

- China
- Hong Kong
- India
- Indonesia
- Japan
- Korea
- Malaysia
- Philippines
- Singapore
- Taiwan
- Thailand
- Vietnam

- Australia
- Europe
- Latin America
- North America

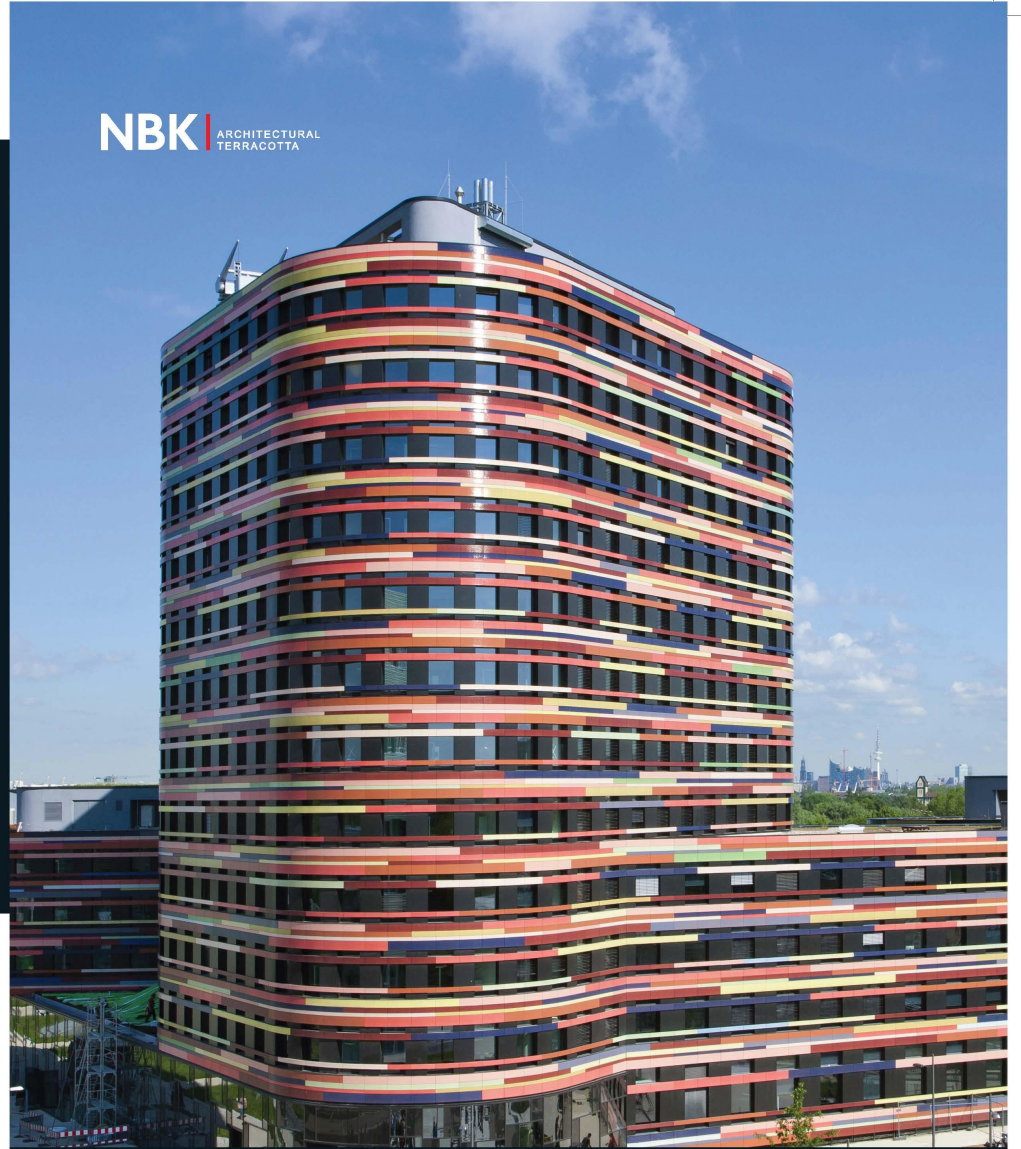
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 facades@hunterdouglas.asia
 www.hunterdouglas.asia

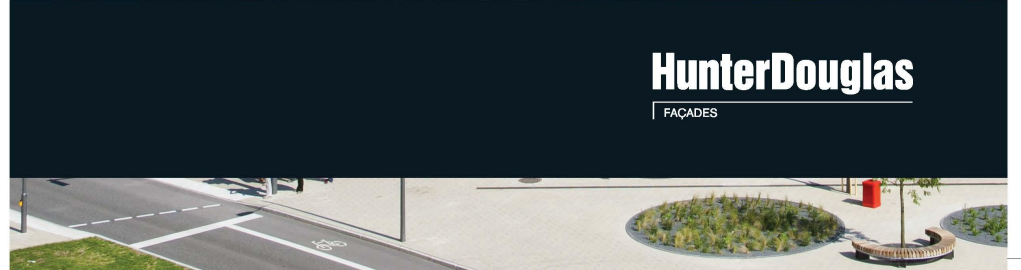


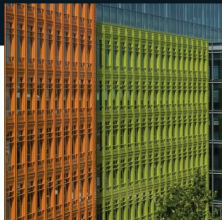
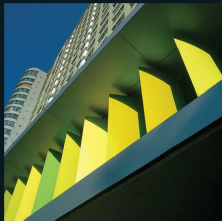
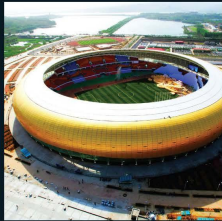
NBK | ARCHITECTURAL
TERRACOTTA



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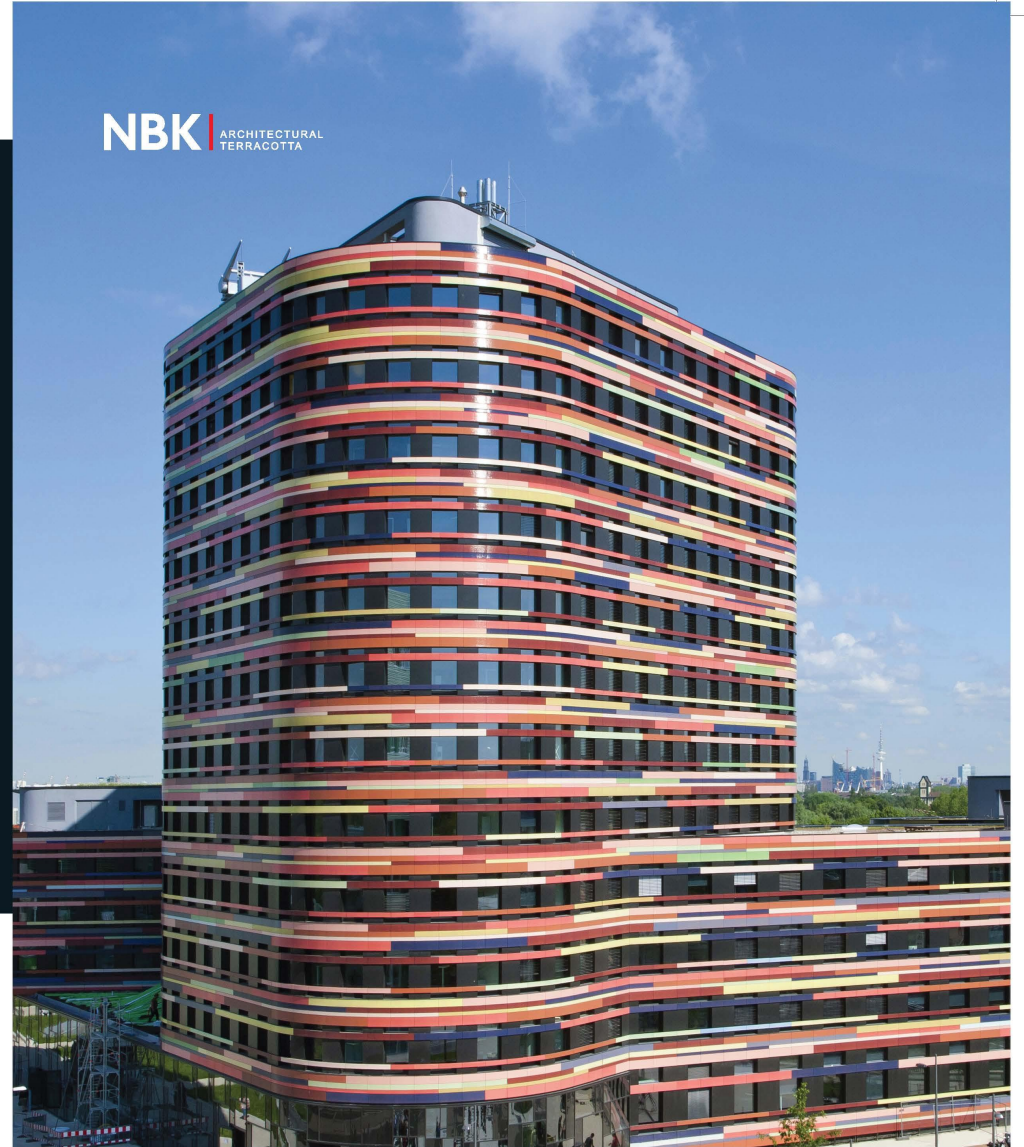
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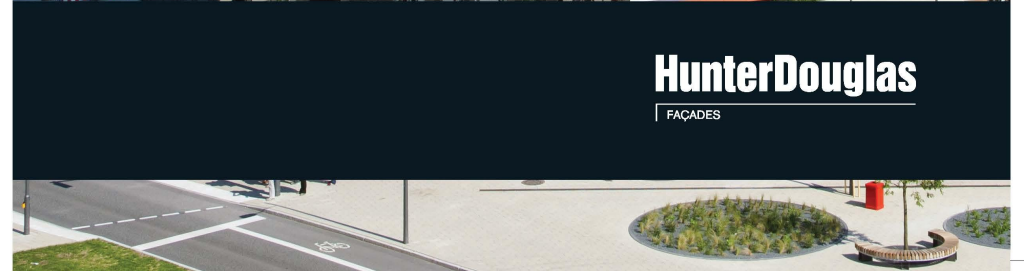


NBK | ARCHITECTURAL
TERRACOTTA



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FAÇADES



While technology has continuously progressed, the manufacture of clay-based construction materials still centres on the three elements of fire, water and clay – as it has done for millennia. Exploiting all the age-old traditions, skills and workmanship necessary for processing the material clay, Nieder-rheinische Baukeramik (NBK®) has developed the NBK® terracotta façade system.

NBK® is a ventilated curtain wall/rainscreen system whose exposed components are made exclusively from terracotta. This was the key requirement imposed on the NBK® development team by Renzo Piano for the Potsdamer Platz scheme – the starting point for the present-day NBK®-system.

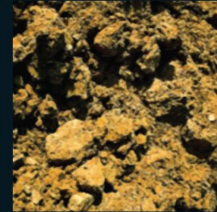
The system components are manufactured so as to maximize shape accuracy and guarantee best fit. State-of-the-art drying and firing techniques allow a nearly tolerance-free production of units up 180 cm long. The NBK®-Terracotta support system – a patented development within the NBK® product range – comprises a few individual components and ensures excellent integration of the system in any classical and contemporary wall construction.

With its “Large”, “Mid” and “Shingle” ranges, the versatile NBK®-system offers architects maximum scope for creativity. Purpose-made project-specific developments provide designers with practically boundless options. The global success experienced by the NBK®-system is documented in this book. Many of the buildings that feature a NBK® façade are prime examples of forward-looking architecture.

Enthusiastic architects draw inspiration from components whose shape, colour and finish may be suitably orchestrated to produce striking façade designs. Satisfied clients can delight in buildings of tremendous aesthetic appeal, while reaping the benefits of one of the most weather resistant construction materials available.

NBK® has opened up a completely new dimension in façade design and received worldwide acclaim. Every new building serves as an impetus for further projects. What all schemes share is exceptional architecture.

Today, the NBK®-system developed by Nieder-rheinische Baukeramik is used in all its variants across the globe. The most distinguished of architects have come to appreciate the tremendous creative possibilities offered by this terracotta façade system, which combines traditional craftsmanship with leading-edge manufacturing technology. Its ability to accommodate even the finest design details in terms of shape, colour, texture and glaze paves the way for unique, tailored solutions.



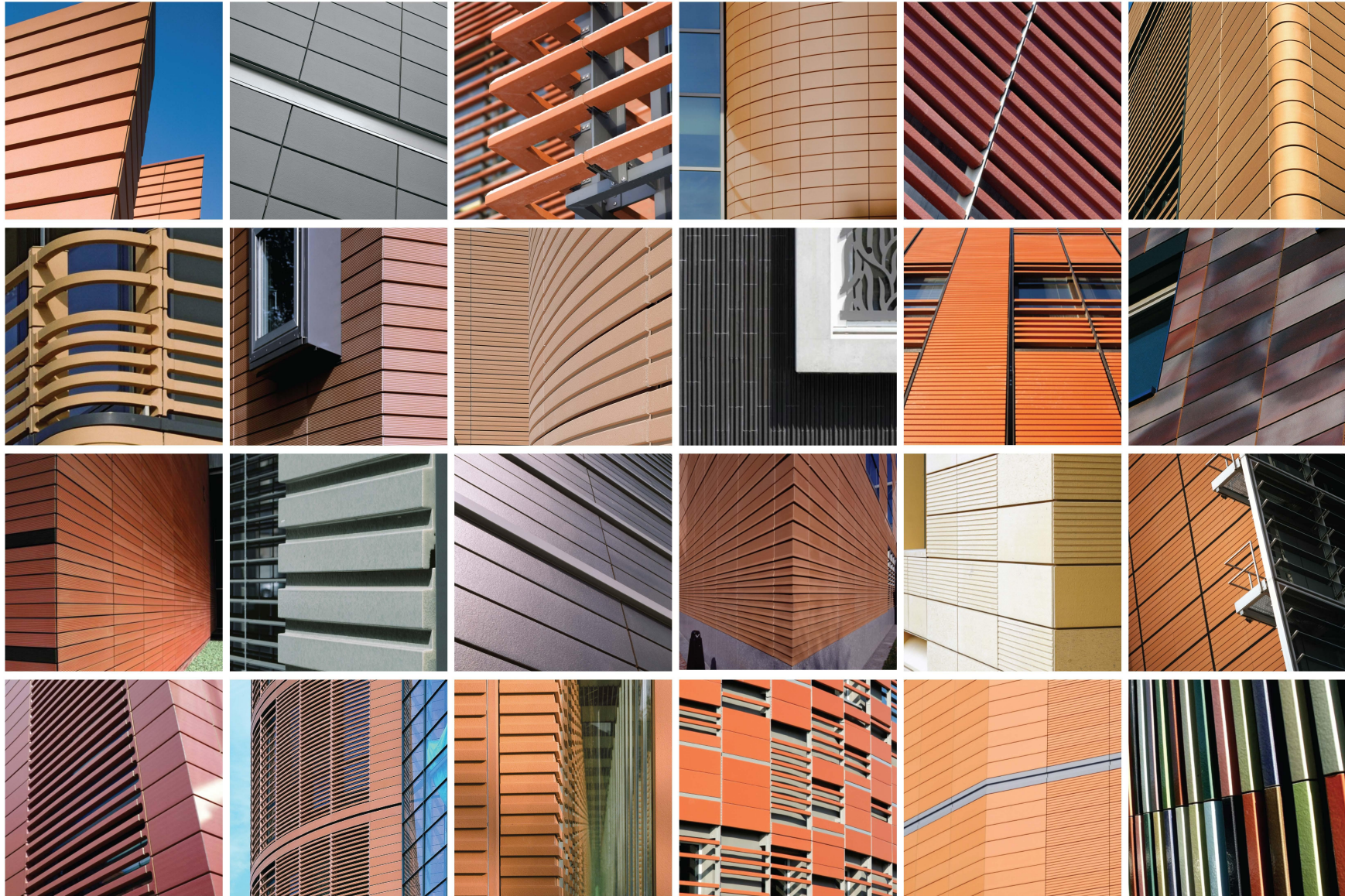
6 PRODUCTS

12 COLOURS

15 TERRACOTTA
RAINSCREEN SYSTEM

16 DETAILS

20 BAGUETTE SYSTEM



For more information about our projects please visit our website www.hunterdouglas.asia





The NBK®-LARGE terracotta elements are always produced individually for each project in the colour and shape desired by the customer.

Length: max. 1,800 mm

The length of the terracotta elements can be adjusted individually to 1,800mm

Height: max. 800 mm

The height of the elements can be adjusted to the desired horizontal grid. Other dimensions are available on request.

Thickness: approx. 40 mm

Hollow chambers, according to production specifications. For corners, we offer mitre-cut elements or cut and bond corners. Alternatively, we provide specially designed corner plates with a maximum side length of 250 mm and a maximum height 300 mm.

Colours:

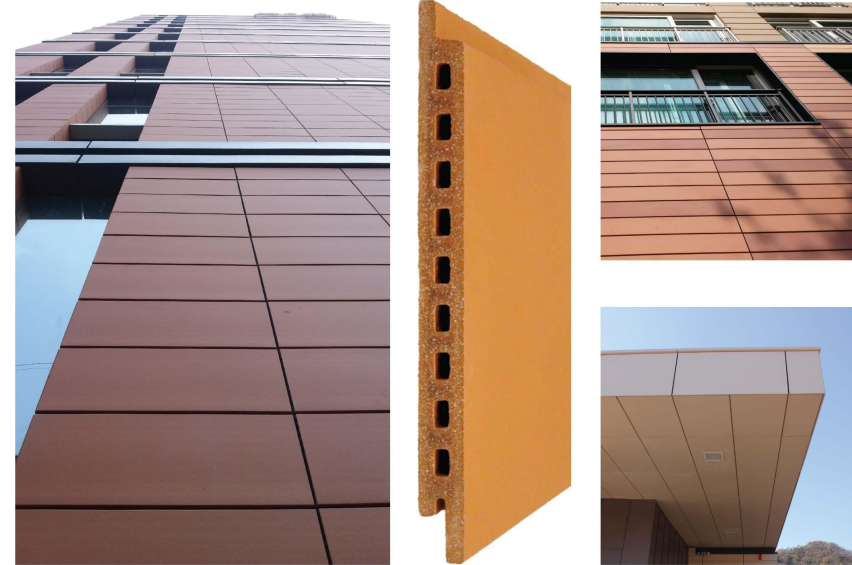
For standard colours see our colour table. Other colours are available on request. Glazing according to customer wishes or RAL specifications.

Surface finishes:

Natural, honed, textured, peeled, profiled, glazed.
Curved surfaces can not be honed.
Other surfaces are available on request.

Mass per unit area:

approx. 65 kg / m²



The NBK®-MID terracotta elements are always produced individually for each project in the colour and shape desired by the customer.

Length: 1,500 mm

The length of the terracotta elements can be adjusted individually to 1,500mm

Height: 500 mm

The height of the elements can be adjusted to the desired horizontal grid.

Thickness: approx. 28 mm

Hollow chambers, according to production specifications. For corners, we offer mitre-cut elements or cut and bond corners. Alternatively, we provide specially designed corner plates with a maximum side length of 250 mm and a maximum height 300 mm.

Colours:

For standard colours see our colour table. Other colours are available on request. Glazing according to customer wishes or RAL specifications.

Surface finishes:

Natural, honed, textured, peeled, profiled, glazed.
Curved surfaces can not be honed.
Other surfaces are available on request.

Mass per unit area:

approx. 55 kg / m²





The NBK®-SHINGLE terracotta elements are always produced individually for each project in the colour and shape desired by the customer.

Length: 1,800 mm

The length of the terracotta elements can be adjusted individually to 1,800mm

Height: 300 mm

The height of the elements can be adjusted to the desired horizontal grid.

Thickness: approx. 25/40 mm

Hollow chambers, according to production specifications. For corners, we offer mitre-cut elements or cut and bond corners. Alternatively, we provide specially designed corner plates with a maximum side length of 250 mm and a maximum height 300 mm.

Colours:

For standard colours see our colour table. Other colours are available on request. Glazing according to customer wishes or RAL specifications.

Surface finishes:

Natural, honed, textured, peeled, profiled, glazed.
Curved surfaces can not be honed.
Other surfaces are available on request.

Mass per unit area:

approx. 65 kg / m²



The NBK®-SOLID terracotta elements are always produced individually for each project in the colour and shape desired by the customer. Application like natural shone elements or in pre cast concrete elements.

Length: 1,200 mm

The length of the terracotta elements can be adjusted individually to 1,200mm

Height: 600 mm

The height of the elements can be adjusted to the desired horizontal grid. Other shapes and dimensions on request.

Thickness: approx. 20/30 mm

Solid terracotta element, without hollow chambers.
For corners, we offer mitre-cut elements.

Colours:

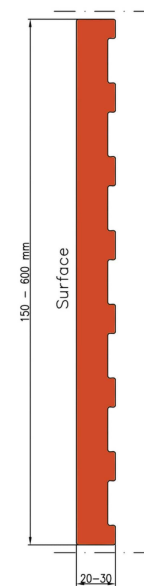
For standard colours see our colour table. Other colours are available on request. Glazing according to customer wishes or RAL specifications.

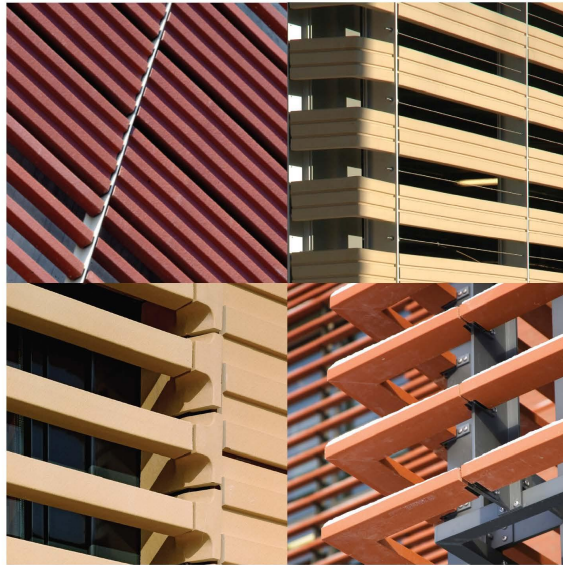
Surface finishes:

Natural, honed, textured, peeled, profiled, glazed.
Curved surfaces can not be honed.
Other surfaces are available on request.

Mass per unit area:

approx. 65 kg / m²





The NBK®-BAGUETTE terracotta elements are always produced individually for each project in the colour and shape desired by the customer.

Length: 1,900 mm

The length of the terracotta elements can be adjusted individually to 1,900mm

Height:

NBK®-BAGUETTE is a special shape element with a minimum diameter of 43 x 43 mm, standard is 50 x 50mm. Other shapes and dimensions on request.

The most commonly used size is

50 x 50 mm

Special shapes and dimensions are available on request.

For corners, we offer mitre-cut BAGUETTE elements.

Colours:

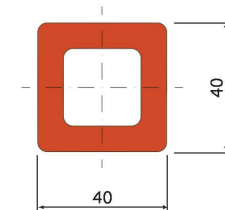
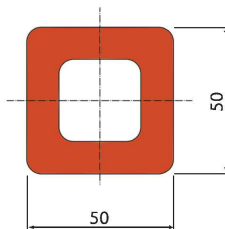
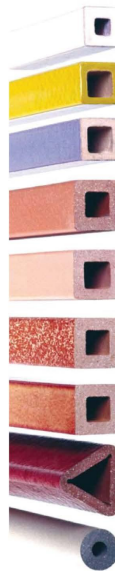
For standard colours see our colour table. Other colours are available on request. Glazing according to customer wishes or RAL specifications.

Surface finishes:

Natural, textured, peeled, glazed.
Other surfaces are available on request.

Mass per unit area:

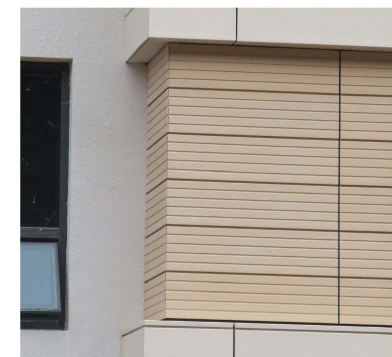
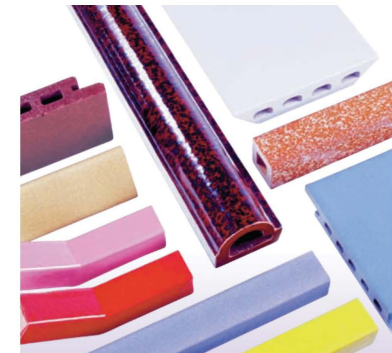
approx. 3,75 kg / m run for a 50x50mm diameter



The range of NBK® products offers numerous other terracotta variants.

On an individual basis, custom production is possible for a particular property, through to elements with varying radii for the creation of elliptic shapes. Production is carried out according to specifications, also as a hand-made single element if required.

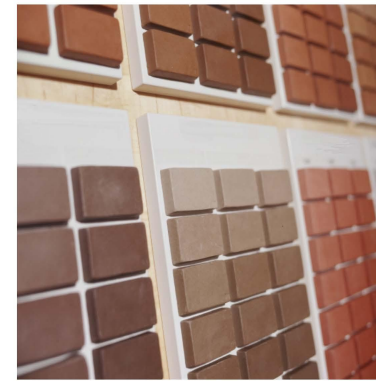
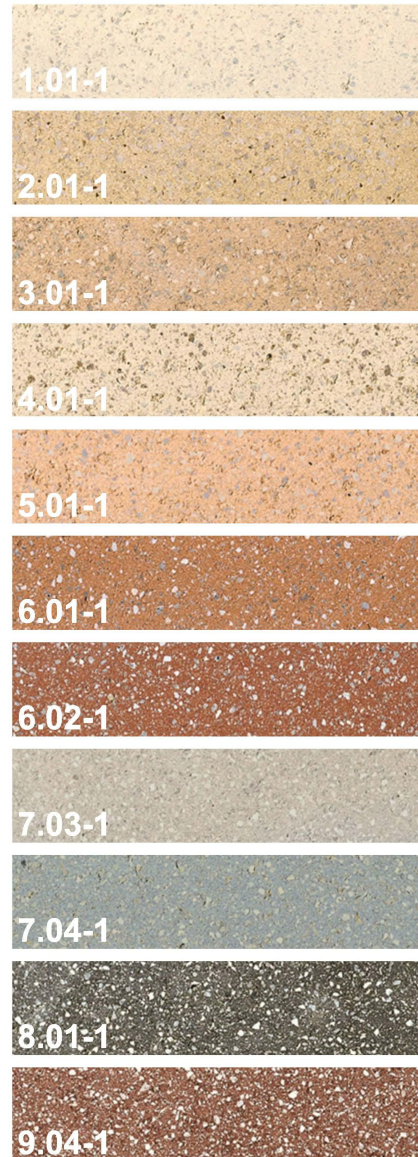
All bonded single elements must additionally be fixed mechanically on the construction site (by the customer) in accordance with DIN 18516 part 3, point 3.2 (both sides in the case of corners, on three sides in the case of U-shaped elements).



natural surface



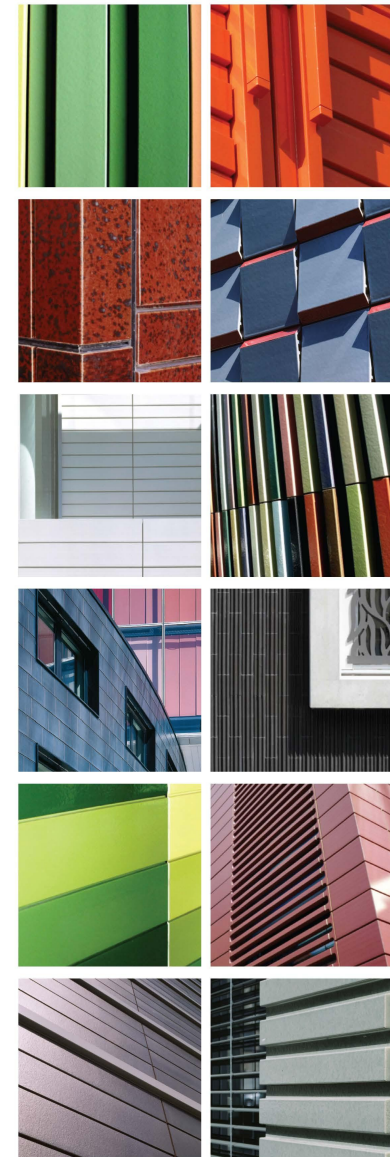
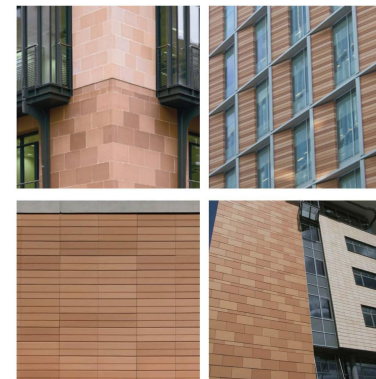
honed surface



NBK® glazes are being increasingly exploited as a design feature in contemporary architecture.

NBK's expertise in complicated mixing techniques and traditional firing methods, allows virtually any colour and surface texture specification to be met to the letter. This allows our company, in consultation with designers of exclusive product assortments, to make unique buildings.

The colours shown represent only a few of our overall range. Any required shade can be provided upon request.



Wasseraufnahme /water absorption	EN ISO 10545 Teil /part 3	
Alle erprobten Farben / all approves colors		
DIN EN 14411 Gruppe Alla / Group Alla		3,0 - 6,0 %
DIN EN 14411 Gruppe Allb / Group Allb		6,0 - 10,0 %
Biegefestigkeit /bending tensile strength	EN ISO 10545 Teil /part 4	
Oberfläche natur und glasiert/natural and glazed finish		
DIN EN 14411 Gruppe Alla / Group Alla		> 12 N/mm ²
DIN EN 14411 Gruppe Allb / Group Allb		> 9 N/mm ²
Scherbenrohdichte /raw density		2.05 - 2.20kg/dm ³
Frostwiderstandsfähigkeit / freeze / thaw resistance	EN ISO 10545 Teil /part 12	erfüllt / fulfilled
	(100 Frost-Tau-Wechsel /cycles)	
Gehalt an schädlichen und ausblühenden Salzen / efflorescence and soluble salts	DIN 105 Teil / part 1	weit unterhalb der zulässigen Höchstgrenze / well below the permitted maximum limit
Chemische Beständigkeit / chemical resistance	DIN EN ISO 10545 Teil /part 13	erfüllt / fulfilled
Maße + Toleranzen /dimensions + tolerances		
Breite / width 400 mm - 1.800 mm	Achsmaß in Lochrichtung / center in hole direction	± 1,0 mm für Zuschnitte / for cuts
Höhe /height 150 mm - 800 mm	Ansichtsfläche quer quer zur Lochrichtung / opposite to hole direction	± 2.0 mm bis/to 250 mm ± 2.5 mm bis/to 400 mm ± 3.0 mm bis/to 600 mm ± 3.5 mm bis/to 800 mm
Dicke /thickness	EN ISO 10545 Teil /part 2	± 1.5 mm
	Abweichung bei geschliffener Oberfläche / deviation if surface is honed	
Geradheit der Seiten in Lochrichtung / straightness in hole direction	EN ISO 10545 Teil /part 2	± 0.25 % der Länge / of length
Mittelpunktwölbung / diagonal flatness	EN ISO 10545 Teil /part 2	± 0.25 % der Diagonalen / of diagonal
Kantenwölbung quer zur Lochrichtung / EN ISO 10545 Teil /part 2 vertical flatness cross to hole direction		± 0,50 % der Höhe / of height
Windschiefe / torsion	EN ISO 10545 Teil /part 2	± 0.50 % der Diagonalen / of diagonal

Anmerkungen/Remarks:
Da es sich um Keramikplatten handelt, welche aus natürlichen Rohstoffen hergestellt wurden, sind minimale Abweichungen in Farbe, Form und Beschaffenheit zum Muster unvermeidbar. Alle anderen Formate und Abmessungen so wie Sonderformate auf Anfrage, Änderungen vorbehalten. Technisch bedingt neigen unsere Glasuren zur Craquelébildung. Dabei handelt es sich um feinste, nicht durch den Scherben gehende Risse in der Glasur, die jedoch die mechanischen Eigenschaften des Produktes nicht nachhaltig beeinträchtigen. The terracotta is made from natural materials, so small variations in colour, size and consistency from the sample façade are unavoidable. All other formats, dimensions and special sizes are available on inquiry basis. Subject change without notice. Glazed terracotta façade tiles and elements could show hairline cracks called Craquelé. This is a well know effect on glazed terracotta ceramics which could appear in a short or over a longer period of time. The Craquelé will not affect any of the mechanical properties of the product.

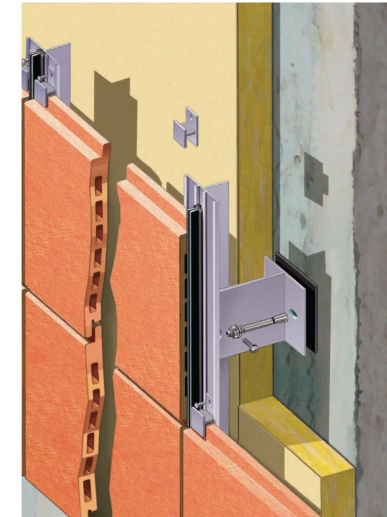
The NBK® terracotta clay tile façade system, which is based on the open ventilated rainscreen facade principle, is custom designed and engineered.

The vertical joints are backed by a support system which drains rainwater away from the cavities behind. The gaskets, together with balanced air pressure, discourages water from entering the wall cavities.

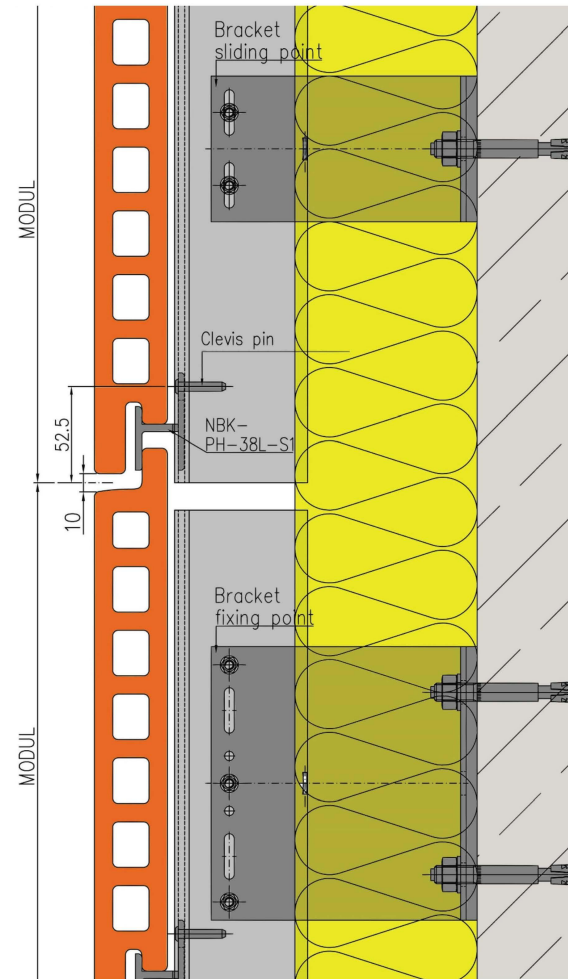
The tile design allows for air to flow through „open joints“, which helps to balance air pressure in the cavities behind the terracotta cladding elements with that of outside air, hence, the term - pressure equalization.

Driven rainwater will not enter the cavities because of the overlapping joints („protected openings“) and lack of pressure differential.

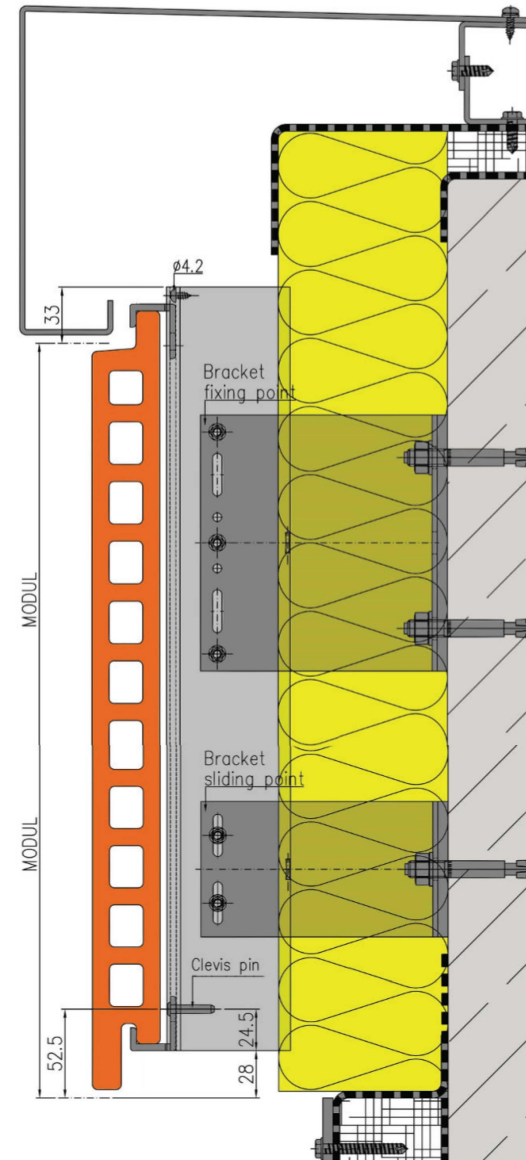
The „back ventilation“ assists in maintaining a dry cavity and negates the build up of hot air, an additional benefit to the NBK® rainscreen system.



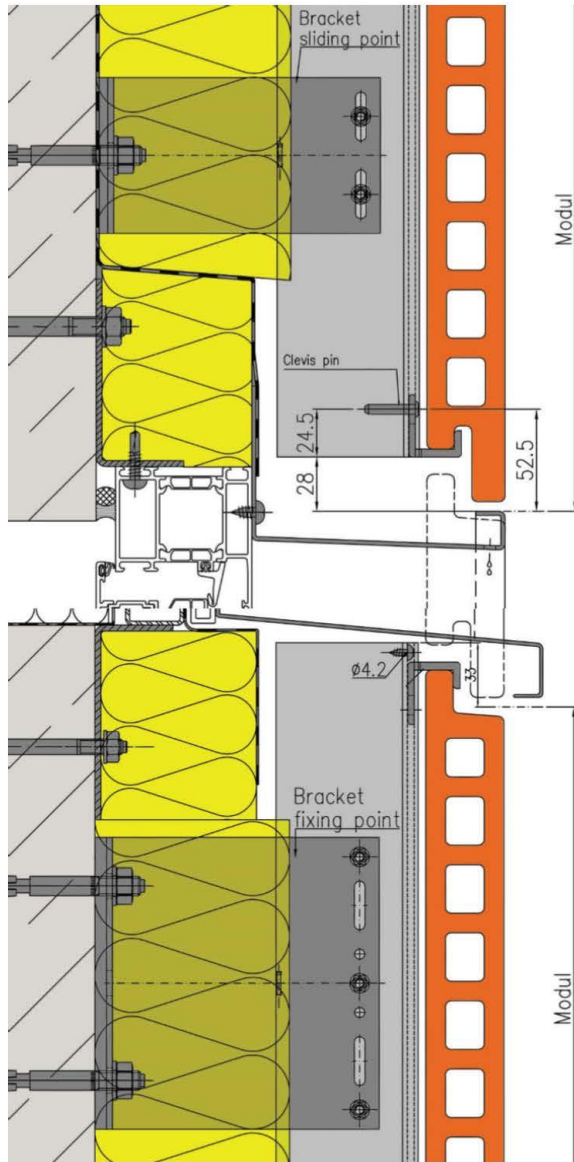
The following sketches just show a small choice of design principles.
All visible items can be modified and adapted to given demands.



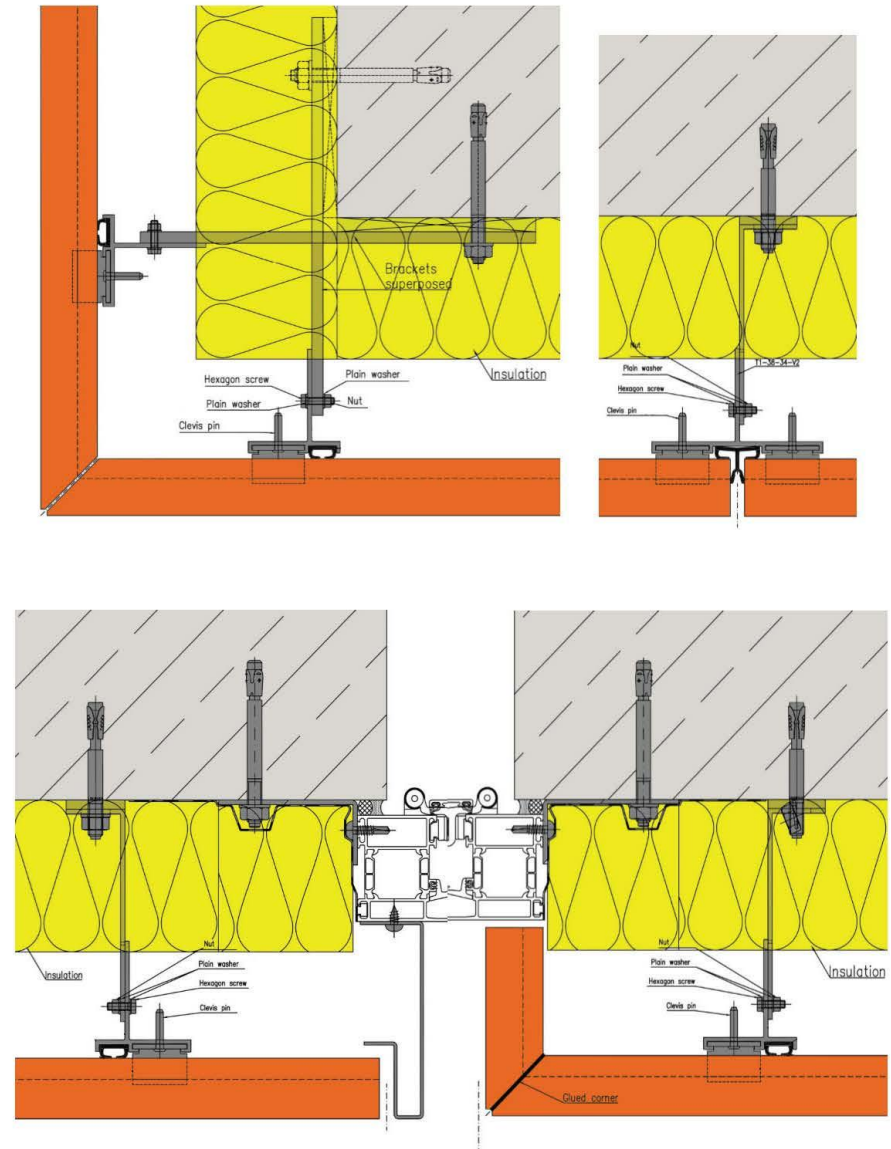
VERTICAL SECTION



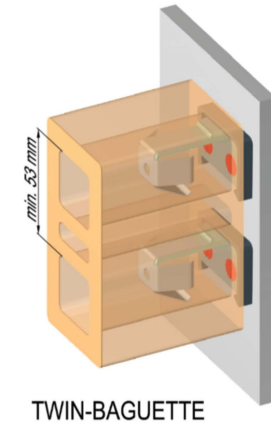
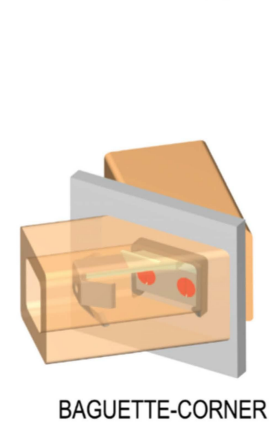
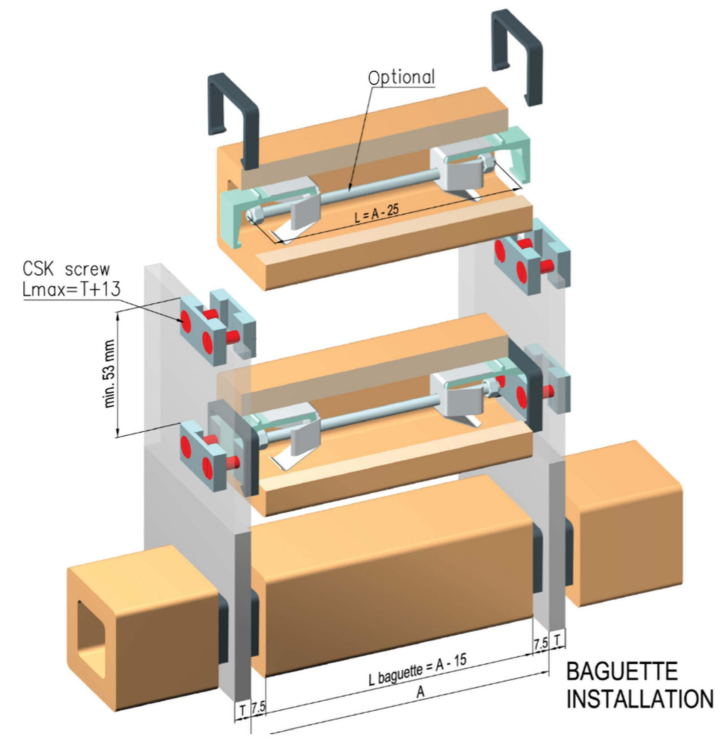
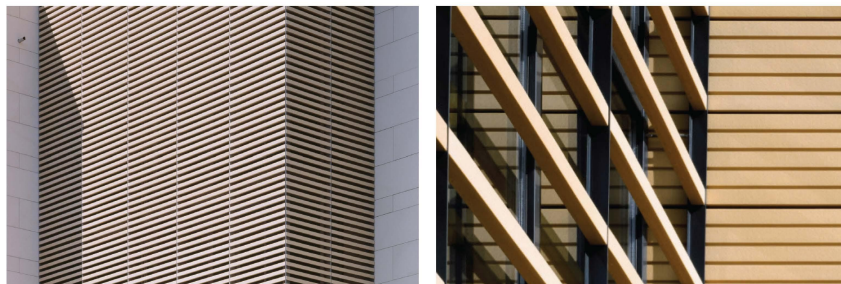
VERTICAL SECTION PARAPET/ BASE



VERTICAL SECTION WINDOW SOFFIT / SILL



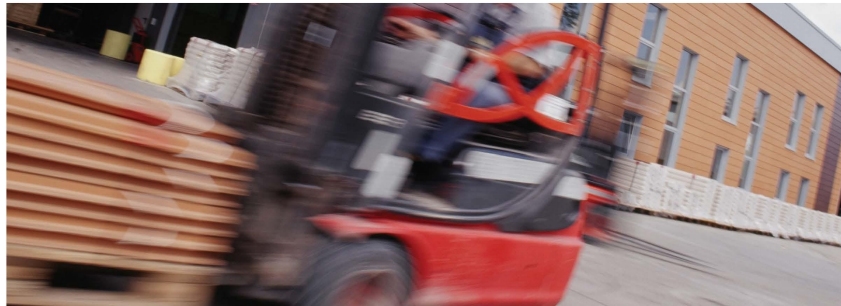
HORIZONTAL SECTION WINDOW SOFFIT



NBK® products are greatly respected around the world. Internationally renowned architects are increasingly exploiting the virtually unlimited options presented by the NBK® product range to realise their exceptional designs. Façades with the NBK® product elements can be found in numerous countries - in Europe, Asia and the USA -

and thanks especially to NBK's commitment to businesses, the list is getting longer all the time. The durability, robustness and weather resistance of the perfectly processed material all serve to recommend NBK® for a use „without frontiers“.

For shipping and transport, NBK® provides packing of all terracotta elements in custom made heavy duty wooden crates or on pallets. All pieces are carefully packed; fibreboard and styrofoam are used as spacers so that the tiles cannot touch each other. This packing will limit damage during shipping and transport under normal conditions.



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