The Maaseik Brick Factory

24-carat facing bricks

Wienerberger
Building Material Solutions

Terca Hectic

Terca Hectic

Terca Hortus Althea

Terca Hectic Gesmoord

Terca Veldbrand Gesmoord

The Maaseik brick factory, 24-carat facing bricks

Mixture: Terca Maaseiker Bont and Paarsblauw

Terca Hortus Althea

Terca Hectic

Terca Hectic Gesmoord Special

Wienerberger
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The Maaseik brick factory, a factory like no other

For over 100 years the Wienerberger factory in Maaseik has been manufacturing 24-carat facing bricks. The bricks are fired using traditional techniques in a ring kiln dating back to 1911. Just like in old times, the kiln is fired with coal and is filled and emptied by hand. This manufacturing technique provides a rich variety of products, each perfectly suited for high-quality projects.

The brick factory is somewhat hidden at the edge of the Maaseik centre, concealed behind a huge row of conifers and slightly lower than the surrounding streets. This height difference has a historical background. Maas clay used to be excavated at this site, after which the quarry was almost completely refilled.

Wienerberger
Building Material Solutions

The basis

It all starts with the raw materials

Only a limited number of natural ingredients form the basis of these innovative and cutting-edge facing bricks: clay and sand.

The Maas clay comes from different quarries in the region. We work with a very fatty clay, which is not made any leaner. This has a significant impact on the quality of the final product.

The clay is placed together in horizontal layers on a clay mound to ripen. The construction and management of this mound of clay requires expertise and knowledge. After construction, the layers are carefully mixed together to create a homogeneous mass that meets the desired mineralogy. By accumulating a stockpile for several years, we are able to guarantee a consistent quality.

The white Westerwald clay, in its pure form or mixed with Maas clay, provides an even richer variety of unique facing bricks.

Ripening clay on the clay mound

Sand varieties before sand-striking the clay balls

The expertise of the geologist

The geologist. Constructing and managing a clay mound demands a great deal of craftsmanship. A geologist ensures an optimally layered construction using clays with different properties. In addition to managing and checking the raw materials, he also plays an important role in product development.

A trade of intuitiveness

After several treatments, including treatment with water and steam, the clay is pressed into ball shapes in a hand-moulding machine, they are then sand-struck and beaten into the desired shape. This automated process copies the exact same movements of the human hand-moulders in earlier times. This gives the hand-moulded bricks their authentic and distinctive grain structure.

The process involves working with separate moulding trays, enabling a quick switch from one shape (or size) to the other. This way, Wienerberger is able to offer a wide range of standard sizes directly from stock. The brick factory manufactures bricks in almost every size, shape and colour imaginable. For instance for applications in arched windows and pillars, as ornamental bricks or in new-construction projects.

Sweating it out in the drying area

Pure clay shrinks significantly after moulding. For this reason, the hand-moulded bricks are dried before going in the kiln. The drying area has 24 chambers, each of which can be individually regulated in terms of atmosphere and drying time.

The hand-moulded bricks ‘sweat out’ the moisture and dry from the inside out. Operators control the drying process by replacing moist air with dry air, or by raising the temperature.

Pressed clay balls, ready for moulding

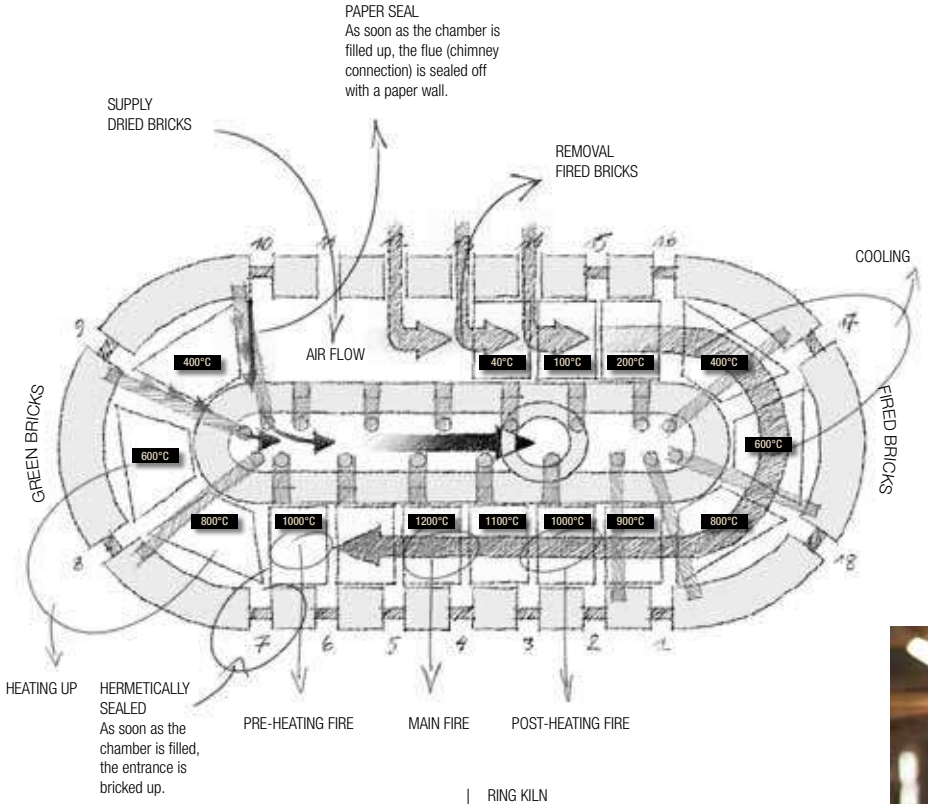
Loose moulding trays, standard or special sizes

Hand-moulded bricks dry from the inside out in the drying chambers

The stoker. An apprentice stoker learns the trade in the field: he works alongside an ‘ancien’ for several months. The stoker bases his judgement on the shrinkage of the stack of bricks to determine which stage the firing process is in. His expertise determines the quality of the pre-heating fire, the main fire and the post-heating fire. Once the predetermined shrinkage has been reached, he stops the firing process.

The ring kiln, unique in many ways

After drying, the bricks are transferred to the ring kiln, the only one in Belgium and the Netherlands still fired with coal. A ring kiln, also known as a Hoffmann kiln, can be compared with a massive tile stove. It forms a kind of endless tunnel, divided into 18 chambers. Each chamber has its own entrance door that is used to load and unload the bricks. At the top are the stoke holes, which the stoker uses to add coal and therefore manage the temperature of the baking process. And that's unique.



RING KILN
MAASEIK
18-chamber kiln: 300,000 WF
Capacity: 6m WF/year
Duration of firing process (1 cycle): 11 workdays
Direction of rotation: clockwise
Fuel: 100% coal

The firing process from chamber to chamber

The cooling zone always has 2 free chambers. Every day, the setters place the dried bricks in the available chambers using a brick cart. This is done expertly and according to a predetermined stacking pattern, which is crucial to the firing process. The distances and connections between the bricks form the firing channels. As soon as the chamber is filled, the entrance is bricked up.
Depending on the type of clay used, the temperature, the atmosphere and the position in the kiln chamber, the bricks will each get their own colour and nuance. This helps create unique products which are unlike any other brick.

The setter. Every day, 2 brick setters use brick carts to place 27,000 bricks (Waal size or an equivalent volume) in the kiln. They understand the art of stacking the bricks in the chambers according to a specific pattern. The spacing between the bricks and the stacking pattern are crucial to the overall firing process.

The main fire in the ring kiln reaches a temperature of approximately 1,200°C. This fire moves up 1 to 2 chambers every day. The stoker starts the fire in a chamber by pulling a new “clock” (valve) and measures out the coal for the fire. He also determines when the bricks are fired and ready to be cooled down.

Cool air is drawn in through the open chambers and flows over the fired bricks, cooling them down gradually. Once cooled, the chamber is opened again and the finished bricks can be unloaded by the removers.

It takes a good 2 weeks before the entire cycle is completed.

The Maaseik Brick Factory in figures

The intensive and traditional production process of the factory means it has a limited production capacity. The ring kiln is able to contain 300,000 bricks in Waal size at one time. Every day, the setters place 27,000 such bricks by hand in the kiln. Translated into annual figures, this yields a production of 6 million bricks.

The remover. The removers fill the emptied brick carts of the setters with fired bricks and, once filled, remove them from the kiln. They make sure that one-and-a-half chambers are constantly available.

The sorter. The sorters place the finished bricks on pallets according to size, colour, sound and shape. After the shrink wrap is placed around the bricks, the pallet is ready to be transferred to the yard for further transport.

The reduction-firing kilns, unique to the core

The Maaseik factory also has reduction-firing kilns, based on the medieval ‘paep’ (papal) kilns. The facing bricks are fired without adding any oxygen. This gives the bricks, depending on the iron ore content in the bricks, a subtle tint ranging from grey to anthracite to black. The colour penetrates all the way to the brick’s core. The two reduction-firing kilns of Maaseik are able to produce a total of 1.5 million bricks a year.

Visit the Wienerberger factory in Maaseik

Unique products and processes are best seen, tasted and experienced in person. That’s why the Wienerberger site in Maaseik is open for visitors. Building professionals and customers looking for traditional, timeless and distinctly unique bricks are always welcome. You can visit our site by simply requesting an appointment with your commercial adviser.

Wienerberger Maaseik, Venlosesteenweg 70, 3680 Maaseik

The recipe

24-carat facing bricks

The types of clay and the high firing temperatures guarantee extremely high-quality facing bricks. The compressive strength is excellent and the porosity is low. As a result, they are able to retain their shape extremely well and are less sensitive to dirt too.

The Maaseik factory produces more than fifty types of facing bricks, using a variety of recipes and production methods.

A variety of recipes, a gold mine in products

Ring kiln bricks
recipe on the basis of pure red-fired Maas clay
recipe on the basis of pure white Westerwald clay

NEW

Linaqua bricks
an incredible palette of intense hues

Traditional clamp-fired bricks
recipe on the basis of Maas clay and Westerwald clay

Hectic bricks
extruded bricks fired in the ring kiln

Terca Maaseiker Klampsteen

Terca Maaseiker Bont

Ring kiln bricks

Terca Paarsblauw

Recipe on the basis of pure red-fired Maas clay

This locally excavated clay is sand-struck with red forest sand from the floodplains of the river Maas. Depending on the temperature and atmosphere in the kiln, the bricks receive a wonderful colouration ranging from a fresh red to dark red and purple-red. **Maaseiker Bont, Roodpaars Bont, Maaseiker Klampsteen, Paarsblauw** and **Hortus Althea**.

The small percentage of over-fired bricks is a gift from the kiln, as it were. These bricks are a highly exclusive product for the true enthusiast.

Recipe on the basis of pure white Westerwald clay

Firing the bricks in the ring kiln at high temperature results in nuanced facing bricks with an aesthetically distinctive character and a very high ceramic quality.

Terca Wit Gesinterd

NEW

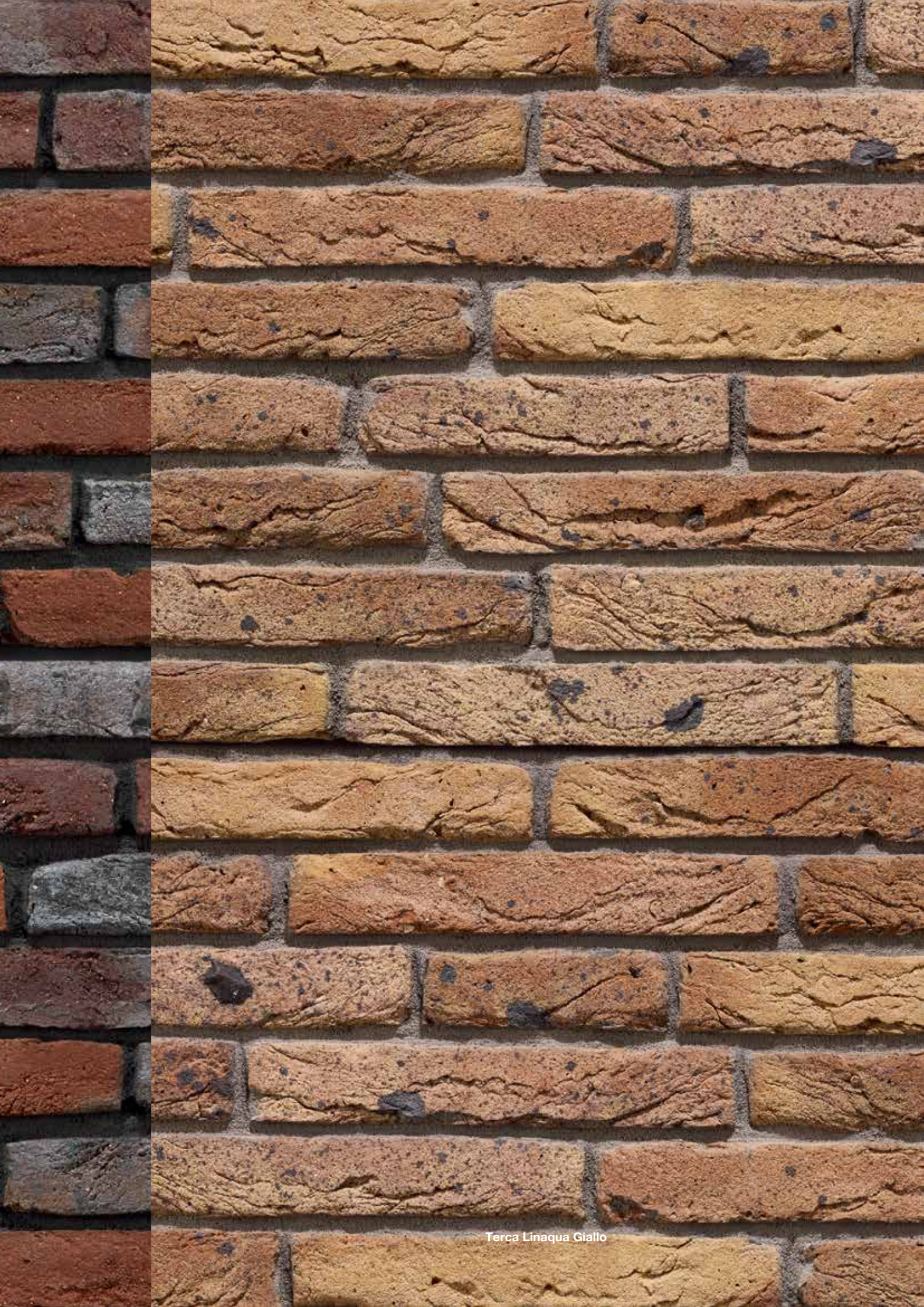
Linaqua bricks

An incredible palette of intense hues

The Linaqua facing bricks owe their characteristic appearance to a specially developed production process in which the use of water plays a crucial role. This treatment allows the pure colour of the clay to completely penetrate through to the surface. During the firing process, this delivers an incredible palette of intense hues.

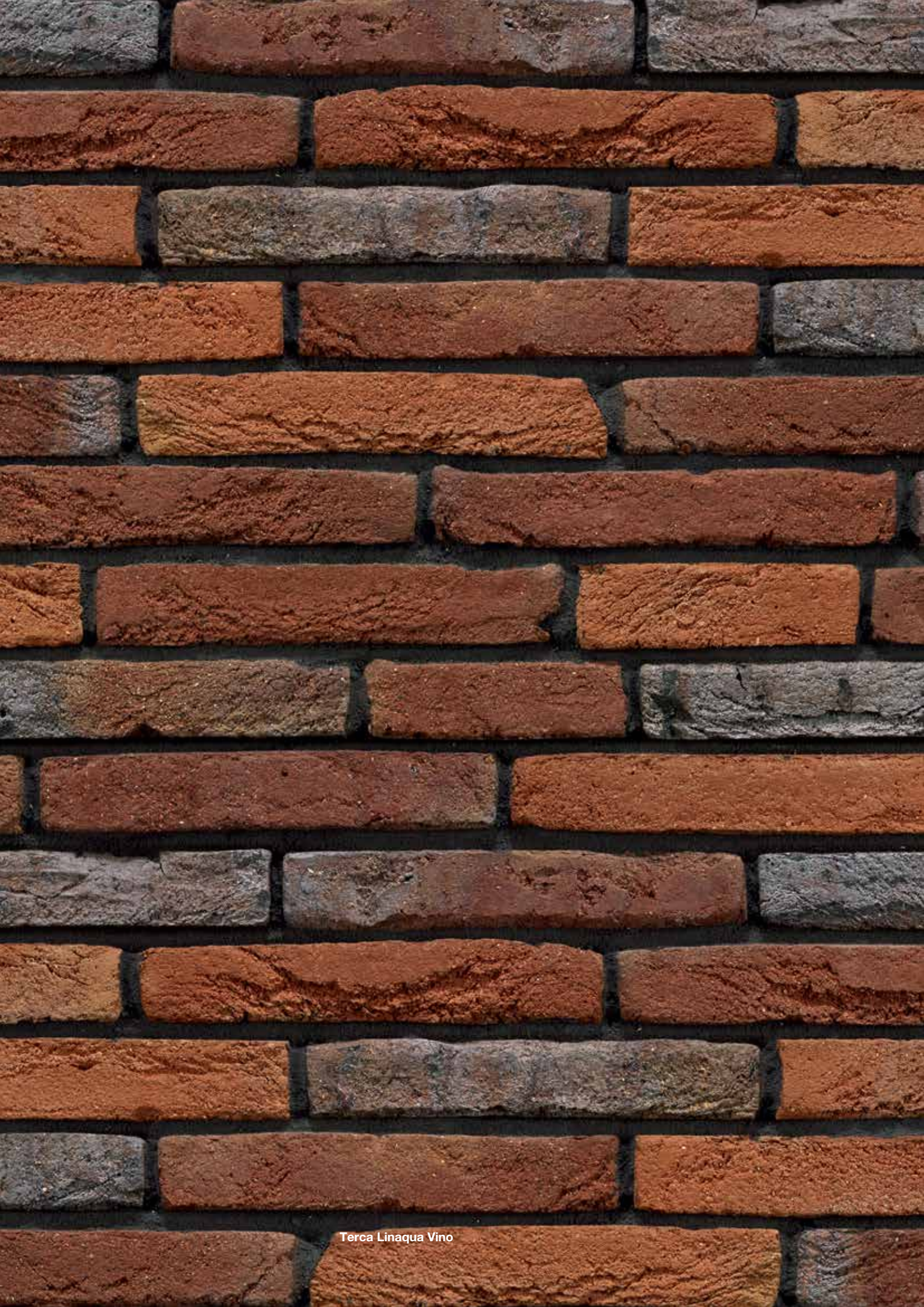
The Linaqua series is available in the linear Schouterden size and the colour variations **Linaqua Viola, Linaqua Giallo, Linaqua Fumo** and **Linaqua Vino**.

Terca Linaqua Viola



Terca Linaqua Giallo

Terca Linaqua Fumo



Terca Linaqua Vino

Traditional clamp-fired bricks

Recipe on the basis of Maas clay and Westerwald clay

This recipe dates back to the period when the – more labour-intensive and less productive – clamping kilns were still operational in Maaseik. When these stopped operating in 2006, the production of traditional clamp-fired bricks moved to the ring kiln.

Reduction-fired to the core

Terca Veldbrand Gesmoord got its unique deep-grey hue in the reduction-firing kilns of Maaseik.

Terca Veldbrand Antiek

Terca Veldbrand Gesmoord

Terca Veldbrand Exterieur

Terca Hectic

Terca Hectic Extra

Terca Hectic Gesmoord Special

Terca Hectic Gesmoord

Hectic bricks, an outsider

This very popular extruded facing brick is a genuine outsider and is pressed and dried as a semi-finished product in another Wienerberger factory. Firing takes place at the Maaseik ring kiln.

Hectic Gesmoord

This strongly nuanced extruded facing brick is the result of the unique firing process in the reduction-firing kilns at Maaseik. The colour shades graduate from light grey to grey-black, with the occasional grey-green nuance. Highly suitable for refined architectural projects.

Sizes

Standard sizes

BNF	Bündes Normal Size
HF	Hilversums Size
JF	Juffer Size
KLF	KLamp Size
Kloostermop 55	Kloostermop height 55 mm
Kloostermop 60	Kloostermop height 60 mm
M50	Module 50
RF55	Rekems Size height 55 mm
RF60	Rekems Size height 60 mm
VF	Vecht Size
WDF	Waal Dik Size
WF	Waal Size

The dimensions vary according to the brick type.

Special sizes

EF	English Size	215 x 102 x 63 mm

SF 43	Schouterden Size	256 x 90 x 43 mm
SF 50	Schouterden Size	256 x 90 x 55 mm
SF 60	Schouterden Size	256 x 90 x 60 mm

RN40	Reno Size height 40 mm	225 x 107 x 40 mm
RN50	Reno Size height 50 mm	225 x 107 x 50 mm
RN55	Reno Size height 55 mm	225 x 107 x 55 mm
RN60	Reno Size height 60 mm	225 x 107 x 60 mm

The dimensions vary according to the brick type.

Bespoke bricks

Wienerberger can also produce limited numbers of bespoke bricks in the ring kiln, specifically tailored to the wishes and dreams of the customer. The Maaseik brick factory has developed a variety of innovative and aesthetically ground-breaking facing bricks. These bricks are often applied in restoration projects.

For new construction, renovation and restoration

Quality architecture demands unique materials

Creativity and originality are important assets. The range of facing bricks from the ring kiln and reduction-firing kilns in Maaseik is made for ambitious new-construction brick architecture. The bricks are traditional, timeless and have a unique style and distinctive character. They are ideally suited for a self-assertive and robust architectural style with an honest and authentic use of materials. Intended for architecture rooted in archetypical design, yet transcending it at the same time. Each and every clay product is unique, allowing the architect and builder to distinguish themselves.

Aesthetic renovation

The facing bricks from Maaseik are rooted in a brick-firing tradition that is over 100 years old. This makes them particularly suitable for sustainable and aesthetic renovation work or for extension of existing, valuable architecture. An informed and well-though-out choice of materials is paramount. The exclusive range of ring kiln and clamp-fired bricks and the Hectic series inspires both architect and builder.

Restoration is customisation

Restoration of architectural heritage requires a historical knowledge of production techniques and raw materials. Size, shape, colour and colour mix all need to be attuned to the old masonry work. The distinction between original and restored should seamlessly blend into one. This is customisation at its best and a speciality of the brick factory in Maaseik. The experts of Wienerberger would be happy to share that knowledge with you.

The richness of the matter

Kasteelplus Rehabilitation Centre in Sint-Denijs-Westrem

Archipl Architecten, Ghent

The drug rehabilitation centre of the Sint-Camillus psychiatric hospital contains hardly any references to a typical clinical facility as we know today. No standard hospital entrance with a reception and anonymous wards, but real living and communal areas.

Architectural agency Archipl Architecten from Ghent creates a cosy atmosphere by integrating style elements from typical Flemish family homes. “The wall cladding uses **Terca Hectic** bricks. The traditional bricklaying style plus the protruding layers of mortar remind you of a rough, weather-beaten skin. Bricks are a highly suitable material, and one that has traditionally been used in the surrounding area. The castle behind the drug rehabilitation centre is also built of bricks.”

Terca Hectic

Sustainable home in Lummen

This winner of the 2010 Sustainable Home Award is not only a work of art combining glass, bricks, steel and concrete, but also makes smart use of energy-saving applications and materials.

Architect Davy Stroobants: “I chose the hand-moulded **Terca Veldbrand Gesmoord** brick because its nuance adds a distinct and unique character to the façade. Furthermore, the traditional masonry and pointing of the **Terca Veldbrand Gesmoord** still produced one uniform surface.”

Architect Davy Stroobants, DSP2, Lummen

Terca Veldbrand Gesmoord

Terca Hectic Gesmoord

Low-energy house with office in Aalter

The linear character of the original elongated farmhouse was the main source of inspiration for this low-energy home. Thus, the architect was able to create a sleek and modern style, despite the height differences in the roof and the protruding office area.

Hp architect, Aalter

Hp architect: “The dark **Terca Hectic Gesmoord** bricks, with their rough texture and many colour differences, add variation in the façade. Together with the muted blues of the Plato tiles, this creates a simple and robust volume. Despite their nuances, the reduction-fired tiles are quite uniform in colour.”

Stacked in a non-patterned bond

The Wienerberger **Terca Paarsblauw** is a true gem among bricks. “You get a particularly beautiful effect by laying them in a non-patterned bond using thin-layer mortar. The harmonious colour palette then truly comes into its own.” Entirely Zen with the sunlight in the green backdrop of the Flemish Ardennes.

Architect Ben Van Wetter chose a dark mortar. “It may seem like a minor detail, but it’s precisely this detail that communicates harmony with the exterior joinery and roofing. I love the idea of creating a timeless overall look using as little material as possible. 244 square metres of **Terca Paarsblauw** make that challenge all the bigger… and more beautiful.”

Architect Bart Van Wetter, Ghent

Terca Paarsblauw

Commercial premises with apartments in Melle

The four storeys, with commercial premises below and flats above, are melded into a single whole. Windows and patios have a black edging that makes them stand out as if in a chessboard pattern.

CAAN architects: “The facing and roofing materials are equivalents, but not identical. The façades were done in **Terca Hectic** because of the detail required. The material used for the roof is a mixture of Koramic tiles in earthy colours that match the facing bricks, so that the colour and nuances fit together harmoniously. To emphasise the solidity, a number of the windows are hidden behind narrow brick piers.”

CAAN architects, Ghent

Terca Hectic

Community School in Opwierde

Laurens Jan ten Kate MSc, Architectural studio HH, NL - Amsterdam

In Appingendam (NL), two new buildings were constructed in the Opwierde district with community facilities and schools. The new Community School is an integrated centre for the neighbourhood where children and parents alike can go to. Pre-school facilities, kindergarten, daycare, education, supervision during lunch breaks and extracurricular and cultural, educational and sports activities after school are all under one roof.

Architectural studio HH from Amsterdam has been working in the tradition of Herman Hertzberger (HH) for 83 years now. He is regarded as the mentor in the field of the construction of schools and other public buildings.

Laurens Jan ten Kate, MSc: “I was born and raised in this region. We got our inspiration for the choice of facing brick while walking past the old 13th century church of Opwierde. The robust traditional brick, which is anchored throughout the region, was exactly what we were looking for. **Terca Oranje Rood** from the old ring kiln of Maaseik answered every one of these wishes and lends itself perfectly to the self-assertive architecture I had in mind.”

The inspirational 13th century church of Opwierde

Terca Oranje Rood

Residential care centre in Opwierde

The second building in the Opwierde district is a residential care centre. It not only provides housing for seniors suffering from dementia, but also houses a physiotherapy practice and rental apartments.

Here too, Architectural studio HH from Amsterdam was responsible for the design.
Patrick Fransen, MSc: “The exterior façade, with as main accent a small tower at the head of the building, was done with **Terca Roodpaars Bont Gesmoord** and has nuances from grey to anthracite to black. In the courtyard we applied accents using **Terca Oranje Rood**. This gave the building an architectural link with the Community School in the district and the 13th century church of Opwierde. The traditional bricks, integrated in contemporary architecture, remind us of the past. This fits in beautifully with the residential care concept and its target group. And combined with the smooth white aluminium panels, the building has an entirely unique identity.”

Patrick Fransen MSc, Architectural studio HH, NL - Amsterdam

Terca Roodpaars Bont Gesmoord

A youth and cultural centre in Halle

The new youth and cultural centre CC ’t Vondel in the centre of Halle fulfils its role with panache as a place where people can meet and relax. The open and inviting architecture of the cultural centre also fits in with the surrounding public space. The existing cultural centre on the street side was not only extended but also integrated with the former fire brigade depot next to it.

Architect Tim Marlier: “For this new-construction project we chose **Terca Hectic Gesmoord Special**, a rough facing brick with a natural hue. This is the perfect counterpoint to the smooth black outside frames of the doors and windows and the flat concrete elements leading to the party spot underneath and the clean, black volume of the adjacent cultural centre. The robust facing bricks also reinforce the modelled volume of the youth centre, in which cut-aways, recesses and angles predominate.”

Architect Tim Marlier, NERO, Ghent

Terca Hectic Gesmoord Special

‘Organic house’ in Roeselare

The roof in concrete leaf form drains downwards, thereby protecting the living rooms from heating up, and provides a dry outside area at the level of the terraces on the ground floor and first floor. The roof, formed like the veins of a leaf, rests on the underlying brick volumes.

Architect Bart Lens: “For this project I not only chose glued **Terca Hortus Althea** bricks for the walls and the wall covering, but also for the paving of the footpath and the terrace pavement. The result: a traditional texture of concrete and brick.”

Architect Bart Lens, Lens°Ass Architects, Hasselt

Terca Hortus Althea

Holistic HAtric office building in Hasselt

“The massive brick rear façade with its rich colour variety strengthens the mysterious character of the building.” The effect is achieved thanks to a balanced mix of **Terca Maaseiker Bont** and **Paarsblauw**.

Holistic Architecture 50|5, Hasselt

Mix Terca Maaseiker Bont and Paarsblauw

A solicitor’s house in Horebeke

This solicitor’s home in Horebeke (Flemish Ardennes) commands the same amount of respect as its surrounding nature. The rough brick structure gives it a neutral and accessible character, while it retains its openness towards the magnificent natural environment.

Architectural atelier Vens Vanbelle from Ghent made a conscious choice with the rough **Terca Hectic** facing bricks: “They contrast perfectly with the sleek white window frames. The brick-built volume at the front seems very closed, but is then neatly broken up by the white volume. The materials on the sides merge so subtly into the surrounding landscape that the building seems simply to have alighted there.”

Architectural atelier Vens Vanbelle, Ghent

Terca Hectic

Conversion of farm to residence with practice in Gaasbeek

In Gaasbeek, in the heart of the Pajottenland region, a veterinary surgeon converted an old farmstead with separate building volumes into a residential home for his family of five and a practice. This meant that all the different buildings had to be connected with one another, with respect for the past and a focus on today's and tomorrow's needs.

Bert Lens: "A long tunnel, completely laid in clay pavers, connects the veterinary practice with the house and the garden and leads to a courtyard, which is also finished with clay pavers. We opted for the **Terca Hortus Althea** clay pavers for various solutions. These pavers emphasise the unity with the rural surroundings. Architecture and environment support and strengthen each other. The effect is surprising, yet at the same time so natural that one might believe the concept is the product of nature and history."

Architect Bart Lens, Lens°Ass Architects, Hasselt

Terca Hortus Althea

Restoration of the garden wall of Sint-Sixtus abbey of Westvleteren

The ancient abbey wall was in a poor state in several places and was rebuilt using **Terca Paarsblauw**.

Architect Guido Vancoppenolle: “The top of the dilapidated abbey wall had been finished with tiles that had been crudely affixed. The new idea of a semicircular capstone gives the wall a sober and clean appearance. Based on a detailed drawing, the bricks were manufactured exclusively for this project at the brick factory of Maaseik.”

Cooperative work by AWG-architecten
and Koplamp Architecten
Architect Guido Vancoppenolle, Roeselare

Restoration of Lamot congress and heritage centre in Mechelen

Architectural cooperative John Mooens – Jan van den Berghen – Serge Bellengé was responsible for the renovation and conversion of the extensive Lamot site along the Dyle river.

Architect John Mooens: “With a renovation project like this one, the choice of the right brick becomes a priority. After thoroughly cleaning the masonry work that needed to be retained, we were able to align the ‘new’ bricks seamlessly with the old ones. For a short time we considered using reclaimed bricks, but based on quality, size, look and colour, the scales quickly tipped in favour of the **Terca Paarsblauw** facing bricks.”

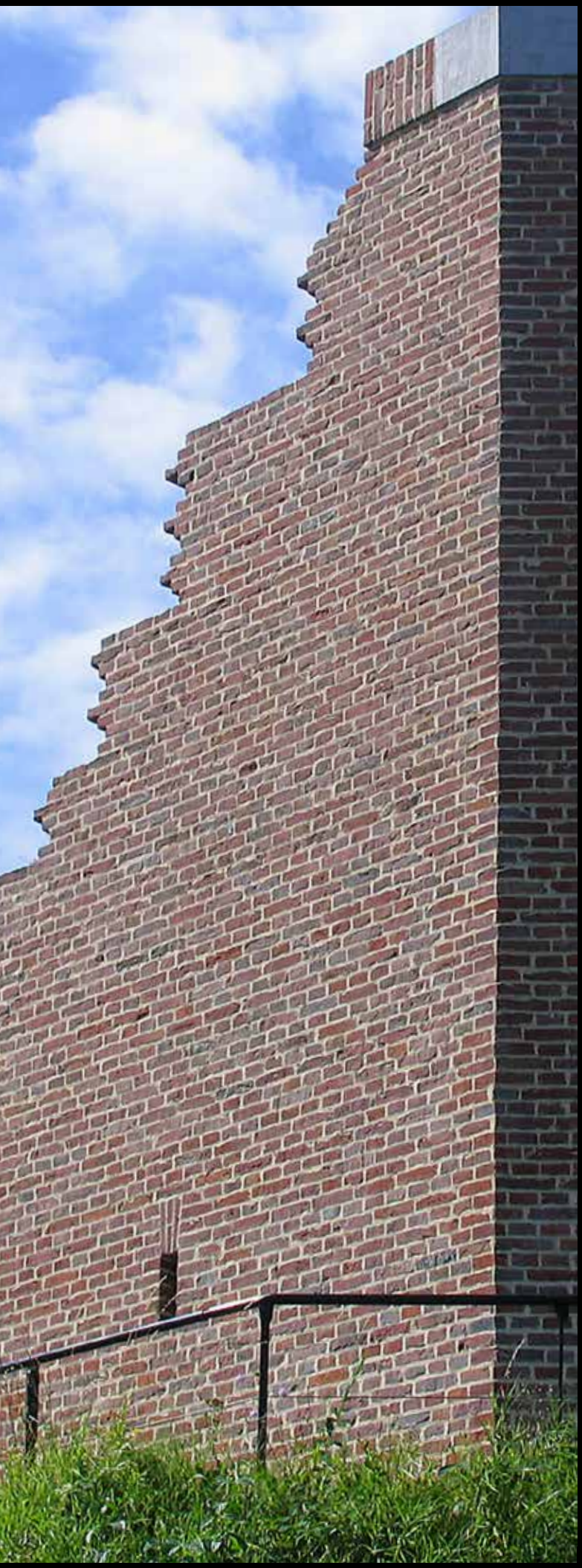
Architect John Mooens,
Architectural cooperative BVBA - John Mooens - Jan Van den Berghen - Serge Bellengé, Mechelen

Restoration of Fort 4 in Mortsel

In 1999, the municipality of Mortsel acquired Fort 4, a section of the 19th century defensive belt surrounding Antwerp. It was determined that many bricks of the façade's ashlar contained internal cracks. Building contractor and architect went out in search of reclaimed bricks.

Architect Edith Vermeiren: "A restoration project of this scope with approximately 90,000 bricks turned out to be impossible with reclaimed bricks. Wienerberger carried out a 'brickwork case study' to be able to recreate and process exactly the same bricks. Thorough research of the firing temperatures enabled them to create a corresponding colour and colour mix. With the restoration, approximately 60% of the surface area was replaced."

Architect Edith Vermeiren, Erfgoed & Visie, Oostmalle



Restoration of fort St. Pieter in Maastricht

The imposing fort in Maastricht dates back to 1701. During one of the last stages of the restoration, the front of the southern canon battery was reconstructed in Rekems size **Terca Roodpaars Bont.**

Architect Marco Scheren, MSc: “Finding the right brick is no easy task. The brick needs to correspond with the original in terms of size, surface structure, base colour and colour shade. With the **Terca Roodpaars Bont** we were able to do just that.”

Marco Scheren MSc, HVN architects, NL - Maastricht

Restoration of the Plaatsmolen in Pittem

(protected monument)

The Plaatsmolen in Pittem is a tower mill that dates from 1909. Comprehensive restoration was very much needed. The old tower mill was completely dismantled right down to under the ground. The monument was masoned up again above the ground using a brick that closely met the rich hues of the original and locally produced clamp-fired bricks. Based on visible criteria, such as texture and colour variation, architectural studio De Schacht & Partner(s) opted for **Terca Maaseiker Bont**.

"The restoration presented us with engineering and structural challenges, particularly in terms of managing the water resources in a conical main body of the mill. Which is why we chose this brick that remains untreated.
The mill's main structure, the iron exterior joinery and the iron exterior stage have now been completed. The Flanders Heritage Agency is aiming at restoring still operational turning and milling windmills and water mills in Flanders. For this reason, the mill's cap that is so typical to this region, the sails and the entire mechanics of the mill will be tackled."

Architectural studio de schacht & partner(s),
Els Vervaet, MSc in architecture Freddy De Schacht, MSc in architecture, Ruiselede

24-carat facing bricks

The facing bricks from the ring kiln and reduction-firing kilns in Maaseik are ideal for ambitious new-construction brick architecture, renovation and restoration. The bricks are traditional, timeless and have a unique style and distinctive character. The exclusive range inspires both architect and builder.

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