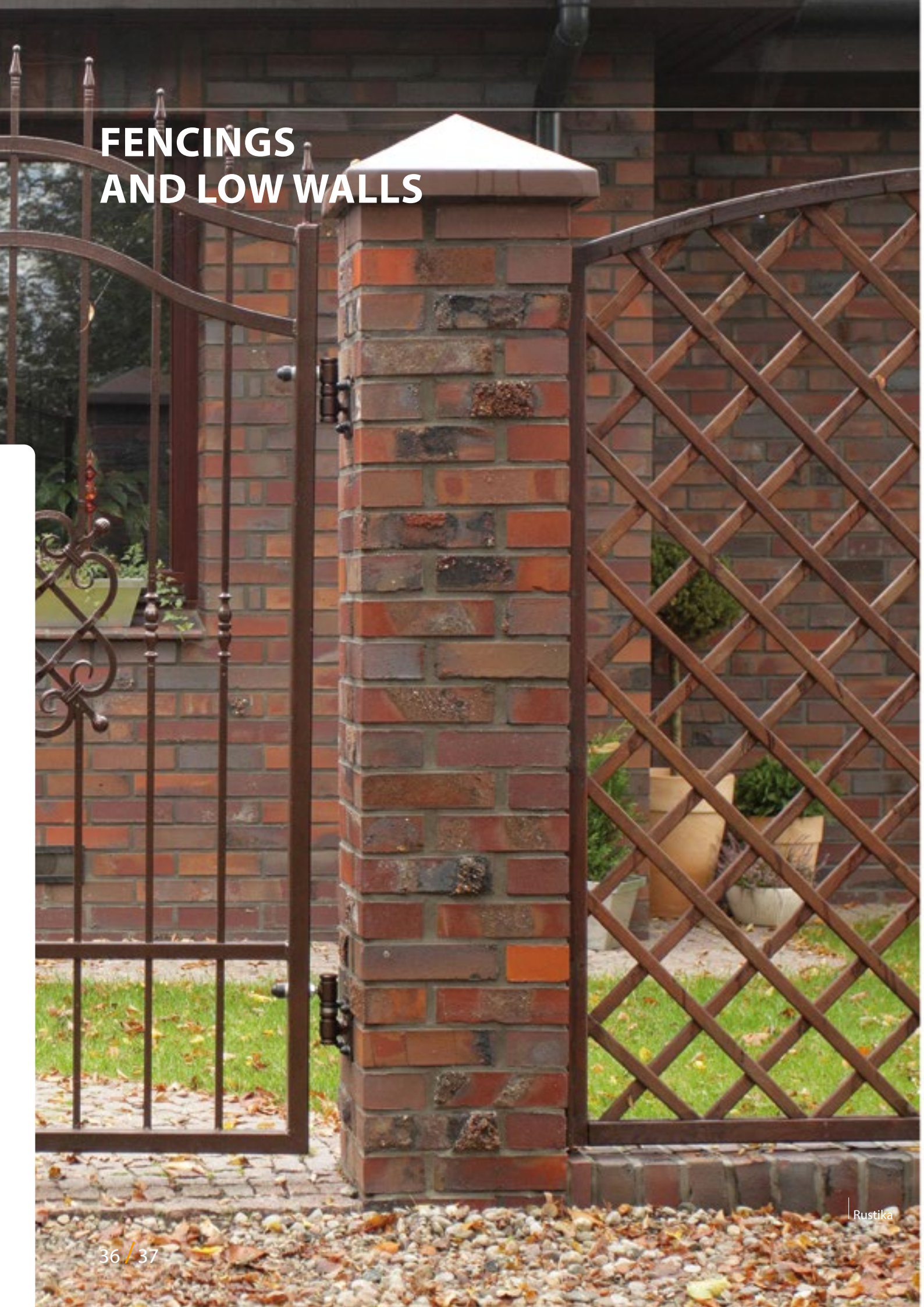


Classic



Sahara

# FENCINGS AND LOW WALLS





Sahara

# INSPIRATIONS



Kalahari Ton



Classic



Etna

# INTERIORS





FB Terra Cotta (FB 1106)



Colorado

# INSPIRATIONS



FB Rosé Wit (FB 1210)



FB Terra Cotta (FB 1106)



FB Terra Cotta (FB 1106)

# CHIMNEYS, FIREPLACES AND BARBECUES







Rustika

# INSPIRATIONS



FB Rosé Wit (FB 1210)



FB Rosé Wit (FB 1210)



Sahara

## FACADES – clinker or plaster?

### Clinker bricks / slips



#### Material

**Ceramics** – selected, high-quality clay fired at 1100 °C. Ecological material – natural and durable.

### Plaster



**Mixture** of filler and texture aggregates connected (depending on the type of plaster) with one of the following binding materials:

- mineral: cement, calcareous binders or their mixture,
- silicon: organosilicon binders with addition of water-based acrylic resin dispersion,
- silicate: potassium water glass,
- acrylic: organic binders, mainly acrylic-styrene binders.

#### Resistance to mechanical damage

**Very high** – a curtain wall made of brick protects the remaining layers against adverse weather conditions and mechanical damage. It is also resistant to e.g. hailstorm. A facade made of clinker bricks is massive (115–120 mm thick), so it is resistant to damage. One can save on repairs.

**Poor or no resistance to mechanical damage** – plaster is not resistant to mechanical damage because of its small thickness (1–3 mm). The strength of plaster is mainly based on the reinforcing layer made of acrylic mesh. Plaster facades are not resistant to hailstorm.

#### Resistance to staining

**Resistant** – a compact and solid structure (ceramals) guarantees a very tight surface of extremely low absorbability (3–4%), thanks to which it is completely washable. Using an anti-graffiti cleaner one can even remove graffiti from a clinker facade. High resistance to staining and easy maintenance.

**Poor or no resistance to staining** – because of its porous structure. Mineral plasters are highly susceptible to structural staining, because of their coarse grain structure. The resistance of acrylic plasters is quite similar because of their thermoplasticity and electrification of resins. Minimum resistance to staining is only characteristic of silicate and silicon plasters. Plaster is not resistant to staining – stained surface needs to be painted once again.

#### Colour

**Durable and resistant to fading** – uniform colour across the entire material. A wide selection of colours is obtained by using various clays, which fire naturally into several colours without any artificial additives or dyes. Life-long colour warranty.

**Non-durable and non-resistant to fading** – only white colour is natural. The other colours are obtained by adding artificial dyes, e.g. iron oxides or phthalocyanines.

#### Renovation

**No** – clinker products do not need to be renovated – one can save time and money.

**Yes** – which is time-consuming and expensive.

#### Fire resistance

**Fire-proof** – the brick is “born in fire” – it is fired at high temperature of 1100 °C. Fire resistance class (REI) = 120 minutes. The clinker wall is twice as safe as a plaster facade.

**Non-flammable/ flammable** – depending on the type of plaster. Mineral plasters – cement, calcareous binders or their mixture:

- mineral, silicon, silicate plasters: non-flammable,
- acrylic – flammable. Fire resistance class (REI) = 60 minutes.

#### Resistance to weak acids

**Resistant** – it is a natural feature of ceramics, because during the firing process the clay used to produce clinker changes its structure into a non-reactive form. Therefore, it becomes resistant to acids (e.g. acid rains), detergents and other caustic agents. Easy maintenance.

**Not resistant** – plasters due to their structure and chemical composition (applied aggregate and binding material) are not resistant to acids and acid solutions. In order to protect the surface from acid the plaster needs to be coated with epoxide resin.

Prepared on the basis of: PN-EN 771-1 “Requirements concerning masonry elements. Part 1: Ceramic masonry elements”, PN-EN 14411 “Ceramic slips and panels – definitions, classification, characteristics and marking”, PN-EN 13914 “Design, preparation and manufacture of outdoor and indoor plasters. Part 1: Outdoor plasters”, product data sheets, documentation of the manufacturers of bricks, slips and facade plasters, as well as publications of research institution staff.

# FACADES and INTERIORS

## – the rules of proper performance

### Remember to

- calculate well the amount of material to be used to perform the works, allowing for a 3–5% reserve, before placing your order,
- order products from the same production batch; ceramic products are natural materials and particular batches may slightly vary in shades and sizes,
- if you order clinker products from different batches, check whether the bricks / slips are of the same shade and size. If they are not, you should carefully mix the products from different pallets to make the colour of the facade uniform,
- measure the facade before commencing the masonry works to avoid unnecessary cutting,
- mix bricks / slips from different pallets to achieve the effect of “living”, natural facade, while laying clinker products from the same batch.

### Storage

- clinker bricks stored on a building site should not be exposed to any contamination, such as binding materials, mortar or concrete,
- clinker slips should be stored in their original packaging in an area where they will not be exposed to damp, dirt or mechanical damage.

### Preparing the mortar / adhesive

- check the water absorption properties of the purchased bricks to choose the adequate type of mortar,
- use pre-mixed masonry mortars for laying the bricks. The preparation of mortar involves adding a specified amount of water to the dry mix. Always follow the manufacturer’s instructions given on the packaging. Do not add any extra water to the mortar during the works, otherwise differences in mortar shades may occur,
- for slip laying we recommend ready-made flexible adhesives designed for external ceramic slips. When selecting the adhesive, take into account the type of the substrate, the working conditions and the surface preparation method.

### Brick and slip laying

- when laying the bricks / slips, take the bricks / slips from several pallets or packs to minimize slight colour differences between

particular production batches and to make the colour of the facade uniform,

- use clean tools, when laying the bricks / slips. Keep the workplace in good order,
- clean immediately any dirt, including mortar staining, with a dry soft brush or with clean water and a damp sponge to prevent it from caking,
- do not lay any bricks or slips during rain or frost. When it rains, the water washes out the mortar from joints, causing difficult to remove cement stains. When there’s frost, the water simply freezes in the mortar instead of setting it, which reduces the strength and durability of the joint,
- protect a recently constructed slip wall / facade against rain for 14 days with a protective cover that allows a free air flow. If the wall / facade is not protected, the rain may wash out the newly made joint onto the brick faces, whereas extreme heat or excessive exposure to sunlight may cause loss of too much moisture and excessive dryness of the mortar, which reduces the strength and durability of the joint.

### Joint formation

- generally the same mortar can be used for building and pointing the brick wall, provided that it is a mortar for bricklaying and pointing. The consistency of the mortar for pointing bricks and slips should resemble that of damp soil,
- for pointing bricks and slips, use a pointing trowel, the width of which corresponds to the width of the joint,
- do not spread the pointing mortar over the surface of the bricks / slips, as this may cause difficult or impossible to remove stains,
- point the bricks / slips in a downward direction. First form the horizontal joints and then the vertical ones.

### Facade cleaning

- remove immediately any staining on the face caused by masonry, bonding or pointing, using a dry method,
- do not allow the mortar to set on the face of the brick / slip,
- remove any excess of adhesive pressed out from the slip into spaces between the slips to allow application of the pointing mortar.

### Rules of proper facade making with the use of clinker slips

In the case of already existing buildings, where it is not possible to support a curtain wall made of clinker bricks due to a lack of proper foundation (which happens quite often), when one wants to make a tough, durable and aesthetic facade – one can use clinker slips. Clinker slips can be used in combination with any building material and insulation made of foamed polystyrene or wool. Clinker slips fixed on the facade are deceptively similar to traditional bricks. They are an ideal solution for anyone looking

for a simple and proven way of house finish, renovation or refurbishment. A facade cladding made of clinker slips is first fixed to the wall with a highly flexible, frost-proof slip adhesives and then pointed with a mortar for clinker pointing. The facade slips are made of material which perfectly imitates the brick – both in terms of the wall appearance and its resistance to staining (for many years one does not have to incur any renovation or painting costs, which is usually the case in plaster facades). If you want to enjoy the beauty of a facade made of slips for many years to come, prepare the substrate well and make the facade right.

# FACADES and INTERIORS

## – slip laying

There are two methods of laying clinker and facade slips on the outside:

- on the insulated brickwork element (composite wall),
- on the non-insulated brickwork element (single wall, low wall, etc.).

Each case requires a slightly different preparation of the surface and application of other materials.

### Slips on the wall insulated with foamed polystyrene

As far as foamed polystyrene is concerned (Fig. 1), we recommend using EPS100 (former name FS 20) with a higher abrasion resistance. The substrate on which the thermal insulation is put, additionally burdened with slip cladding, must have a high load carrying capacity. Because of its high diffusion resistance, foamed polystyrene is impermeable to steam, retaining it on the internal (warm) side of the wall. As a result, the steam flow is disturbed (as in the case of any wall insulated with foamed polystyrene), but as this process always occurs in above-zero temperatures, it does not affect the durability of the clinker cladding. The steam accumulated inside the load-bearing wall returns to the inside of the room, where it is disposed of by a ventilation system.

### Slips on the wall insulated with mineral wool

When the slips are laid on wool (Fig. 2, 3), we recommend using facade wool. This technology is based on wool's natural permeability to steam. The steam, having permeated through the load-bearing wall and the wool layer, finally gets outside through the joints between the slips. This flow is not as free as in the case of the cavity wall with clinker brick facade, however it suffices to ensure a proper functioning of the wall (the total area of the joints constitutes as much as around 14% of the entire area of the facade). Regardless of the selected insulating material, the slips should not be fixed using random products (adhesives, mortars), as this may result not only in debonding of the slips, but also in damping the thermal insulation (wool), leading to the lowering of its insulation properties.

### Slips on single (non-insulated) wall

In the case of single (non-insulated) walls with poor ventilation, high humidity and no transition layer in the form of thermal insulation that would retain moisture on the internal (warm) side of the wall (Fig. 4, 5), we recommend fixing the slips directly to the wall, using specially prepared adhesive and mortar systems. One can also use a ventilated casing made of waterproof OSB panels fixed to the wall with a framework (e.g. aluminium framework). Application of unproven fixing systems may lead to the disturbance of the steam diffusion process inside the wall, and thus to the condensation of the steam on the adhesive-slip border. This may result in debonding of the slips after freezing (sub-zero temperature zone).

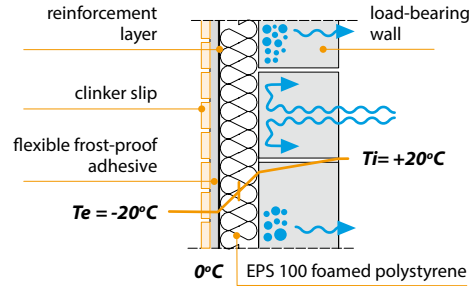


Fig. 1  
Moisture transport and temperature distribution in a wall insulated with foamed polystyrene (system solutions)

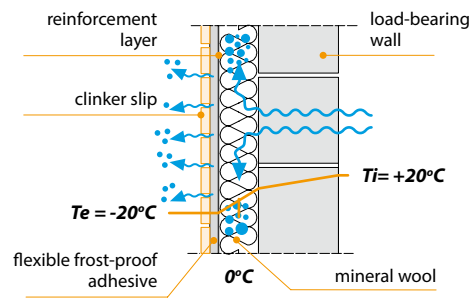


Fig. 2  
Moisture transport and temperature distribution in a non-ventilated wall insulated with wool (system solutions)

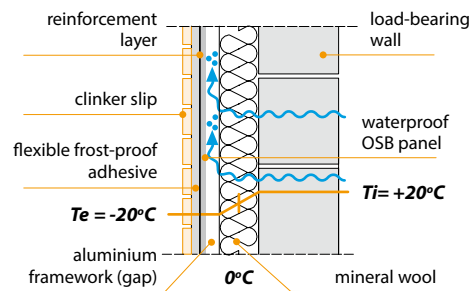


Fig. 3  
Moisture transport and temperature distribution in a ventilated wall insulated with wool (alternative solutions)

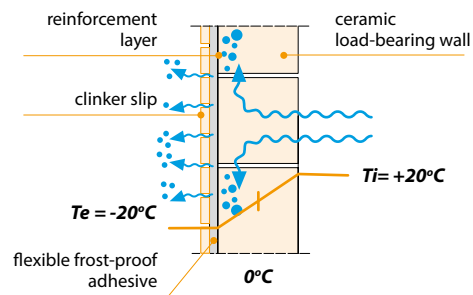


Fig. 4  
Moisture transport and temperature distribution in a single non-ventilated wall (system solutions)

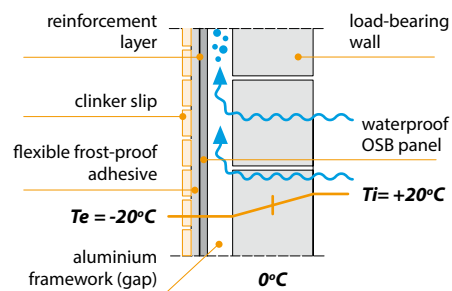


Fig. 5  
Moisture transport and temperature distribution in a single ventilated wall (system solutions)

# FACADES and INTERIORS

## – slip laying

### Rules of proper application of clinker slips in the interiors

The interiors are another area of application of clinker slips with all their advantages (durability, timelessness, damage resistance, lack of periodic restorations). Slips or even slip elements in the form of small sections can emphasize the nature of the interior and make it much more attractive. While fixing clinker slips inside

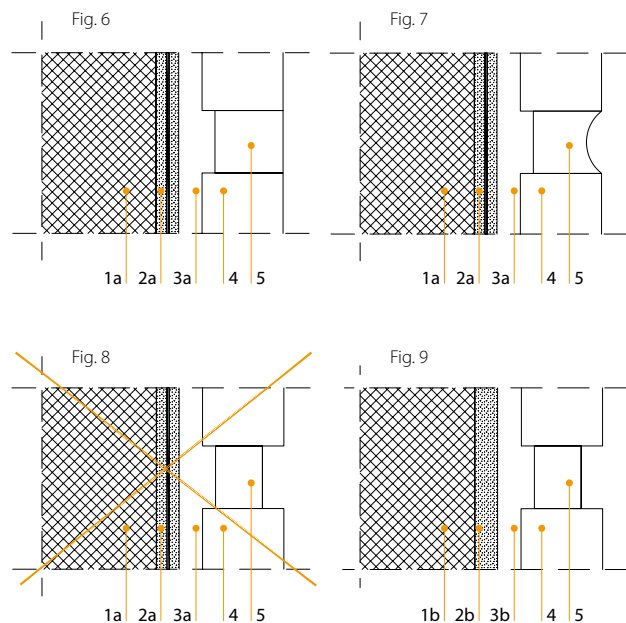
the building, one should follow the same procedure, as in the case of ceramic slips (bathroom slips).

Only the method of pointing is different – we do not spread the mortar on the slip face, but fill the gaps between the slips with a semi-dry (consistency of damp soil) mortar for pointing. We do this with a pointing trowel. Only in the case of interior cladding can we apply the recessed joint.

### Formation of the joints

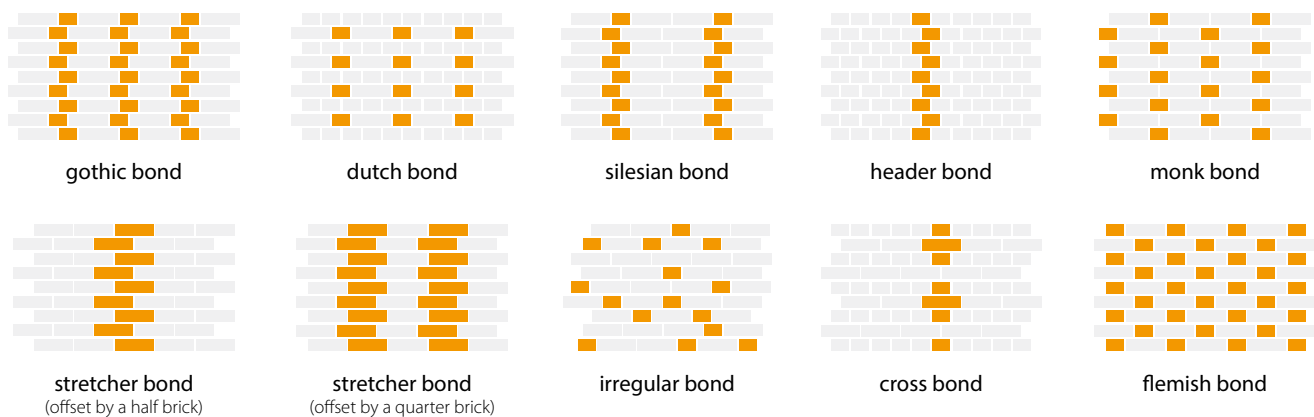
Outside, we recommend forming the joint to the face of the slip (Fig. 6) or rounding it (Fig. 7). Recessed joints (Fig. 8) are not recommended, as the formed ledge will collect dirt and damp, which may result in the occurrence of weeping, efflorescence or even debonding of the slips.

Formation of joints set back in relation to the facade plane is acceptable in interior cladding (Fig. 9). For pointing, use a pointing trowel, the width of which corresponds to the width of the gap between the slips. Fill the joints in a downward direction. First form the horizontal joints and then the vertical ones.



1a – brickwork element, 1b – load-bearing wall  
 2a – reinforcement mesh, 2b – plaster  
 3a – flexible frost-proof adhesive, 3b – flexible adhesive  
 4 – facade slip, 5 – joint

### Slip laying patterns

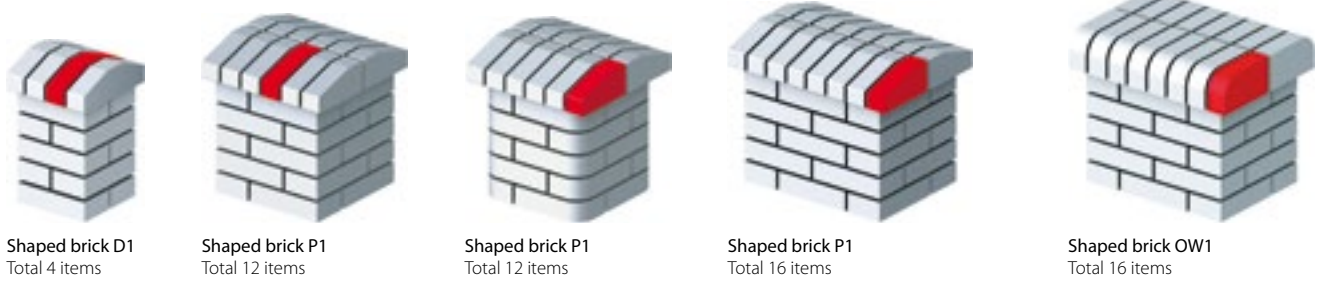


# FENCINGS – post caps

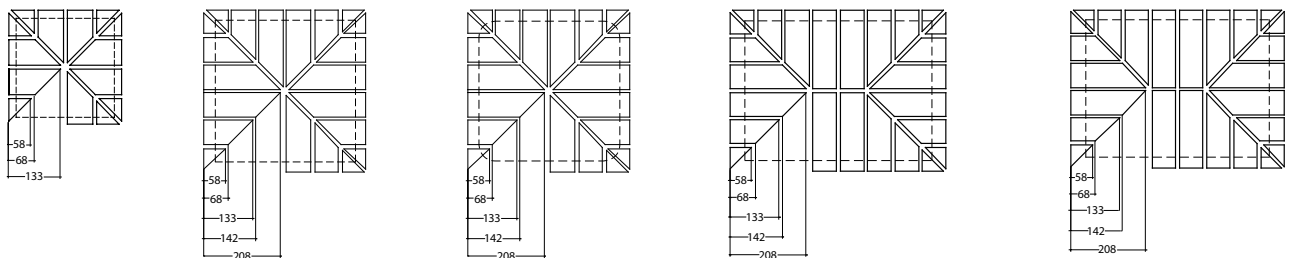
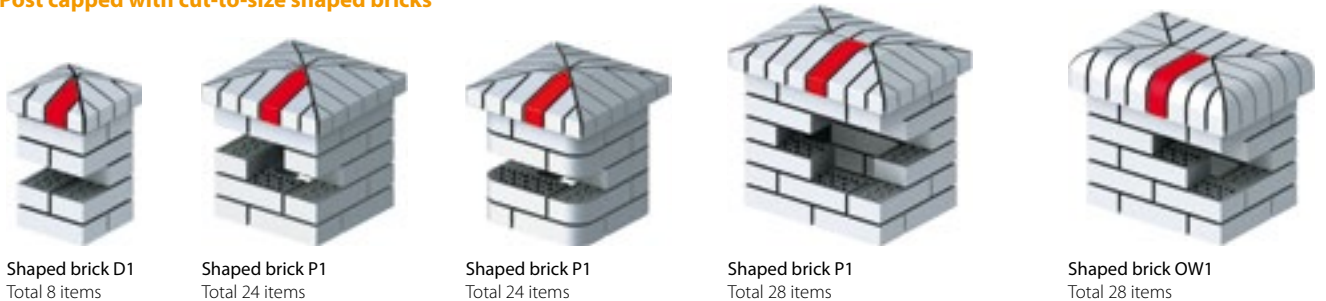
A fence is a construction, which in addition to its primary function – providing privacy and separating the house surroundings from a road or another plot of land, also plays a representative role – is often a showcase of its owners. The form, materials and colour of the fence should refer to its surrounding elements. This can be achieved in many various ways, for example if the pattern of spans is similar to the railings of the stairs or balconies, and the posts and low walls are finished with the same materials as the wall or base of the house.

- When building the fence, you should remember that:
- a building permit is not required to build a fence, but in the case of a fence bordering on a public street and road, you are obliged to report this fact to a competent authority 30 days before the works can be commenced,
  - a fence between the neighbouring plots of land does not require notification, if its height does not exceed 2,2 m,
  - a fence must not go beyond the borders of the plot,
  - a gate and a wicket must not open to the outside, they should not have thresholds hindering a passage for the disabled,
  - a wicket should be at least 90 cm wide and a gateway at least 240 cm.

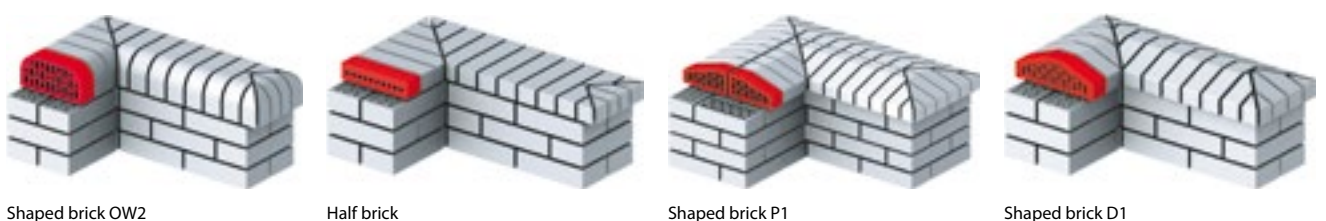
## Post capped with ready shaped bricks



## Post capped with cut-to-size shaped bricks



## Wall coping

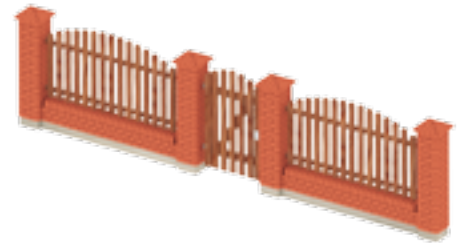
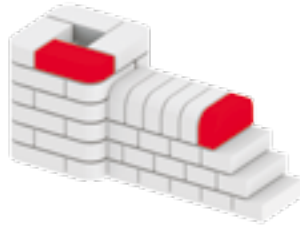


# FENCINGS – installation methods

**Solution**

1

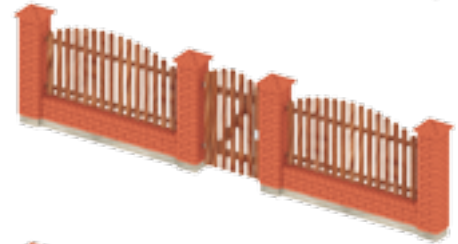
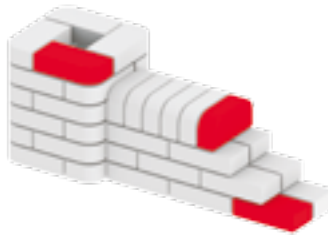
post: shaped brick OW1  
 low wall: brick 25 x 12 x 6,5 cm  
 wall coping: shaped brick OW2



**Solution**

2

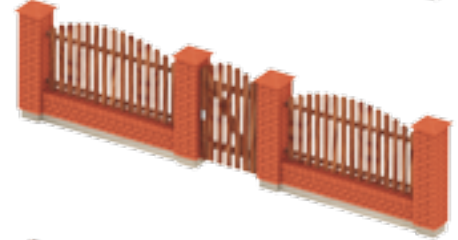
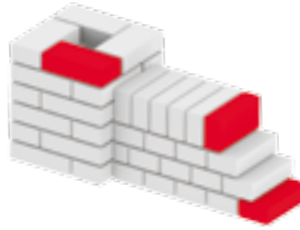
post: shaped brick OW1  
 low wall: brick 25 x 12 x 6,5 cm  
 wall coping: shaped brick OW2



**Solution**

3

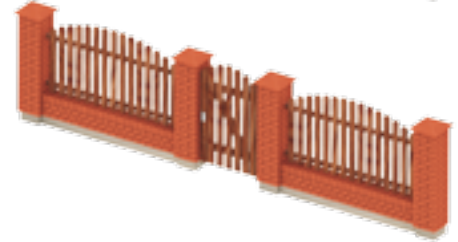
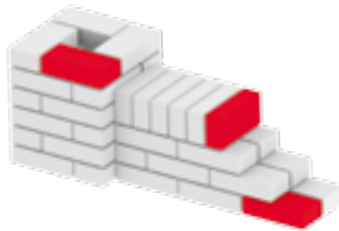
post: brick 25 x 12 x 6,5cm  
 low wall: brick 25 x 12 x 6,5 cm  
 wall coping: brick 25 x 12 x 6,5 cm



**Solution**

4




post: brick 25 x 12 x 6,5cm  
 low wall: brick 25 x 12 x 6,5 cm  
 wall coping: brick 25 x 12 x 6,5 cm



**Post caps and wall copings**

Low wall 12 cm	Low wall 25 cm		Low wall 38 cm	
<p>brick: 25 x 12 x 6,5 cm                      number: 7 items / running m *</p>	<p>brick: 25 x 12 x 6,5 cm                      number: 14 items / running m *</p>	<p>half brick: 25 x 5,5 x 6,5 cm                      number: 14 items / running m *</p>	<p>brick: 25 x 12 x 6,5 cm                      number: 21 items / running m *</p>	<p>shaped brick OW1: 25 x 12 x 6,5 cm                      number: 28 items / running m *</p>
<p>shaped brick OW2: 25 x 12 x 6,5 cm                      number: 14 items / running m *</p>	<p>shaped brick D1: 30 x 10 x 6,5 cm                      number: 14 items / running m *</p>	<p>shaped brick OW2: 25 x 12 x 6,5 cm                      number: 14 items / running m *</p>	<p>shaped brick P1: 21,5 x 10 x 6,5 cm                      number: 28 items / running m *</p>	<p>* number of masonry components (brick / half brick / P1 / D1 / OW1 / OW2) needed to make 1 running meter of the wall coping</p>

# Clinker BRICKS

	Place of collection	Parameters and demand				Perforated bricks (250x120x65) 	Cavity bricks (250x120x65) 	Full bricks (250x120x65) 
		Strength category	Absorbability	Demand for 1 sq.m (format RF 250x120x65) [items]	Demand for 1 sq.m (format NF 240x115x71) [items]			
Sahara	Gozdnica	35	up to 6%	51	49	420	420 ☎	240
Sahara Cieniowana ☎	Gozdnica	35	up to 6%	51	49	420 ☎	420 ☎	420 / 240
Sahara Miodowa	Gozdnica	35	up to 6%	51	49	420	420 ☎	420 / 240
Sahara Piaskowa ☎	Gozdnica	35	up to 6%	51	49	420 ☎	–	420 ☎
Sahara Ton	Gozdnica	35	up to 6%	51	49	420	420 ☎	420 / 240
Vesuvio ☎	Patoka	35	up to 6%	51	49	392 ☎	–	392 ☎
Ochra	Gozdnica	35	up to 6%	51	49	420	420 ☎	420 / 240
Ochra Ton	Gozdnica	35	up to 6%	51	49	420	420 ☎	420 / 240
Texas ☎	Oberlausitz	35	up to 6%	51	49	448 ☎	–	224 ☎
Halle ①	Oberlausitz	35	up to 6%	–	49	416	416 ☎	448
Buchholz ①	Oberlausitz	35	up to 6%	–	49	416	416 ☎	448
Narsdorf ①	Oberlausitz	35	up to 6%	–	49	416	416 ☎	448
Kalahari	Gozdnica	35	up to 6%	51	49	420	–	420 / 224
Alfa	Gozdnica	35	up to 6%	51	49	420	420 ☎	240
Starobrowarna	Gozdnica	35	up to 6%	51	49	420	–	240
Kalahari Ton	Gozdnica	35	up to 6%	51	49	420	420 ☎	240
Fenix	Oberlausitz	35	up to 6%	51	49	424	–	424
Canion ☎	Oberlausitz	35	up to 6%	51	49	448 ☎	–	224 ☎
Wega N (Schwarzburg)	Oberlausitz	35	up to 6%	51	49	448	–	224
Toba	Patoka	35	up to 6%	51	49	371	–	250 ☎
Gotika	Patoka	35	up to 6%	51	49	392	392	392 ☎
Rustika	Patoka	35	up to 6%	51	49	392	392	–
Manam	Patoka	35	up to 6%	51	49	392	–	392
Classic	Patoka	35	up to 6%	51	49	371	371	250 ☎
Cottbus / Maximus	Oberlausitz	35	up to 6%	51	49	448	–	224
Rubin Cieniowany	Gozdnica	35	up to 6%	51	49	420	420 ☎	420 / 240
Luna	Gozdnica	35	up to 6%	51	49	420	–	420 / 240
Etna	Gozdnica	35	up to 6%	51	49	420	420 ☎	240
Colorado ☎	Oberlausitz	35	up to 6%	51	49	448 ☎	–	224 ☎
Syriusz Cieniowany	Gozdnica	35	up to 6%	51	49	420	–	420 / 240
Tybet Cieniowany	Gozdnica	35	up to 6%	51	49	420	–	420 / 240
Tytan N (Potsdam)	Oberlausitz	35	up to 6%	51	49	448	–	224
Galaxy	Gozdnica	35	up to 6%	51	49	420	–	240
Carbon	Gozdnica	35	up to 6%	51	49	420	–	240

### CRH KLINKIER Sp. z o. o.

Pszczynska 309, 44-100 Gliwice, Poland, [contact@klinkier.com](mailto:contact@klinkier.com)  
F +48 32 23 94 101, T +48 32 23 94 111, +48 32 23 94 114

### GOZDNICKIE ZAKŁADY CERAMIKI BUDOWLANEJ Sp. z o. o.




Świerczewskiego 35, 68-130 Gozdnica, Poland

### PATOKA INDUSTRIES Ltd. Sp. z o. o.

Ceramiczna 23, Panoszków, 42-793 Ciasna, Poland

### OBERLAUSITZ Klinkerwerke GmbH

Buchholz 62a, D-02894 Vierkirchen, Germany

Place of collection	Perforated bricks (250x120x65) 	Cavity bricks (250x120x65) 	Full bricks (250x120x65) 
Gozdnica	3,0	3,8	4,2
Patoka	3,19	3,92 / 4,0	4,5 / 4,43
Oberlausitz	3,1	–	4,4



Bricks and shaped bricks (format RF [mm]) – Packaging (number on the pallet) [items]

Half bricks (250x55x65)	Shaped bricks OW1 perforated (250x120x65)	Shaped bricks OW1 full (250x120x65)	Shaped bricks OW2 perforated (250x120x65)	Shaped bricks OW2 full (250x120x65)	Shaped bricks P1 perforated (215x100x65)	Shaped bricks P1 full (215x100x65)	Shaped bricks D1 perforated (300x100x65)	Shaped bricks D1 full (300x100x65)
600	240	240	240	240	240	240	240	240
600 ☎	240 ☎	240 ☎	240 ☎	240 ☎	–	–	–	–
600	240	240	240	240	–	240	–	240
600 ☎	–	–	–	–	–	–	–	–
600	240	240	240	240	240	240	240	240
–	–	–	–	–	–	–	–	–
600	240 ☎	240	240	240 ☎	240	240	240	240
600	240 ☎	240	240	240 ☎	240	240	240	240
–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–
600	240	–	240	–	–	–	–	–
600	240	240	240	240	240	240	240	240
600	240	–	240	–	–	–	–	–
600	240	240	240	240	240	240	240	240
–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–
676	448	–	416	–	–	520	–	351
826 ☎	371 ☎	371 ☎	371 ☎	371 ☎	–	440 ☎	–	378 ☎
826 ☎	–	–	–	–	–	–	–	–
826 ☎	392 ☎	392 ☎	392 ☎	392 ☎	–	440 ☎	–	378 ☎
826	392 ☎	392 ☎	392 ☎	392 ☎	–	440 ☎	–	378 ☎
826	371	371	371	371	–	440	–	378
676	–	–	–	–	–	–	–	–
600	240 ☎	240 ☎	240 ☎	240 ☎	240 ☎	240 ☎	240 ☎	240 ☎
600	240	240	240	240	240	240	240	240
600	240	240	240	240	240	240	240	240
–	–	–	–	–	–	–	–	–
600 ☎	240 ☎	240 ☎	240 ☎	240 ☎	240 ☎	240 ☎	240 ☎	240 ☎
600 ☎	240 ☎	240 ☎	240 ☎	240 ☎	240 ☎	240 ☎	240 ☎	240 ☎
676	448	–	416	–	–	520	–	351
–	–	–	–	–	–	–	–	–
600	–	–	–	–	–	–	–	–

Bricks and shaped bricks (format RF [mm]) – Weight 1 item [kg] (±10%)

Half bricks (250x55x65)	Shaped bricks OW1 perforated (250x120x65)	Shaped bricks OW1 full (250x120x65)	Shaped bricks OW2 perforated (250x120x65)	Shaped bricks OW2 full (250x120x65)	Shaped bricks P1 perforated (215x100x65)	Shaped bricks P1 full (215x100x65)	Shaped bricks D1 perforated (300x100x65)	Shaped bricks D1 full (300x100x65)
1,6 / 1,7	3,0	4,2	3,0	4,0	1,62 / 1,75	2,55	2,33	3,35
1,95	3,85	4,35	3,76	4,45	–	2,9	–	3,6
2,05	3,15	–	3,2	–	–	2,7	–	3,65

Product availability: please contact us by phone [☎]; available only in format NF (240x115x71 mm) [📍].

## TECHNICAL DATA

Bricks and slips – Weight 1 item [kg] (±10%)		
Standard slips (format RF)	10 mm: 0,4	13 mm: 0,45
Corner slips (format RF)	10 mm: 0,56	13 mm: 0,65
Full bricks (format WF)	1,7	
Full bricks (format HF)	1,4	
Full bricks (format WDF)	2,3	
Standard slips (format WDF)	0,55	
Corner slips (format WDF)	0,65	



Product availability: please contact us by phone [ 📞 ].

## Clinker SLIPS

	Place of collection	Parameters and demand		
		Bending strength	Absorbability	Demand for 1 sq.m (format RF standard slips) [items]
Sahara	Gliwice	> 20	up to 6%	51
Sahara Miodowa	Gliwice	> 20	up to 6%	51
Sahara Ton	Gliwice	> 13	up to 6%	51
Ochra	Gliwice	> 20	up to 6%	51
Ochra Ton	Gliwice	> 13	up to 6%	51
Kalahari	Gliwice	> 20	up to 6%	51
Alfa	Gliwice	> 20	up to 6%	51
Kalahari Ton	Gliwice	> 20	up to 6%	51
Wega N	Gliwice	> 13	up to 6%	51
Classic	Patoka	> 13	up to 6%	51
Luna	Gliwice	> 13	up to 6%	51
Etna	Gliwice	> 20	up to 6%	51
Syriusz Cieniowany	Gozdnica	> 20	up to 6%	51
Nepal Cieniowany 📞	Gozdnica	> 20	up to 6%	51
Tybet Cieniowany	Gozdnica	> 20	up to 6%	51

## Clinker SLIPS

	Standard slips (format RF)		Corner slips (format RF)	
	Measurements [mm]	Packaging (number in the box / on the pallet) [items]	Measurements [mm]	Packaging (number in the box / on the pallet) [items]
Sahara	250x10x65	30 / 2520	250x120x10x65	22 / 924
Sahara Miodowa	250x10x65	30 / 2520	250x120x10x65	22 / 924
Sahara Ton	250x13x65	26 / 2080	250x120x13x65	28 / 1008
Ochra	250x10x65	30 / 2520	250x120x10x65	22 / 924
Ochra Ton	250x13x65	26 / 2080	250x120x13x65	28 / 1008
Kalahari	250x10x65	30 / 2520	250x120x10x65	22 / 924
Alfa	250x10x65	30 / 2520	250x120x10x65	22 / 924
Kalahari Ton	250x10x65	30 / 2520	250x120x10x65	22 / 924
Wega N	250x13x65	26 / 2080	250x120x13x65	28 / 1008
Classic	250x20x65	- / 900	250x120x20x65	22 / 792
Luna	250x13x65	26 / 2080	-	-
Etna	250x10x65	30 / 2520	250x120x10x65	22 / 924
Syriusz Cieniowany	250x10x65	30 / 2520	250x120x10x65	22 / 924
Nepal Cieniowany 📞	250x10x65	30 / 2520	250x120x10x65	22 / 924
Tybet Cieniowany	250x10x65	30 / 2520	250x120x10x65	22 / 924

## Handmade BRICKS and SLIPS

	Place of collection	Parameters	
		Strength category of bricks	Absorbability
Vogue	Gliwice	15	up to 20%
Modo	Gliwice	15	up to 20%
Nevel	Gliwice	35	up to 10%
Tango	Gliwice	15	up to 14%
Mooi	Gliwice	35	up to 10%
Salsa	Gliwice	35	up to 10%
Moderna	Gliwice	20	up to 7%
FB Wit (FB 1406)	Facade Beek	20	up to 10%
FB WS Wit (FB 1704)	Facade Beek	20	up to 10%
FB WS Wit GS (FB 1709)	Facade Beek	20	up to 10%
FB Rosé Wit (FB 1210)	Facade Beek	20	up to 10%
FB Classic FBL (FB 1315)	Facade Beek	15	up to 12%
FB FBGD (FB 1208)	Facade Beek	15	up to 12%
FB FBL GS (FB 1311)	Facade Beek	15	up to 12%
FB Classic Terra Cotta (FB 1108)	Facade Beek	15	up to 12%
FB Classic Carmine (FB 1115)	Facade Beek	15	up to 12%
FB Rustiek (FB 1206)	Facade Beek	15	up to 12%
FB Retro (FB 1241)	Facade Beek	15	up to 12%
FB Ruvio (FB 1240)	Facade Beek	15	up to 12%
FB Terra Cotta (FB 1106)	Facade Beek	15	up to 12%
FB Terra Cotta GS (FB 1107)	Facade Beek	15	up to 12%
FB Havanna GS (FB 1124)	Facade Beek	15	up to 12%
FB Castello (FB 1242)	Facade Beek	15	up to 12%
FB Castello Geel (FB 1244)	Facade Beek	15	up to 12%
FB Castello Oranje (FB 1243)	Facade Beek	15	up to 12%
FB Purple (FB 1135)	Facade Beek	15	up to 12%
FB Purple GS (FB 1136)	Facade Beek	15	up to 12%
FB Rood GS (FB 1117)	Facade Beek	15	up to 12%
FB Carmine GS (FB 1122)	Facade Beek	15	up to 12%
FB Carmine Genuanceerd (FB 1121)	Facade Beek	15	up to 12%
FB WS Bruin Rood (FB 1708)	Facade Beek	15	up to 12%
FB WS Rood Genuanceerd (FB 1706)	Facade Beek	15	up to 12%
FB Kardinaal Rood Metallic (FB 1150)	Facade Beek	15	up to 12%
FB Kardinaal Rood GS (FB 1148)	Facade Beek	15	up to 12%
FB Sepia GS (FB 1126)	Facade Beek	15	up to 12%
FB WS Sepia (FB 1707)	Facade Beek	15	up to 12%
FB Oud Eik (FB 1520)	Facade Beek	15	up to 12%
FB Bruin (FB 1144)	Facade Beek	15	up to 12%
FB Umber (FB 1130)	Facade Beek	15	up to 12%
FB Classic Rood (FB 1116)	Facade Beek	15	up to 12%
FB Vulcano (FB 1437)	Facade Beek	15	up to 12%
FB Sepia Ongesinteld (FB 1128)	Facade Beek	15	up to 12%
FB WS Bruin (FB 1703)	Facade Beek	15	up to 12%
FB Oud Maas (FB 1134)	Facade Beek	15	up to 12%
FB Rainbow Wit (FB 1422)	Facade Beek	15	up to 12%
FB Rainbow Zilver (FB 1420)	Facade Beek	15	up to 12%
FB Sepia Snowdust (FB 1129)	Facade Beek	15	up to 12%
FB WS Wit GS Gesmoord (FB 1449)	Facade Beek	20	up to 10%
FB Kieselgrijs (FB 1450)	Facade Beek	20	up to 10%
FB Nevado Oranje (FB 1439)	Facade Beek	15	up to 12%
FB Nevado Geel (FB 1440)	Facade Beek	15	up to 12%
FB Nevado (FB 1438)	Facade Beek	15	up to 12%
FB Zwart Mangan (FB 1145)	Facade Beek	15	up to 12%
FB Pinta (FB 1435)	Facade Beek	15	up to 12%



## MORTARS – masonry mortars with trass

A proper selection of the mortar ensures durability and aesthetics of the bricks, slips and the entire construction. So what are the features of a good mortar for clinker products?

One of the most significant features of each and every mortar is adhesion and permeability. It should not only join the bricks and slips in a stable masonry construction, but also form a barrier to prevent water from penetrating the brickwork. If the water does get inside (e.g. after heavy rain or due to microleakage), the mortar should easily remove it outside the brickwork.

During the daily operation of the building, the brickwork is constantly affected by adverse weather conditions. Changes in the temperature or humidity (and consequently linear changes in the brickwork) lead to the occurrence of stresses. Even in such extreme conditions the mortar should serve its function – it should not crack or lose its adhesive properties. It is essential to ensure leak-proofness of the brickwork (protection against rain, snow) and to prevent it at the same time from salt efflorescence.

Trass added to the masonry mortar gives it the following advantageous properties:

- it binds the calcium compounds and makes the structure more leakproof,
- it considerably reduces the risk of occurrence of calcium efflorescences and discolorations on the joints and the brickwork,
- it fills in the pores,
- it significantly increases the mechanical strength and elasticity of the mortar,
- it improves workability,
- it prevents the batched water from entering into the bricks.

### Remember:

- to select a masonry mortar adjusted to the degree of absorbability of the bricks,
- to follow the instructions on the dosage of water to the mortar,
- not to work in extreme weather conditions (in the direct sunlight, in the rain or in low temperatures).

### Technical data concerning CRH Klinkier - Clay Solutions masonry mortars:

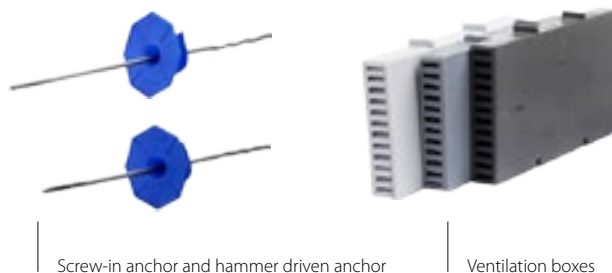
- intended use: low water absorption bricks (below 6%),
- type: ready for use, with addition of trass,
- bag weight: 25 kg,
- consumption: 40–50 kg for 1 square meter,
- available colors: grey, graphite.



Product availability: in constant offer.

## ACCESSORIES – for clinker products

- Screw-in anchors with pressing disks (25 cm and 30 cm)
- Hammer-driven anchors with pressing disks (25 cm and 30 cm)
- Ventilation boxes (grey, graphite, black)
- Masonry reinforcement ladder mesh
- Low stay (40 mm) and high stay (170 mm) reinforcements
- Joint filler tape 9-15 mm (length 3.3 m)
- Expansion plug



Screw-in anchor and hammer driven anchor

Ventilation boxes



Masonry reinforcement ladder mesh



Joint filler tape



Low and high stay reinforcements

## CAPS – for post 380x380mm



Yellow



Yellow  
engobe coated



Orange



Orange  
engobe coated



Red



Red  
engobe coated



Cherry  
engobe coated



Ruby



Brown



Graphite

### Technical data concerning the caps:

- external dimensions: 445x445x90 mm,
- packaging (number on the pallet): 48 items,
- manufacturer: Gliwice,
- available colors: see photographs above.

Product availability: in constant offer.



Kalahari



# PAVERS

Why choose clay pavers?	57
Clay pavers	58
Handmade pavers	68
Inspirations	78
Why choose clay pavements?	82
Technical data	84



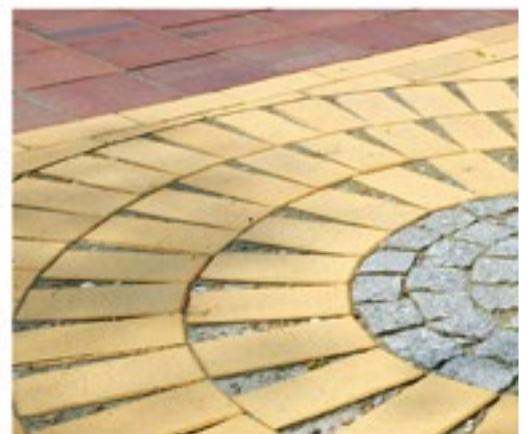
Clay and handmade PAVERS



Calau 45 (Etna N)



Radeberg (Ochra Miodowa N), Meißen (Tytan N)



Kamenz (Sahara N)

# CLAY PAVERS FOR ALL WEATHER CONDITIONS



Calau 45 (Etna N)

While building a house, one cannot forget its exterior design. The pavements, fencings and greenery are like stylish accessories to designer clothes. They should not be underestimated or chosen without due care and attention. They should not only reflect our individuality, but also harmonize with the surroundings. The CRH clay pavers are made of clay and sand. So they are naturally connected with the surroundings. The colours are inspired by the sun, water and ground. They are beautiful and extremely durable. Thanks to a rich palette of colours, they blend perfectly into small gardens and prestigious spaces. They do not require any special maintenance. The rain washes away the dirt, while the sun dries them out and highlights their colours. It is an aesthetic solution for every taste and weather conditions.

CRH Klinkier - Clay Solutions







## WHY CHOOSE CLAY PAVERS?

- They do not fade or become abraded. Their colours are always beautiful and vivid (life-long colour warranty).
- They do not require any special maintenance. The dirt is washed away by rain.
- It is possible to take out a clay pavers, turn it or move it to another position, as it is not permanently fixed to the ground. A clay paver has five possible faces that can be used.
- Their resistance is four times higher than that of concrete bricks (clay paver of thickness of 45 mm = 80 mm of concrete paving bricks).
- They are durable (the highest class of abrasion resistance – up to 40 times lower than that of concrete paving bricks).
- They are environmentally friendly - made only of clay and clean washed sand, without any artificial additives, admixtures or dyes.
- They are placed loosely on the gravel sub-crust. They do not require any screed, anti-humidity insulation or any other arrangement (finishing) materials.
- They have long-lasing, natural colours in the entire cross-section – a wide range of colours can be combined and arranged in various compositions, including arches and circles.
- They combine well with stone, wood or the garden greenery.
- They are perfect for any climate (even mountain and costal one) and for all seasons of the year.

Classic



Meißen (Tytan N)



Kamenz (Sahara N)



Zittau (Amber N)



Kamenz (Sahara N)

sun  
sun

## Clay **PAVERS**

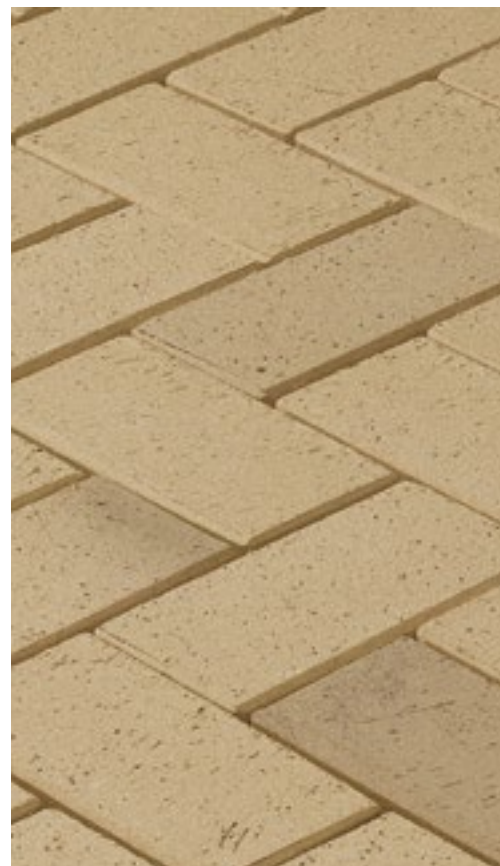


Kamenz (Sahara N)

58 / 59



Plauen  
(Sahara Cieniowana N)



Pisa



Kamenz (Sahara N)

Radeberg (Ochra Miodowa N)



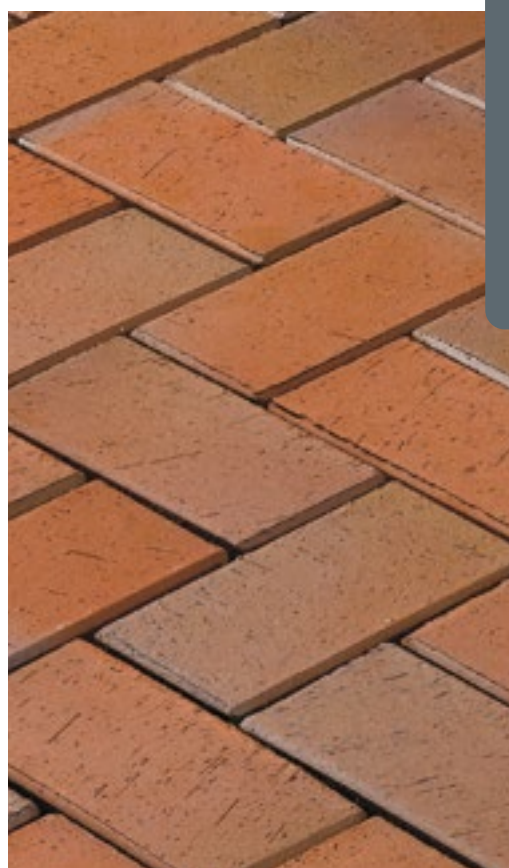
[www.klinkier.com](http://www.klinkier.com)



Radeberg  
(Ochra Miodowa N)



Bergen



Zittau (Amber N)



Calau 45 (Etna N)



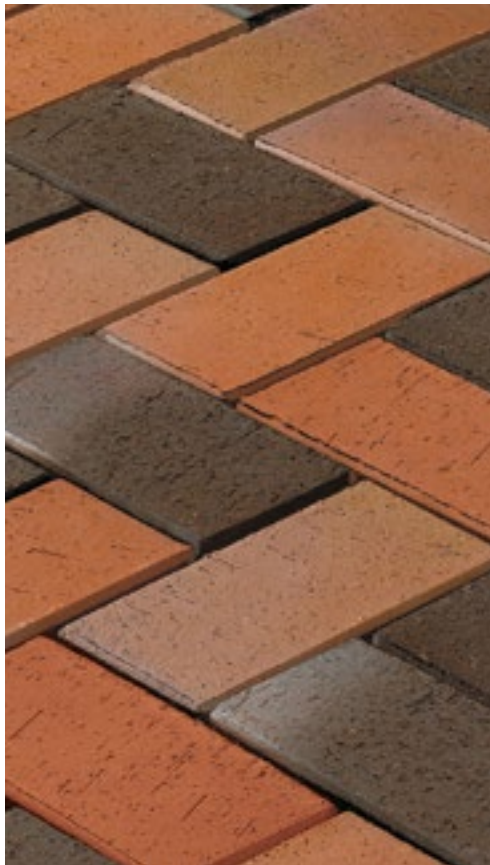
earth  
earth

## Clay **PAVERS**



Görlitz (Kalahari N)

60 / 61



Rostock



Meran



Wega N, Zittau (Amber N)



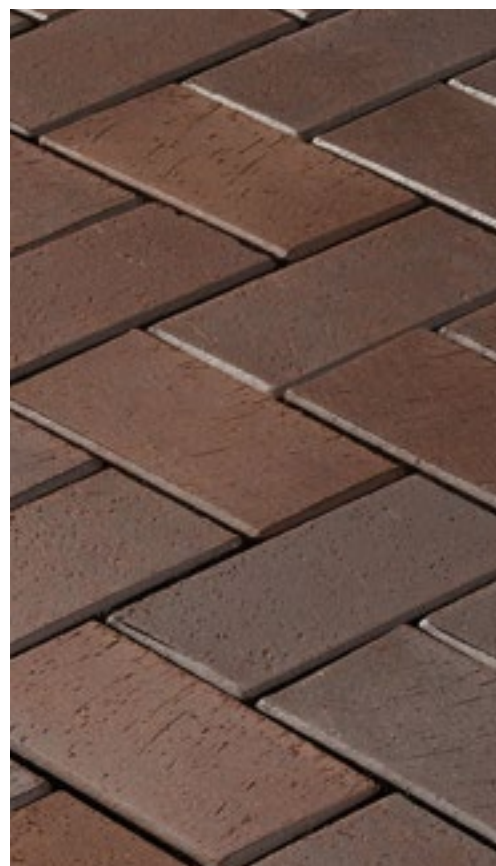
Görlitz (Kalahari N)



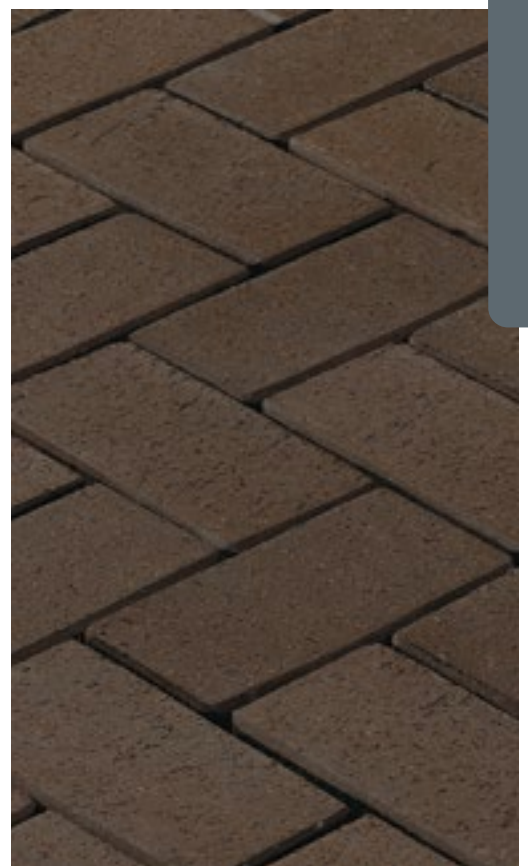
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Calau 45 (Etna N)



Calau 52



Wega N



Classic



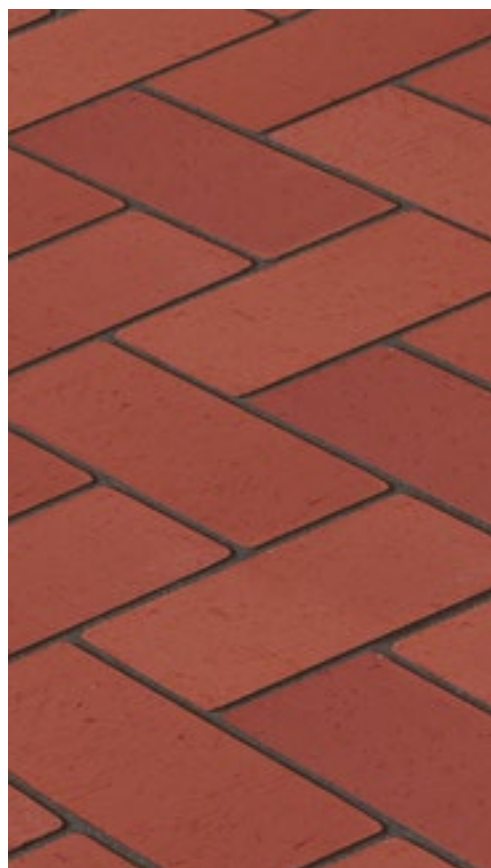
Mozaika

ck  
ck

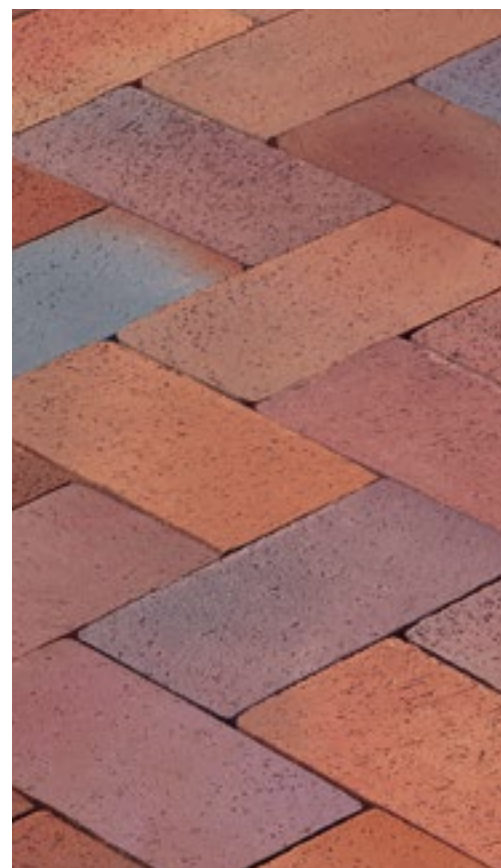
## Clay **PAVERS**



Meißen (Tytan N)



Staromiejski Alfa



Classic



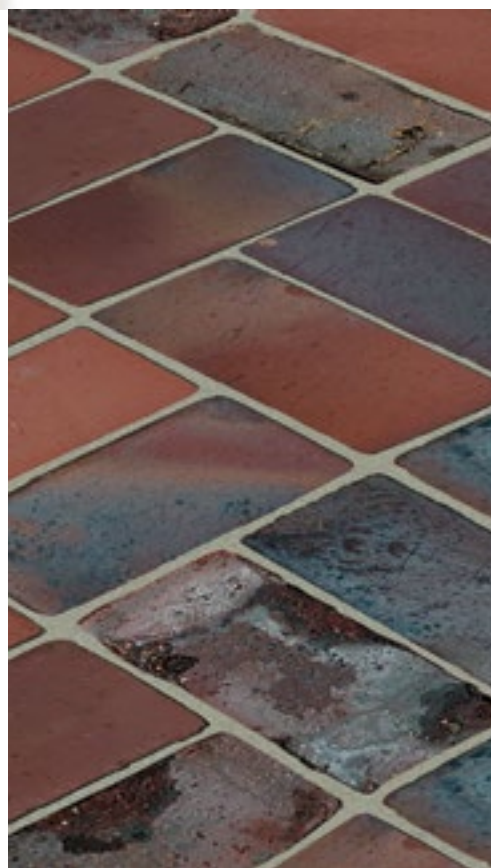
Meißen (Tytan N)



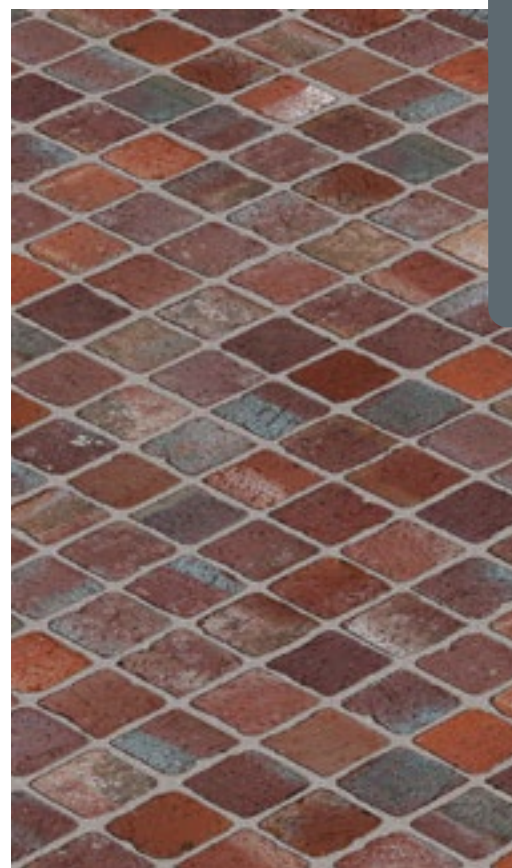
[www.klinkier.com](http://www.klinkier.com)



**Slip Classic**  
Smooth / Hand Moulded



**Antika**



**Mozaika**

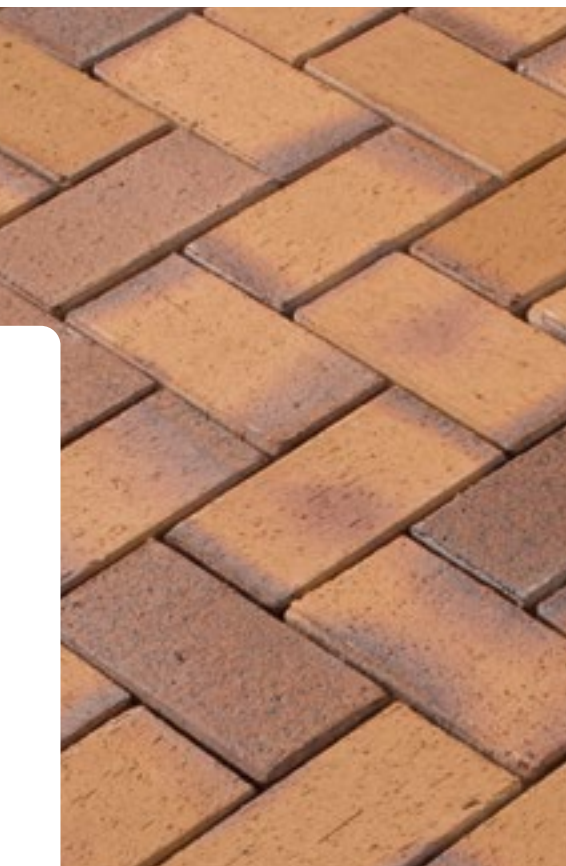
Clay and handmade **PAVERS**



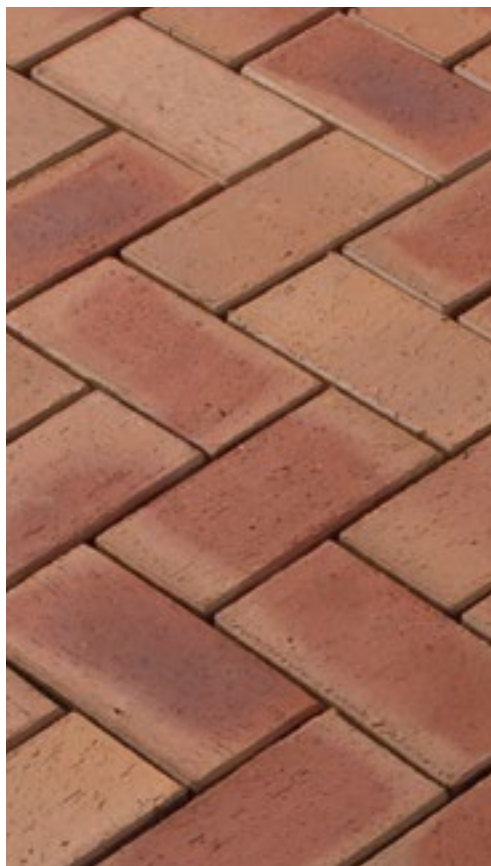
Terra Vesuvio

## Clay **PAVERS**

fire  
ire



Terra Reggio



Terra Castella



Terra Cortona





Terra Vesuvio



Terra Vesuvio



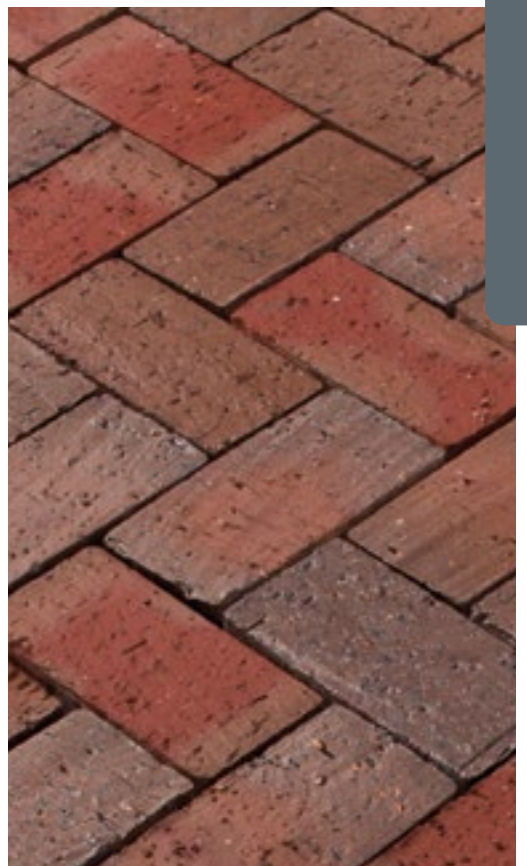
[www.klinkier.com](http://www.klinkier.com)



Terra Catania



Terra Vittoria



Terra Vesuvio



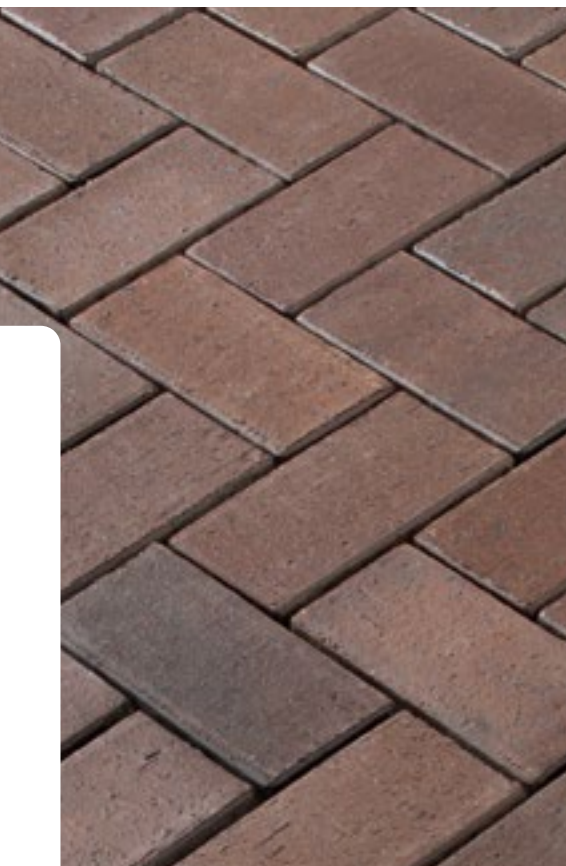
Terra Ferrara



Terra Genova

rock  
roc

## Clay PAVERS



Terra Ferrara



Terra Salerno



Terra Genova



Terra Milano



[www.klinkier.com](http://www.klinkier.com)



Terra Milano



Meißen Antica



Terra Argento



tree  
e

# Handmade **PAVERS**



Terra Ocra



Terra Argento



Terra Caldo



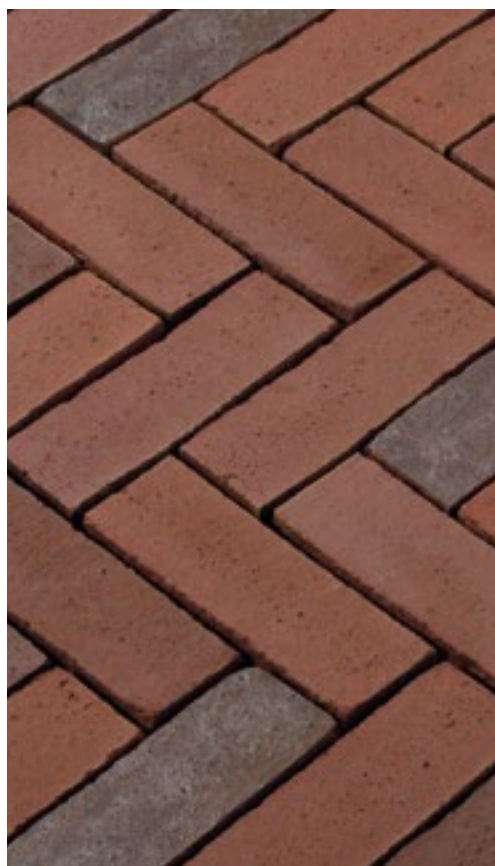
Terra Autunno Riva



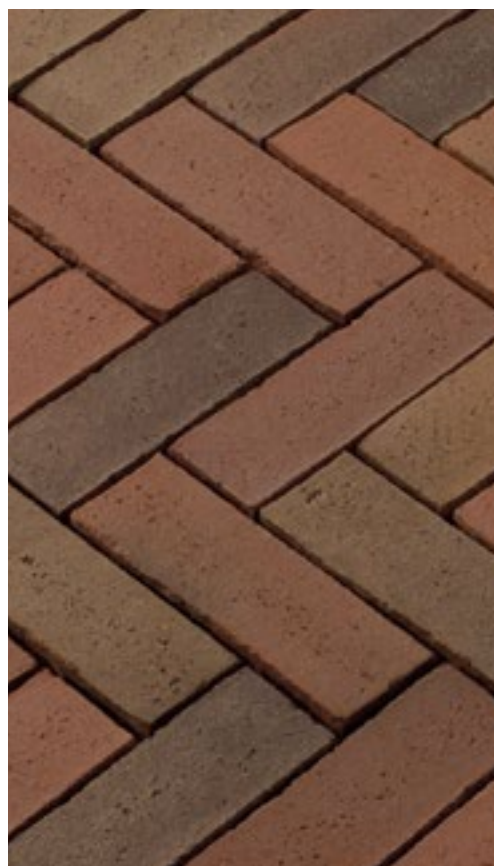
Terra Caldo



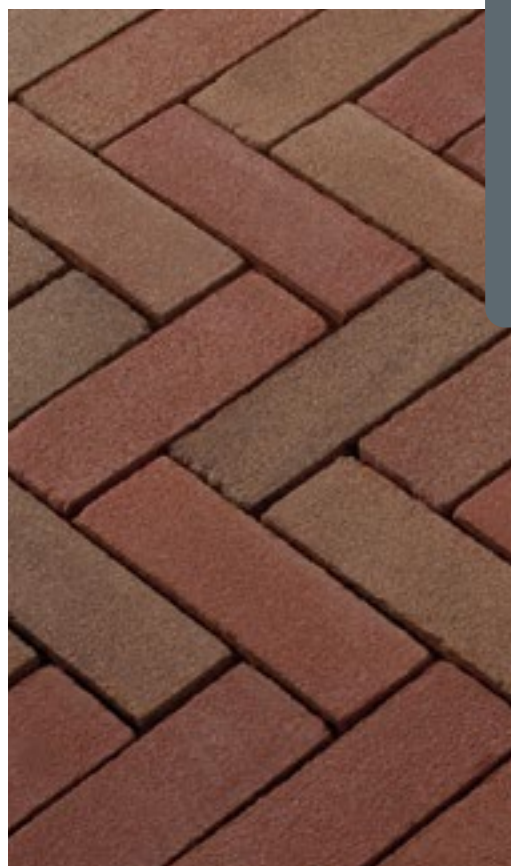
[www.klinkier.com](http://www.klinkier.com)



Terra Autunno Riva



Terra Autunno



Terra Nova

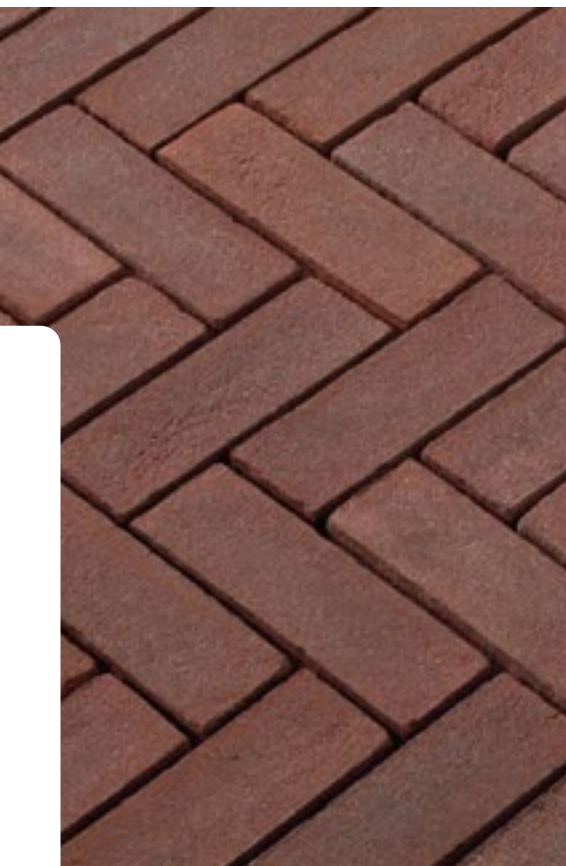
Clay and handmade **PAVERS**



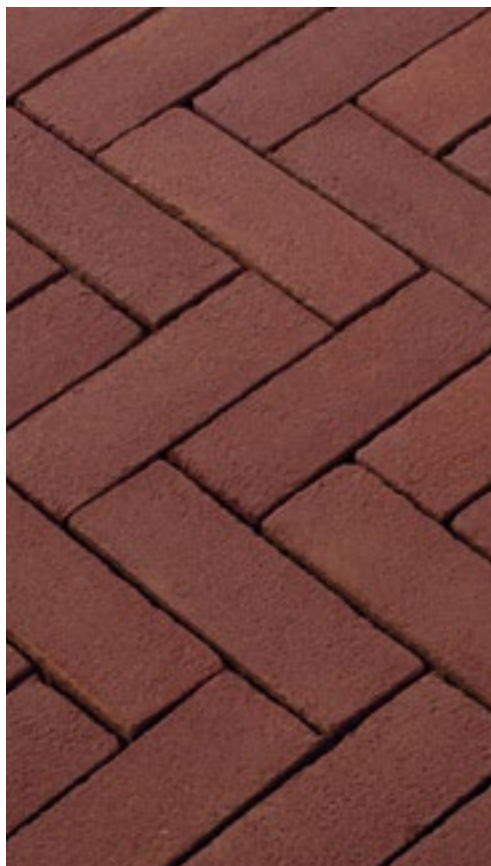
tree  
tree

Terra Romana

## Handmade **PAVERS**



Terra Rossa



Terra Robina



Terra Romana



Terra Robina



Terra Inverno



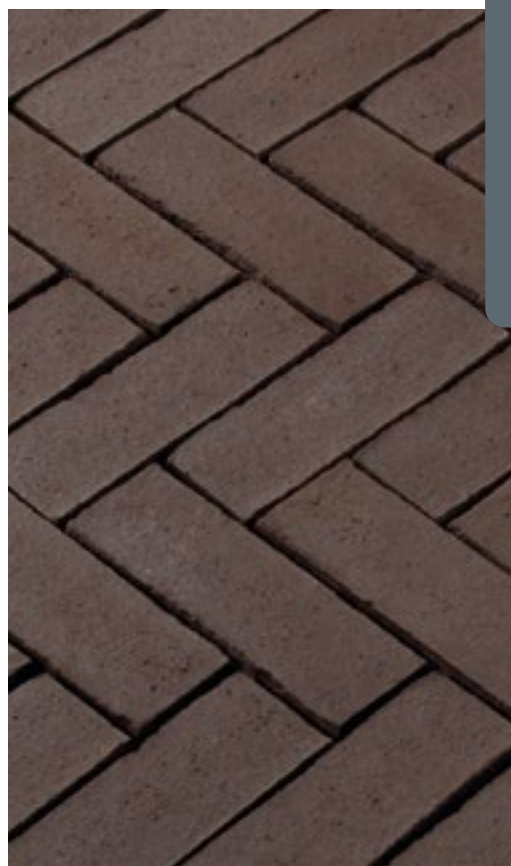
[www.klinkier.com](http://www.klinkier.com)



Terra Marrone



Terra Anthra



Terra Inverno

Clay and handmade **PAVERS**



Terra Lucca Antica



h  
earth



## Handmade **PAVERS**



Terra Lugano Antica



Terra Ancona Antica



Terra Umbria Antica





Terra Riva Antica



Terra Ancona Antica



[www.klinkier.com](http://www.klinkier.com)



Terra Autunno Riva Antica



Terra Chiara Antica

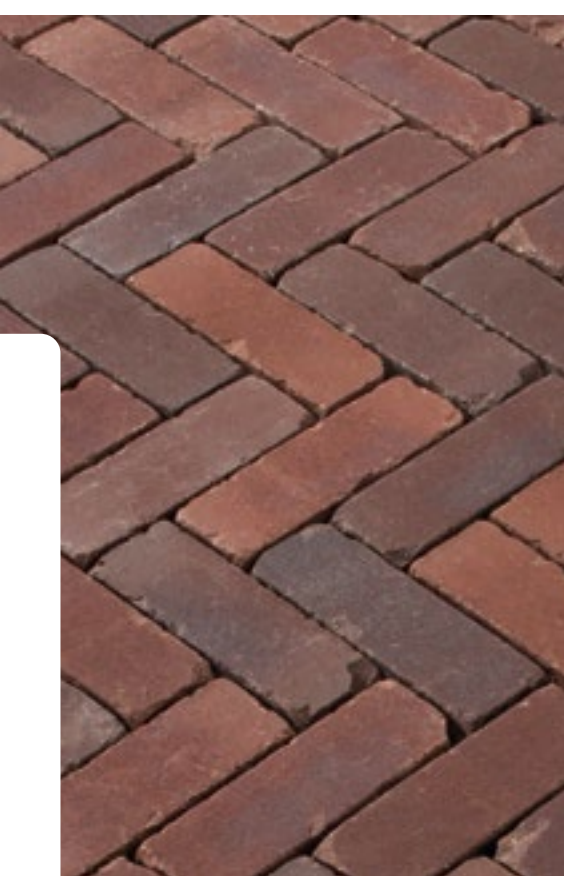


earth  
ear

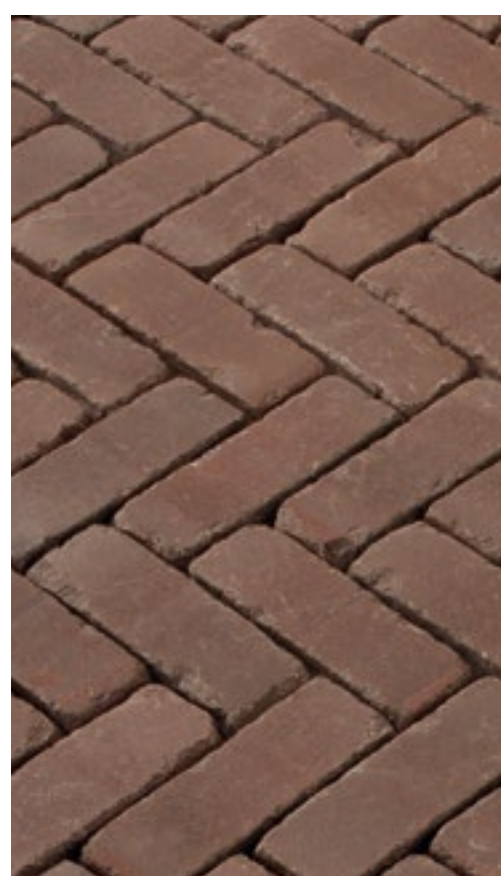


Terra Riva Antica

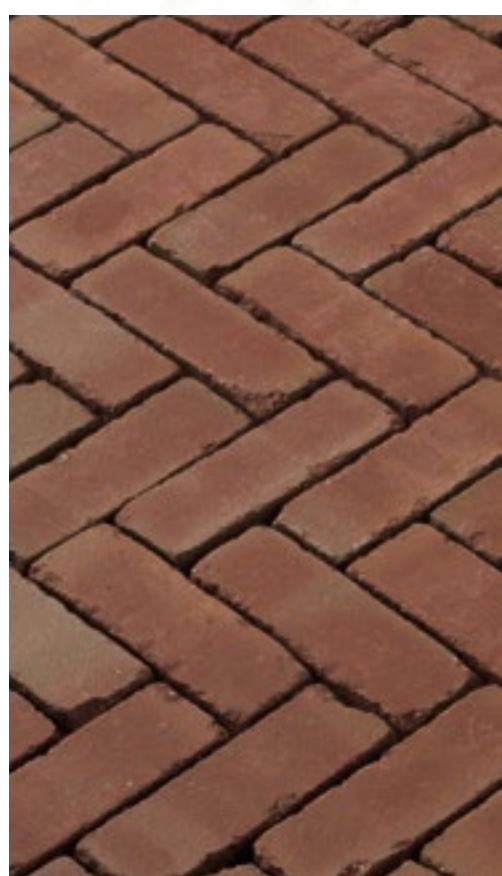
# Handmade **PAVERS**



Terra Novara Antica



Terra Riva Antica



Terra Roma Antica



Terra Novara Antica



Terra Napoli Antica



[www.klinkier.com](http://www.klinkier.com)



Terra Napoli Antica



Terra Iseo Antica



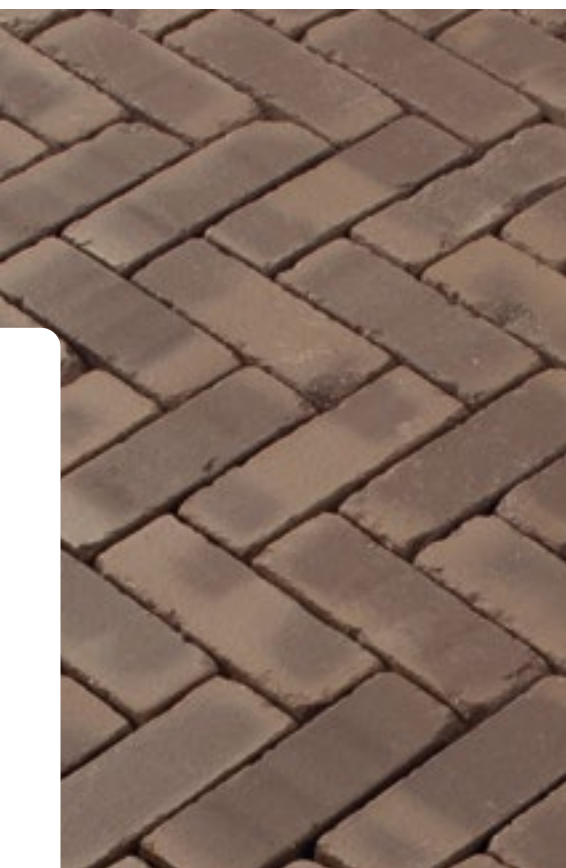
Terra Vulcano Antica



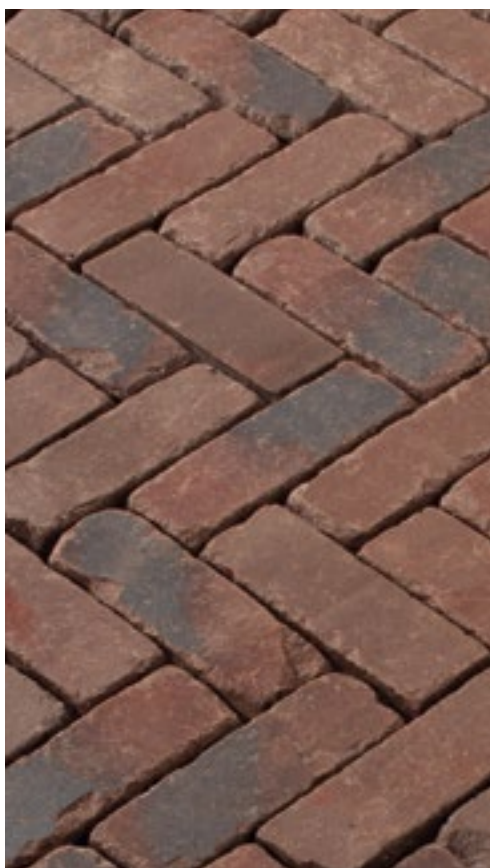
water  
water



# Handmade **PAVERS**



Terra Verona Antica



Terra Vulcano Antica



Terra Modena Antica



Terra Lucca Antica



Terra Vulcano Antica



[www.klinkier.com](http://www.klinkier.com)



Terra Lucca Antica



Terra Carbona Antica

# DRIVEWAYS



Zittau (Amber N)

# INSPIRATIONS

Clay and handmade **PAVERS**



Calau 45 (Etna N)



Classic



Meißen (Tytan N)

# TERRACES, GARDEN PATHS







Kamenz (Sahara N)

## INSPIRATIONS

Clay and handmade **PAVERS**



Meißen (Tytan N)



Radeberg (Ochra Miodowa N)



Calau 45 (Etna N)

# WHY CHOOSE CLAY PAVEMENTS?

| x

Meißen (Tytan N)



**Material: ceramics**

Clay fired at 1110 °C. Ecological material – natural and durable.



**Resistance: very high**

The resistance of 45 mm thick CRH clay pavers is 4 times higher than that of 80 mm thick concrete paving bricks, because during the firing process the moulded and compressed clay forms ceramals, which guarantee high resistance of the material – 200 MPa. It is a multi-purpose material – it can be used for paths, terraces, driveways, streets, car parks etc.



**Colour: durable and resistant to fading**

Uniform across the entire material. A wide selection of colours is obtained by using various clays, which fire naturally into several colours without any artificial additives or dyes. Life-long colour warranty.



**Number of surfaces and application segments: 5**

5 possible surfaces of a single clay paver (2 flat surfaces + 2 end faces + 1 side face). Since the side faces of the clay paver are smooth, they can be used for the finishing of edges, curbs, stairs, low walls and other elements of the landscape design. Thus one can economize on additional finishing materials.



**Skid resistance: the highest (U3 class)**

The highest skid resistance under all conditions (dry and damp surfaces), because its surface does not become polished during the normal use. Operational safety.



**Abrasion resistance: the highest (A3 class)**

The average amount of material abraded during the tests according to PN EN 1344 should not exceed 450 mm<sup>3</sup> (a clay paver measuring 200 x 100 mm can be abraded in the test only by 0.025 mm). Up to 40 times lower abrasibility, because clay paver is a ceramal and it is difficult to separate and abstract single grains from it, which is why it abrades hardly at all. Durability and elegance for years.



**Resistance to weak acids: resistant**

Resistance to weak acids, e.g. lemon juice or vinegar, is a natural feature of ceramics, because during the firing process the clay used to produce clinker changes its structure into a non-reactive form. Therefore, it becomes resistant to acids, detergents and other caustic agents. Easy maintenance and resistance to stains.

Prepared based on: PN-EN 1338:2005 "Concrete paving bricks. Requirements and test methods"; PN-EN 1344:2004 "Ceramic road brick. Requirements and test methods" and data sheets issued by paving brick manufacturers.



Calau 45 (Etna N)



Zittau (Amber N)



Kamenz (Sahara N)

# Clay PAVERS

	Place of collection	Parameters and demand			Measurements, weight and packaging					
		Strength category	Absorbability	Demand for 1 sq.m [items]	Measurements (thickness 45 mm) [mm]	Weight 1 item [kg] (±10%)	Number on the pallet [items]	Measurements (thickness 52 mm) [mm]	Weight 1 item [kg] (±10%)	Number on the pallet [items]
<b>Kamenz (Sahara N)</b>	Oberlausitz	65	up to 6%	48	200x100x45	2,0	630	200x100x52	2,3	540
<b>Plauen (Sahara Cieniowana N)</b>	Oberlausitz	65	up to 6%	48	200x100x45	2,0	630	200x100x52	2,3	540
<b>Pisa</b>	Oberlausitz	65	up to 6%	48	200x100x45	2,0	630	200x100x52	2,3	540
<b>Radeberg (Ochra Miodowa N)</b>	Oberlausitz	65	up to 6%	48	200x100x45	2,0	630	200x100x52	2,3	540
<b>Bergen</b>	Oberlausitz	65	up to 6%	48	200x100x45	2,0	630	200x100x52	2,3	540
<b>Zittau (Amber N)</b>	Oberlausitz	65	up to 6%	48	200x100x45	2,0	630	200x100x52	2,3	540
<b>Görlitz (Kalahari N)</b>	Oberlausitz	65	up to 6%	48	200x100x45	2,0	630	200x100x52 200x100x71 ☎	52 mm: 2,3 71 mm: 3,3	540 420
<b>Rostock</b>	Oberlausitz	65	up to 6%	48	200x100x45	2,0	630	200x100x52	2,3	540
<b>Meran</b>	Oberlausitz	65	up to 6%	48	200x100x45	2,0	630	200x100x52	2,3	540
<b>Calau 45 (Etna N)</b>	Oberlausitz	65	up to 6%	48	200x100x45	2,0	630	200x100x52	2,3	540
<b>Calau 52</b>	Oberlausitz	65	up to 6%	48	–	–	–	200x100x52	2,3	540
<b>Wega N</b>	Oberlausitz	65	up to 6%	48	200x100x45	2,0	630	200x100x52	2,3	540
<b>Meißen (Tytan N)</b>	Oberlausitz	65	up to 6%	48	200x100x45	2,0	630	200x100x52	2,3	540
<b>Staromiejski Alfa ☎</b>	Gozdnicza	80	up to 6%	45	–	–	–	220x100x71	3,31	420
<b>Classic</b>	Patoka	65	up to 6%	48	–	–	–	200x100x51	2,3	720
<b>Slip Classic Smooth / Hand Moulded ☎</b>	Patoka	50	up to 6%	25	200x200x40	smooth: 4,05 hand: 3,15	360	–	–	–
<b>Antika ☎</b>	Patoka	80	up to 6%	48	–	–	–	200x100x50	2,38	720
<b>Mozaika ☎</b>	Patoka	80	up to 6%	384	–	–	–	50x50x50	0,28	2 100

Product availability: please contact us by phone [ ☎ ].

# Clay and handmade PAVERS

Format A	Weight and demand		Measurements and packaging	
	Weight 1 item [kg] (±10%)	Demand for 1 sq.m [items]	Measurements [mm]	Number on the pallet [items]
WF65	1,4	93	206x51x67	768
WF90	1,95	93	206x51x90	960
DF65	1,9	71	206x67x67	576
DF90	2,6	71	206x67x90	720
KF50	2,1	48	206x102x50	768
KF70	2,9	48	206x102x70	648
KF80	3,5	48	206x102x80	480
LF60/80	2,3	67	242x60x80	720
LF80/60	2,3	50	242x80x60	720
LF80/70	2,8	50	242x80x70	630
LF80/80	3,2	50	242x80x80	540
LF120/65	3,8	33	240x120x65	420
VLF120/65	3,8	33	240x120x65	420

Format C	Weight and demand		Measurements and packaging	
	Weight 1 item [kg] (±10%)	Demand for 1 sq.m [items]	Measurements [mm]	Number on the pallet [items]
WF65	1,4	96	200x50x65	840
DF65	1,8	73	200x65x65	600

Format B	Weight and demand		Measurements and packaging	
	Weight 1 item [kg] (±10%)	Demand for 1 sq.m [items]	Measurements [mm]	Number on the pallet [items]
WF80	1,9	96	204x50x80	☎
DF80	2,3	71	204x67x80	☎
DF90	2,6	71	204x67x90	☎
KF45	2,0	48	200x100x45	630
KF52	2,3	48	200x100x52	540
KF52XL	3,3	34	240x118x52	408
KF62	2,7	48	200x100x62	450
KF62XL	3,9	34	240x118x62	360
KF65	2,9	48	202x100x65	☎
KF71	3,1	48	200x100x71	☎
KF71XL	4,4	34	240x118x71	312
KF80	3,4	48	200x100x80	☎
LF60/80	2,5	67	245x60x80	☎
LF80/80	3,2	50	245x80x80	☎
LF120/65	3,6	33	245x120x65	☎
KSF40/70	1,6	98	250x40x70	☎
KSF40/90	2,0	98	250x40x90	☎

Format D	Weight and demand		Measurements and packaging	
	Weight 1 item [kg] (±10%)	Demand for 1 sq.m [items]	Measurements [mm]	Number on the pallet [items]
WF65	1,4	93	206x51x65	840
DF65	1,8	71	206x65x65	600

Product availability: please contact us by phone [ ☎ ].

Clay and handmade  
**PAVERS**

	Place of collection	Format (details can be found on page 84)																				
		WF65	WF90	DF65	DF90	KF45	KF50	KF52	KF52XL	KF62	KF62XL	KF70	KF71	KF71XL	KF80	LF60/80	LF80/60	LF80/70	LF80/80	LF120/65	VF120/65	
<b>Terra Reggio</b>	Joosten Kessel					B		B	B	B	B		B	B	B							
<b>Terra Castella</b>	Joosten Kessel					B		B	B	B	B		B	B	B							
<b>Terra Cortona</b>	Joosten Kessel					B		B	B	B	B		B	B	B							
<b>Terra Catania</b>	Joosten Kessel					B		B	B	B	B		B	B	B							
<b>Terra Vittoria</b>	Joosten Kessel					B		B	B	B	B		B	B	B							
<b>Terra Vesuvio</b>	Joosten Kessel					B		B	B	B	B		B	B	B							
<b>Terra Ferrara</b>	Joosten Kessel					B		B	B	B	B		B	B	B							
<b>Terra Salerno</b>	Joosten Kessel					B		B	B	B	B		B	B	B							
<b>Terra Genova</b>	Joosten Kessel					B		B	B	B	B		B	B	B							
<b>Terra Milano</b>	Joosten Kessel					B		B	B	B	B		B	B	B							
<b>Meißen Antica</b>	Oberlausitz							B														
<b>Terra Ocra</b>	De Bylandt	☎	A	☎	A			☎					☎			☎	☎	☎	☎	☎	☎	☎
<b>Terra Argentio</b>	De Bylandt	☎	A	☎	A			☎					☎			A	A	A	A	☎	☎	☎
<b>Terra Caldo</b>	De Bylandt	☎	A	☎	A											☎				☎		
<b>Terra Autunno Riva</b>	De Bylandt	A	A	A	A											☎				☎		
<b>Terra Autunno</b>	De Bylandt	A	A	A	A											☎				☎		
<b>Terra Nova</b>	De Bylandt	☎	A	☎	A			☎					☎			A	☎	☎		☎		
<b>Terra Rossa</b>	De Bylandt	☎	A	☎	A			☎					A			A	A	A	A	☎	☎	☎
<b>Terra Robina</b>	De Bylandt	☎	A	☎	A			☎					☎			A	☎	☎	A	☎	☎	☎
<b>Terra Romana</b>	De Bylandt	☎	A	☎	A			☎					☎			☎	☎	☎	☎	☎	☎	☎
<b>Terra Marrone</b>	De Bylandt	☎	A	☎	A			☎					☎			A	A	A	A	☎	☎	☎
<b>Terra Anthra</b>	De Bylandt	☎	A	☎	A			☎					☎			A	A	A	A	☎	☎	☎
<b>Terra Inverno</b>	De Bylandt	☎	A	☎	A								☎			☎				☎		
<b>Terra Lugano Antica</b>	Joosten Kessel	C		C																		
<b>Terra Ancona Antica</b>	Joosten Kessel	C		C																		
<b>Terra Umbria Antica</b>	De Bylandt	D		D																		
<b>Terra Autunno Riva Antica</b>	De Bylandt	D		D																		
<b>Terra Chiara Antica</b>	De Bylandt	D		D																		
<b>Terra Novara Antica</b>	Joosten Kessel	C		C																		
<b>Terra Riva Antica</b>	Joosten Kessel	C		C																		
<b>Terra Roma Antica</b>	Joosten Kessel	C		C																		
<b>Terra Napoli Antica</b>	Joosten Kessel	C		C																		
<b>Terra Iseo Antica</b>	Joosten Kessel	C		C																		
<b>Terra Verona Antica</b>	Joosten Kessel	C		C																		
<b>Terra Vulcano Antica</b>	Joosten Kessel	C		C																		
<b>Terra Modena Antica</b>	Joosten Kessel	C		C																		
<b>Terra Lucca Antica</b>	Joosten Kessel	C		C																		
<b>Terra Carbona Antica</b>	Joosten Kessel	C		C																		

Parameters: strength category 65; absorbability up to 6%.



Calau 45 (Etna N)

Product availability: please contact us by phone [☎].



Classic



Classic



## PATOKA clinker for the connoisseur

### Clinker bricks and slips

## RENOVATIONS and more ...

Patoka boasts a unique kiln, which is one of the last of its kind in the world, and in which exceptional bricks and clay pavers are fired. The uniqueness of the products results by no means from sorcery or magic spells (although, no one knows for sure ...). It is the traditional production process, unchanged for centuries, which gives the clinker its unique features, unobtainable in modern plants.



Classic



Rustika



Manam



Toba



Classic



Classic



Gotika




Vesuvio



# Patoka

CLINKER FOR THE CONNOISSEUR

 Available also in the form of slips.



Classic

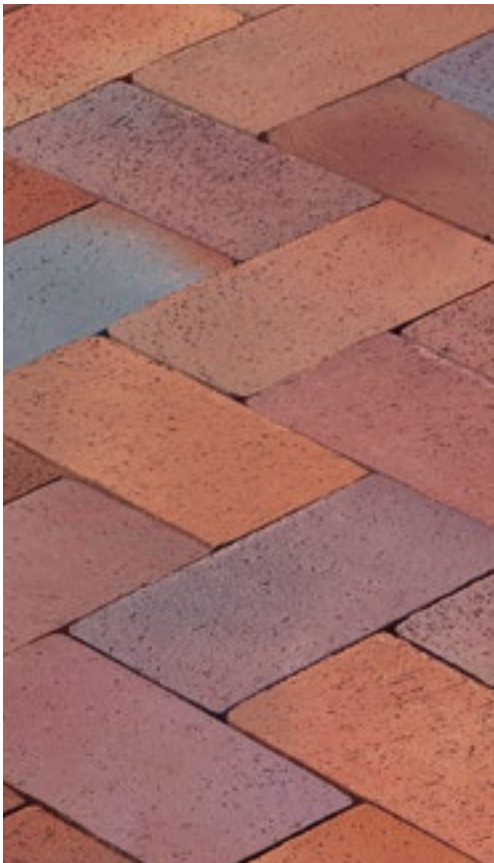


Classic



# PATOKA clinker for the connoisseur

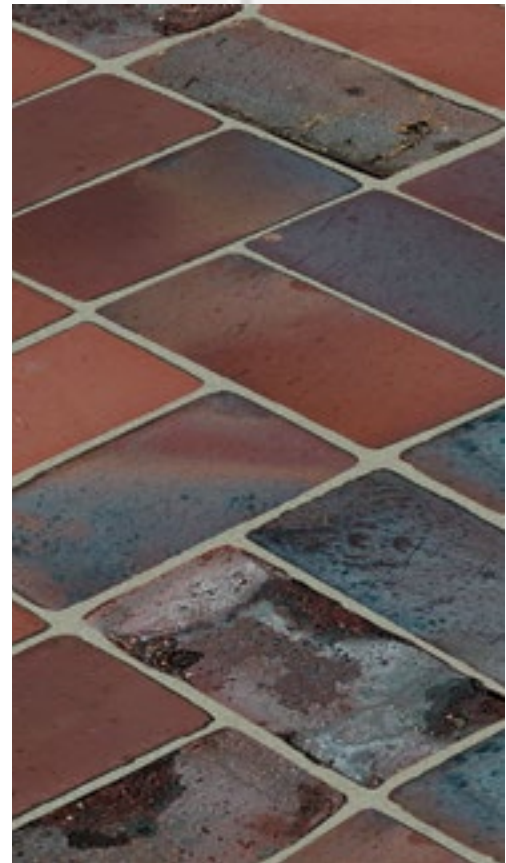
## Clay pavers



Classic



Slip Classic  
Smooth / Hand Moulded



Antika





Classic



Classic



[www.klinkier.com](http://www.klinkier.com)

# Patoka

CLINKER FOR THE CONNOISSEUR

The unusual aesthetics and proven quality of Patoka clinker result from the original firing technology. The firing process takes place in a traditional coal-fired Hoffman kiln – one of the few of its kind in the world. The bricks and clay pavers fired in the kiln are characterized by unique colours and physical properties. Their exceptional aesthetics is valued by the investors and architects alike. A wide range of colours (from red to graphite) and deslagging enable one to design unique facades.

The Patoka brick factory also produces special bricks used to renovate historical buildings or perform restoration works. The clinker from Patoka can be found, among others, in the Wawel Royal Castle, Jasna Góra Monastery, Warsaw Barbican or the Malbork Castle.



Mozaika

*Patoka*

CLINKER FOR THE CONNOISSEUR



Manam

## INSPIRATIONS



Classic



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Classic

## ❓ QUESTIONS and ANSWERS

**Why do clinker bricks of the same type vary in shades and sizes? Is it a defect?**

- no, it is not a defect. Clinker brick is a natural product made of clay and sand, fired at 1100°C, and everything that's natural differs. This is what the value of the clinker products is all about – it is not uniform and "plastic". Some variations in colour or size may occur between particular production batches, as a result of e.g. extraction of clay from various deposits or changeable weather conditions prevailing during the clay storage process. Therefore, when building a particular facility, we recommend using clinker bricks from one production batch and mixing bricks from various pallets. This way, one can achieve an interesting play of colours and smooth away the difference in the size of the bricks.

**What is the permissible thickness of the vertical and horizontal joints for clinker bricks?**

- according to the building practice and recommendations of § 6.3.1 of the PN-B-03002 standard of 1999, the thickness of bed joints (vertical and horizontal ones), made with the application of standard and light mortars, should not be less than 8 mm and should not exceed 15 mm. It should be remembered that due to slight differences in the size of clinker bricks and tiles, the thickness of the joint should not be the same along the entire facade (e.g. always 10 mm). A professional constructor can manage the arrangement of the bricks/slips with the thickness of the joint. It is not a mistake, but a good practice which enables one to maintain a natural and, 'non-plastic' nature of the facade.

**Why does sand spill when holding a handmade brick?**

- presence of a loose layer of sand on handmade bricks is not an accident. The sand coat is placed there on purpose, as it protects the brick during stacking, transportation and laying process. These bricks are characterized by a slightly lower resistance and increased absorbability, compared to the clinker material, so they are more likely to break or get dirty. It often happens that during the bricklaying or pointing works, the constructor accidentally soils the face of the manually moulded brick with the mortar. Once the works on the construction of the facade have been finished, the constructor should brush the entire surface (in a downward direction) to remove the sand grains covering the bricks and the stains developed during the works. This will guarantee a clean and beautiful facade.

**How to fix the clinker slips? What kind of insulating material should one choose?**

- the slips should be laid only on foamed polystyrene insulation. The recommended type of foamed polystyrene is EPS 100 (former name FS 20). The foamed polystyrene should be reinforced with an acrylic mesh dipped in an adhesive for mesh and then fixed to the load-bearing wall with metal pin anchors in the number of 4 items for 1 square meter (the wall anchors carry the shear loads and the load the entire facade – the adhesive itself would not be enough). The slips should be laid on this substrate, using highly flexible frost-resistant adhesive applied both to the wall and to the surface of the slip with a notched trowel made of stainless steel.

**Won't the clay pavers lose their colour during normal use – won't they fade or abrade?**

- clay pavers will not lose their colours because they are natural and durable products fired at a very high temperature. They have the same colour in the entire cross-section – not only on the surface of the brick – as a result of using clays firing naturally into various colours. A clay paver is made of clay and sand fired at 1100°C, so the colour is the same across the entire structure of the brick. The clay paver is a ceramic and it is difficult to separate and abstract single grains from it, which is why it abrades hardly at all.

**Can the 45 mm clay paver be used for a driveway for passenger cars?**

- yes, of course. Despite its small thickness, this brick has enormous resistance (200 MPa, i.e. 4 times higher than that of the 80 mm thick concrete paving brick). However, one should bear in mind that in order to carry the loads, the surface needs to be placed on a resistant and rigid substrate. If the driveway is built on a stable and firm substrate, heavier vehicles (delivery trucks, delivery vans, etc.) will be able to drive on it, too.

**Does one need to use cement for better stabilization of the substrate, while building a clinker driveway to the garage?**

- there is no such a need. The pseudo – concrete slab under the clay pavers, after the process of setting, has poor bending strength and can crack under the weight of the vehicle, losing its properties. Additionally in the cement (as it is quite often metallurgical cement) one can find a large amount of different chemical compounds and additives. Once they get damp, they may cause efflorescence and discolouration. Although the above compounds do not affect the quality of the material, they do have an impact on the aesthetics of the final result. It happens that in some regions of Poland crushed-stone aggregate or all-in aggregate are not available on the market, so it is necessary to apply cement for additional stabilization of the substrate, but even then it is better to use it in deeper layers and not in the immediate vicinity of the clay pavers. This will minimize of occurrence of efflorescence.

**Is it necessary to leave gaps, spaces between the clay pavers?**

- yes, the gaps or spaces are necessary. They don't need to be big (2-3 mm is enough), however one must not "squeeze" the material. Clay pavers (like any other material) may change their size under temperature, and any elongation of the material may generate additional surface stress. As a result, the weakest elements of the construction, i.e. the edges, may be damaged. Small gaps between clay pavers enable one to avoid stress and they guarantee perfect condition of the construction and material for many years to come.



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Mooi



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