

# Ceramic Facades and Brick Slips on Thermal Insulation/ETIC Systems

6<sup>TH</sup> EDITION





# ABC ceramic facades and brick slips.

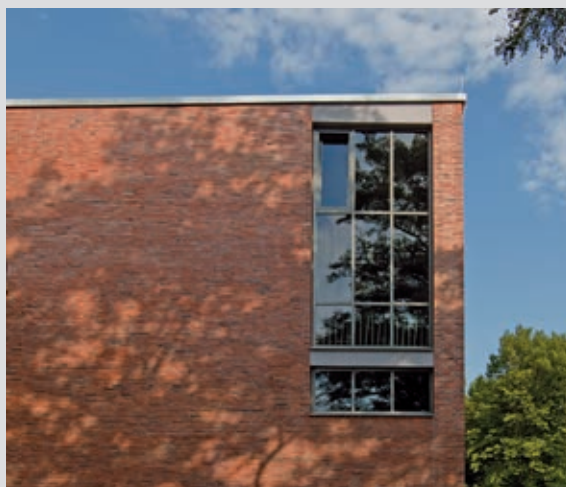
Variable architectural format, Bautzen



2103 Winterhude black-blue coloured, Köln



R 0854 red coal-fired Hamburg



Images: Images on cover and facing page:  
Medical Specialist Centre, Bonn-Beuel

## INHALTSVERZEICHNIS

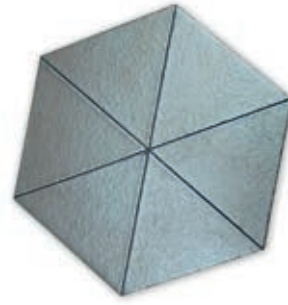
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# Medical Specialist Centre, Bonn-Beuel.

## VISUAL DEPTH THANKS TO LIGHT REFLECTIONS

A silver-coloured brick slip with an edge length of 13 cm was developed especially for the facade design in accordance with the architecture office's specifications. The 340,000 individual, different tiles were applied to the ETICS by hand. Varying solar radiation changes the reflection of the numerous, shimmering tiles and creates a contrast-rich interplay of light and shadow that repeatedly emphasizes the distinctiveness of the location.

The medical specialist centre in Bonn-Beuel was opened in 2014. A modern doctors' building for 15 practices and medical service providers was created on Konrad Adenauer Platz on the east bank of the Rhine in Bonn. Catering and retail spaces on the ground floor complement the medical specialist centre.



Production of the  
triangular ceramics

### Projektdaten

Project:	Medical specialist centre with underground garage, offices, residential space and catering
Client:	FAZ GmbH & Co KG
Architecture:	bob-architektur BDA, Cologne
Competition:	1st prize 2007 international urban development competition on Konrad Adenauer Platz
General contractor:	Kreer Ingenieure GmbH

Medical Specialist Centre, Bonn-Beuel



Medical Specialist Centre Bonn-Beuel



## Marked by the heat. German Aerospace Center.

### IMPETUS FOR DEVELOPMENT OF ABC FACADE CERAMICS

The city of Bremen now has a new research building for the German Aerospace Center. The architecture office of Kister Scheidhauer Gross created the design and executed the building.

Inspired by the appearance of the ceramic heat protection shields on the space shuttle series (NASA), the distinctive facade ceramics for this building (series: Shuttle) were developed in the ABC ceramic laboratory. The required ceramics had to show traces of heat, wear and variable numbering. A realistic approximation of the American space vehicle “models” was required.

#### Project data

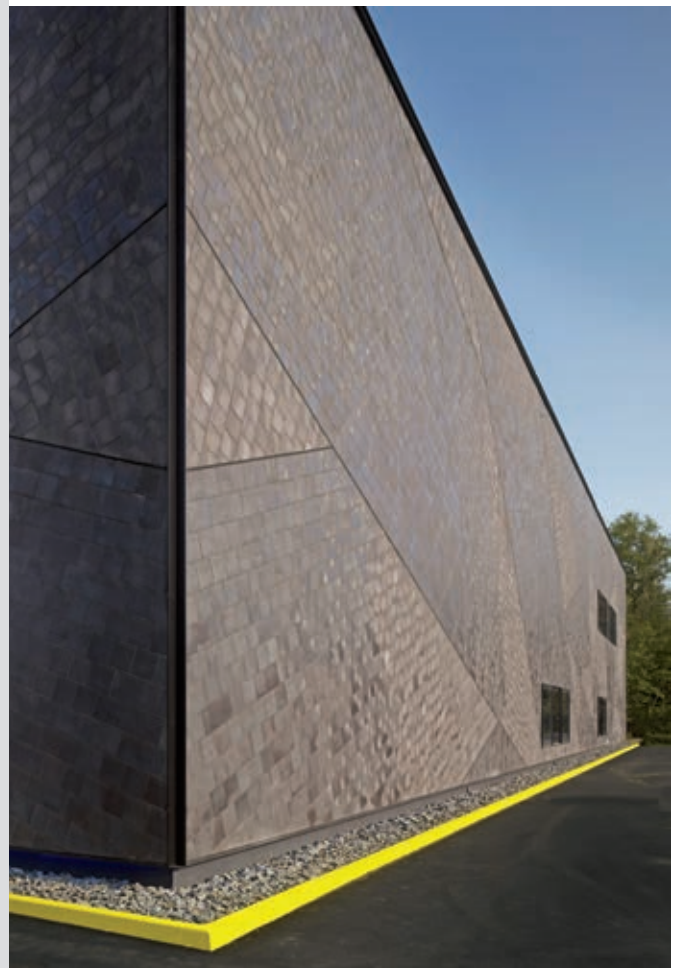
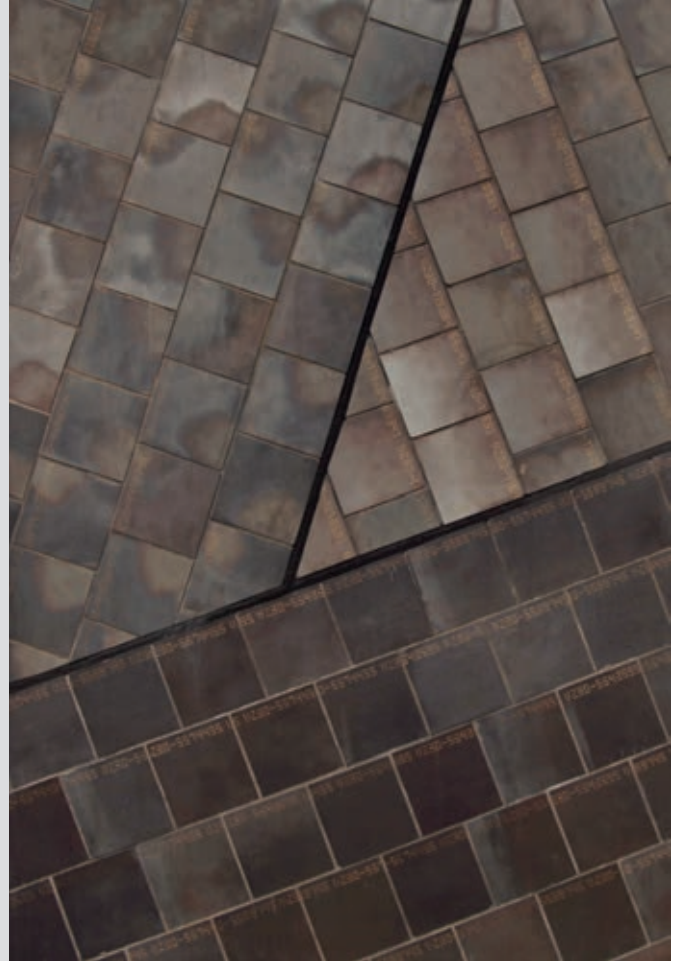
Project:	German Aerospace Center (DLR), Laboratory building, Bremen
Client:	Deutsches Zentrum für Luft- und Raumfahrt e. V.
Project costs:	11.4 million Euros
GFA:	3.850 m <sup>2</sup>
Completion:	2011
Architecture:	kister scheidhauer gross Architekten und Stadtplaner GmbH Cologne/Leipzig <a href="http://www.ksg-architekten.de">www.ksg-architekten.de</a>

Shuttle facade ceramics





Space shuttle ceramic heat protection shield



Shuttle facade ceramics on ETIC system



# Kornmarkthaus Bautzen.

## Projektdaten

Project: Kornmarkthaus Bautzen  
 Client: Bautzener Wohnungsbaugesellschaft mbH, Bautzen [www.bwb-bautzen.de](http://www.bwb-bautzen.de)  
 Floor area: 5.510 m<sup>2</sup> consisting of:  
 2.450 m<sup>2</sup> retail space,  
 1.280 m<sup>2</sup> residential space,  
 1.780 m<sup>2</sup> office space,  
 underground garage with 122 parking spaces  
 Completion: 2014  
 Architecture: Bauplanung Bautzen GmbH, Bautzen [www.bauplanung-bautzen.de](http://www.bauplanung-bautzen.de)



Variable architectural format, Kornmarkthaus, Bautzen

Bautzen: view of the old town

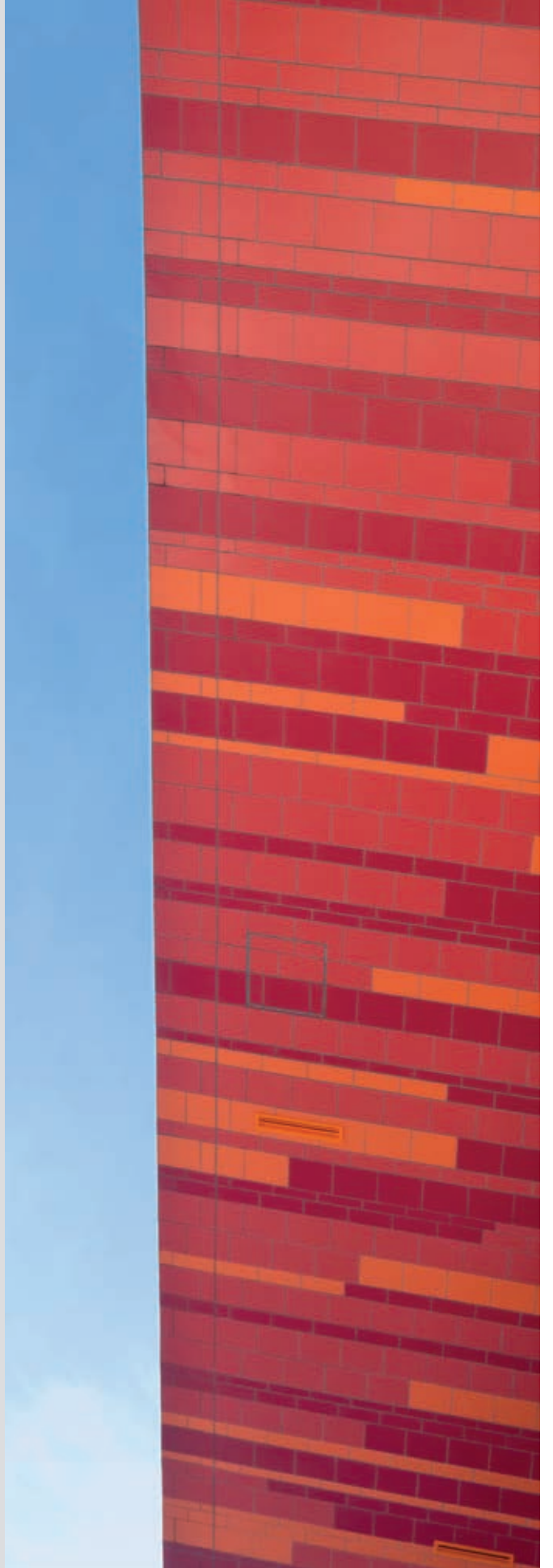




Variable architectural format



View of projecting upper floors from below



## German facade prize 2014 – honourable mention: Buchsbaumweg, Hamburg



The U-shaped block perimeter development on Buchsbaumweg in Hamburg, - designed in the early 1930s with brick facades - has been brought up to contemporary energy standards using brick slips with a ETIC system. Nevertheless, the new Street facade design adheres closely to the original concept from the period of construction: Brick slips, with colours that replicate the historic artifact, accentuated building corners, bays and projecting masonry courses are as much a reminder of the original condition as the sills and mullions of the new, built-in windows.

In the jury's view, "the replication of the original street elevations in the course of a ETICS facade renovation" was particularly deserving of honourable mention.

### Project data

Prize:	German and Austrian facade prize 2014
Sponsor:	Brillux GmbH & Co. KG
Project:	Buchsbaumweg apartment complex, Hamburg
Execution:	AFB Fassadendämmung + Malereibetrieb GmbH, Hamburg
Design:	neumann + partner, Hamburg
Owner:	Baugenossenschaft dhu eG, Hamburg
ETIC System:	WDV-System I + III, Brillux, Münster

Old Hamburg special production





Old Hamburg special production

## Neue Salzhalle Kiel.

The Neue Salzhalle at the Kiel Seafish Market is the rehearsal stage for Kiel Theatre. Rehearsals of numerous large theatre productions take place on the premises in the course of the season. In addition, the building and adjacent area also function as a location for special events.

2103 Winterhude black-blue coloured



Neue Salzhalle, Seafish Market, Kiel



2103 Winterhude black-blue coloured



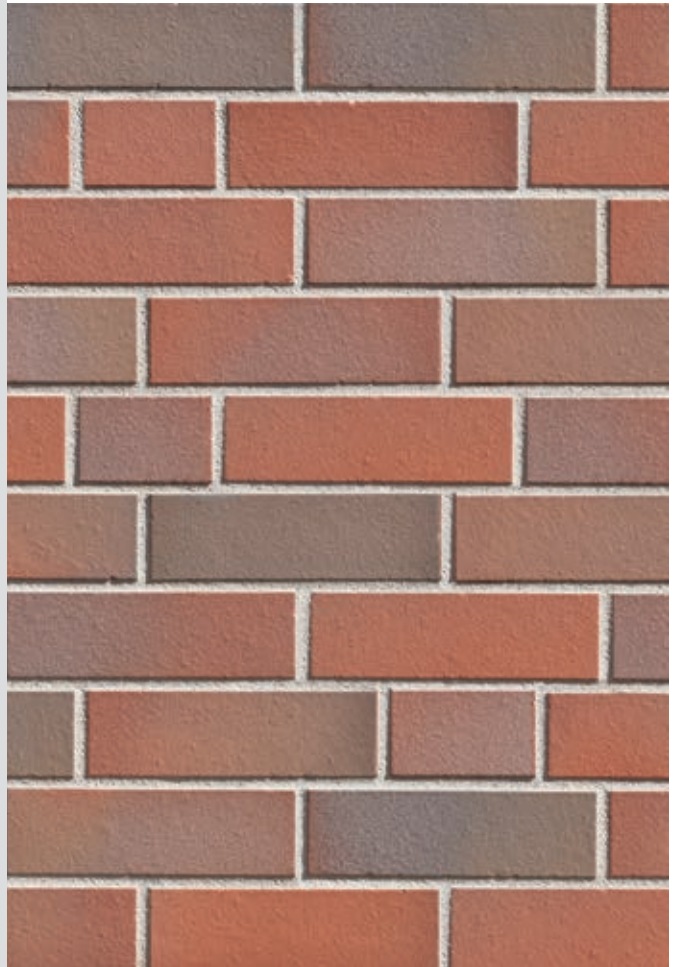
2103 Winterhude black-blue coloured



2100 + 2103 Blankenese-Winterhude dark coloured



2102 Altona red coloured



## Vackov residential complex, Prague

The design of this residential complex satisfies a multitude of requirements that are placed on modern urban buildings today. Considering the urban density of the city, a high measure of privacy was achieved here and the desire for a private house with garden was widely achieved.

The entire project consists of three building groups, each with 3–4 buildings. Their size, character and spatial organization create the potential for neighbourly living.

The permeability of the complex is achieved by semi-public paths between the individual building groups. The paths meet at a central plaza that serves as an informal centre for the residential complex.

While the wooden facades of the interior courtyards convey a feeling of warmth and security, the externally oriented brick facades emphasize the high value of the buildings.

### Project data

Project:	Vackov residential complex, Prague
Location:	Prague 3 - Zizkov, Czech Republic
Investor:	METROSTAV vackova Inc.
Floor area:	11.000 m <sup>2</sup> 124 housing units, 3 meeting rooms
Completion:	2011
Architecture:	Jiran Kohout architekti, s.r.o. Nabidka slu eb architektonicke kancela e. <a href="http://www.jkarch.cz">www.jkarch.cz</a>

1828/0 Aubergine glatt



1828/0 Aubergine smooth, corners manufactured to specified angle, Project: KerVita Hamburg



1828/0 Aubergine smooth



1828/0 Aubergine smooth



# Veringeck model project, Hamburg



## HAMBURG INTERNATIONAL BUILDING EXHIBITION 2007-2013

### “DESIGNS FOR THE FUTURE OF THE METROPOLIS”

Veringeck is an intercultural model project, unique in Germany. Since autumn 2011, senior citizens from different cultures can experience their retirement together in the Veringeck in Wilhelmsburg's Reiherstieg district. IBA Hamburg GmbH developed this model project for intercultural living arrangements for the elderly together with the Social Affairs, Family, Health and Consumer Protection Authority, the investor GbR Veringeck, the Multi-Kulti nursing service and the Coordination Centre for Residential Care Associations. Relatives can also be actively included in the residents' everyday events. The model has become a precedent for other facilities. An oriental ornament in the form of a girih pattern was used in the latticework of balcony railings and as a colour print on the facade ceramics.

#### Project data

Project partners: Veringeck GbR, Multi-Kulti nursing service, Health and Consumer Protection Authority, Hamburg Coordination Centre for Residential Care Associations at Stattbau Hamburg GmbH, Hamburg-Mitte district office

Project costs: 3.74 million Euros (construction costs 3.25 million Euros)

Use: Serviced housing for senior citizens, residential care association, day care facility, neighbourhood cafe and hamam, turkish bath, elderly housing.

Completion: 2011

Architecture: Gutzeit + Ostermann Architekten, Hamburg

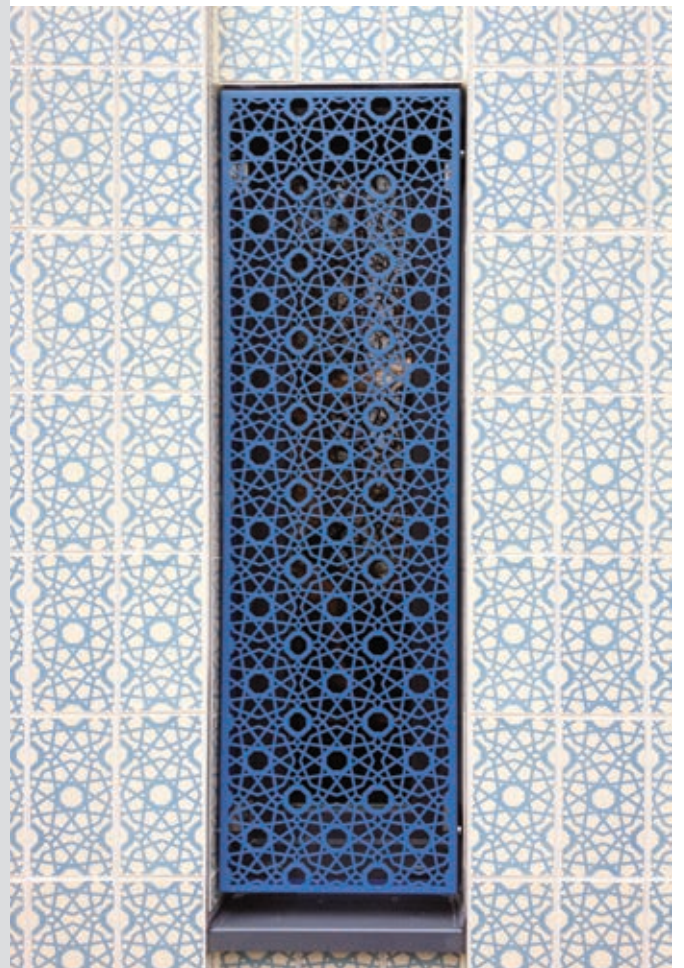
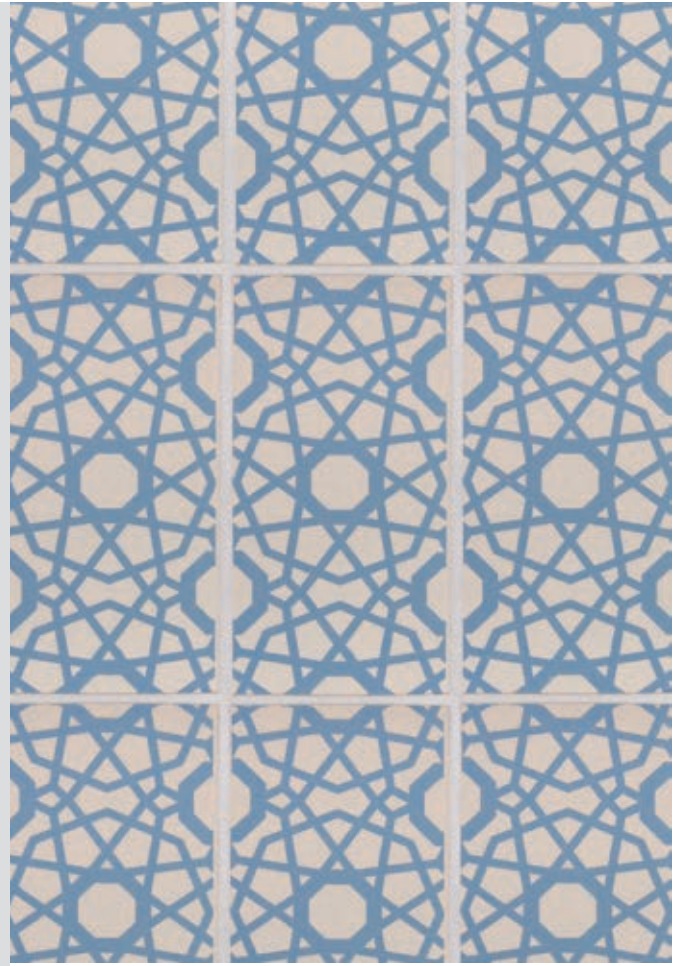
ABC ceramic facade with colour print







ABC ceramic facade with colour print



## Investment in education - Osnabruck adult education centre.

The Osnabruck Land adult education centre (VHS) is delighted with the new construction of a training and administration building. 3800 m<sup>2</sup> of space is available for offerings in the areas of school leaving qualifications and adult education - a large piece of the future for the city's range of courses and events.

### Project data

Project:	Osnabruck adult education centre (VHS)
Client:	VHS Osnabrücker Land gGmbH
Construction period:	11/2009 -10/2010
Gross story area:	3.700 m <sup>2</sup>
Architecture:	Architekturbüro SHF, Werner Hüdepohl

1830/0 Texel smooth



1830/0 Texel smooth



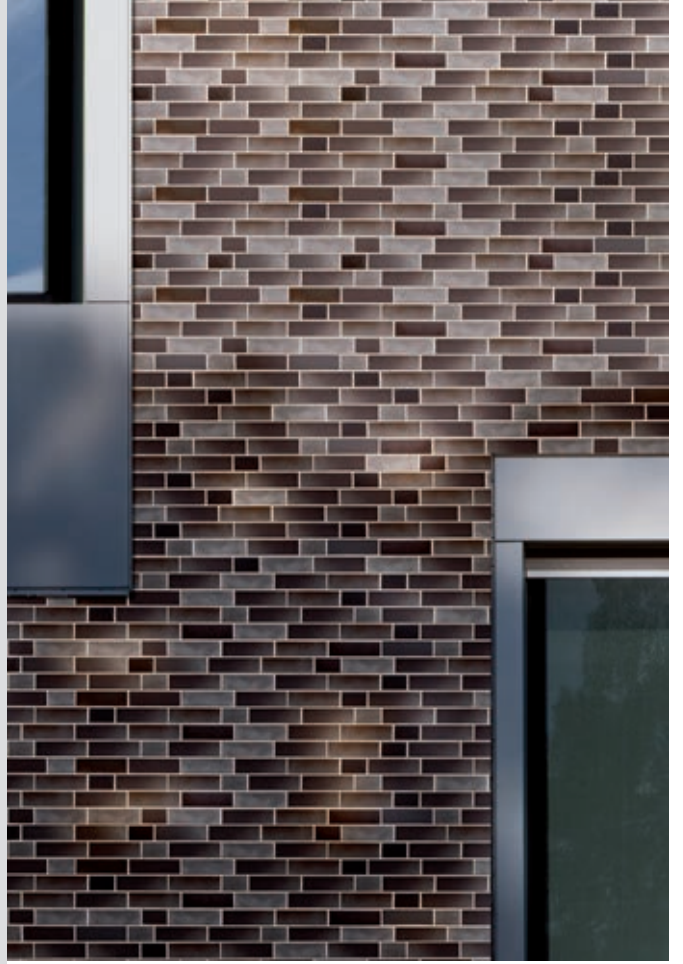
1830/0 Texel smooth



1005 Black glazed



2106 Atlantis



2106 Atlantis



## Ochtrup Factory Outlet Centre – new buildings in historic

### BRICK ROTUNDA BY DOMINIKUS BÖHM

The company “rotunda” built in 1942 by the Cologne master church builder Dominikus Böhm counts as one of the highlights of pre-war modern in North Rhine-Westphalia. Originally built as a warehouse for fabrics, the brick rotunda now houses a portion of the covered area of the Ochtrup Factory Outlet Center.

Architecturally, the clearly articulated rotunda stands in sharp contrast to the classicist Beltman building. With its combination of masonry and bands of glass, the style is inspired by the clear, no-frills architecture of the Bauhaus.

#### Projektdaten

Project:	FOC Ochtrup
Site area:	85.000 m <sup>2</sup>
Investment volume:	approx. 52 million Euros
Retail space:	11.500 m <sup>2</sup>
	65 shops
FOC investor:	Thomas Dankbar
Architecture:	Schmiegel + Denne architecture, Ochtrup

FOC Ochtrup historic building



1831/2 Dresden structure



1831/0 Dresden smooth



1831/2 Dresden structure



1831/4 Dresden coal



# FOC Ochtrup.

## NEW USE FOR THE OLD PRODUCTION PLANT

The Schmiegel & Denne architectural and structural engineering office in Ochtrup was commissioned with the task of expanding the retail areas.

The textile company's historic production halls were removed. New, small-scale "village streets" that offer space for the required 65 shops were built in the core area on an 85,000 m<sup>2</sup> site.

The investor's objective was to build a "third place" where the customer feels comfortable when he goes shopping in his leisure time. The aim was to implement an architecture that the customer identifies with - an architecture with recognition value and a lasting impression.

### Project data

Project:	FOC Ochtrup
Site area:	85.000 m <sup>2</sup>
Investment volume:	approx. 52 million Euros
Retail space:	11.500 m <sup>2</sup>
	65 shops
FOC investor:	Thomas Dankbar
Architecture:	Schmiegel + Denne architecture, Ochtrup

1822/0 Nordkap NF



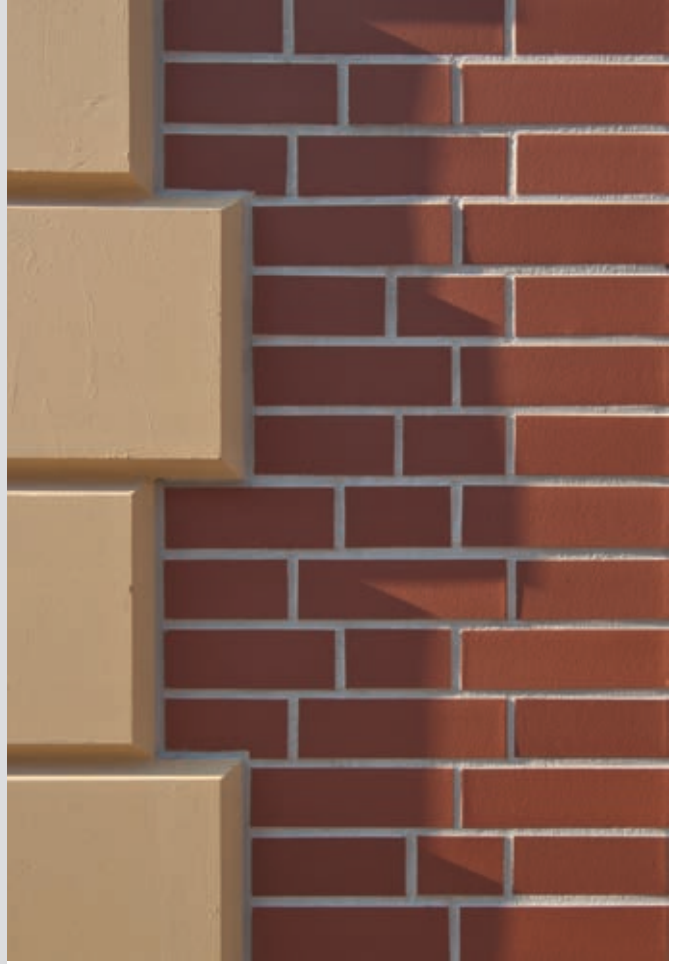
1004/0 Naturbrand smooth



1821/0 Malta smooth NF



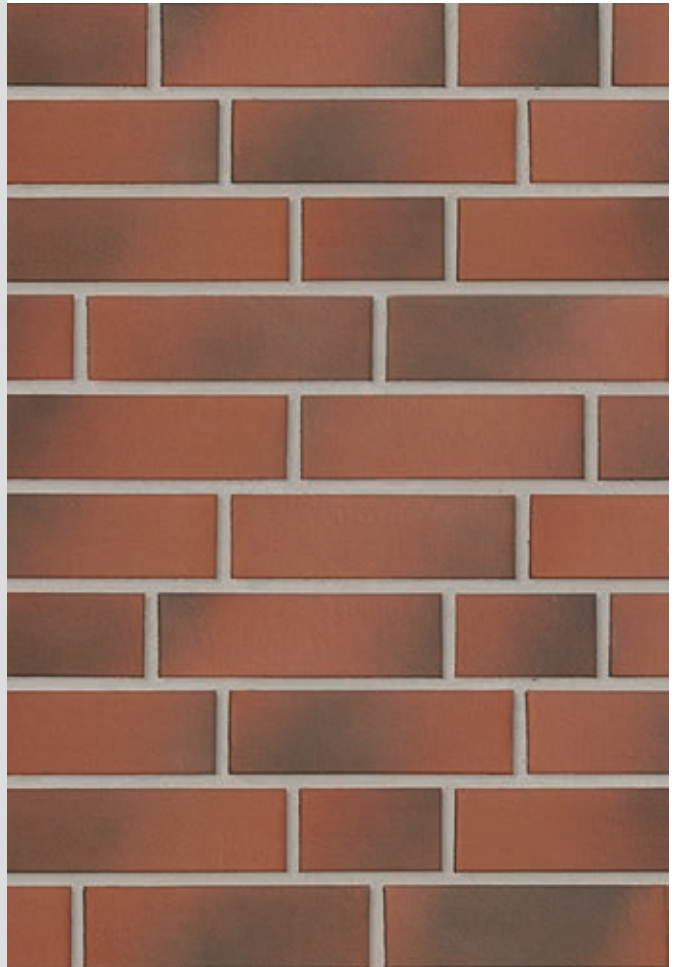
1821/0 Malta smooth NF



1004/0 Naturbrand smooth



1004/0 Naturbrand smooth



## Value retention and energy savings for public buildings.

### **SECURING EXISTING STOCK**

The potential for energy cost savings in public buildings is considerable. More and more, these savings potentials are being exploited by the bodies responsible for these facilities. Extensive renovation and energy saving measures were also implemented with ABC brick slips on an ETIC system at the school building on Denksteinweg in Hamburg.

Schüttorf R 0854 red coal-fired Hamburg format







Schüttofr 0854, red coal-fired Hamburg format



Velper red coal-fired Hamburg format TO



## ABC ceramic facade in clinker format.



1826/0 Baltrum smooth

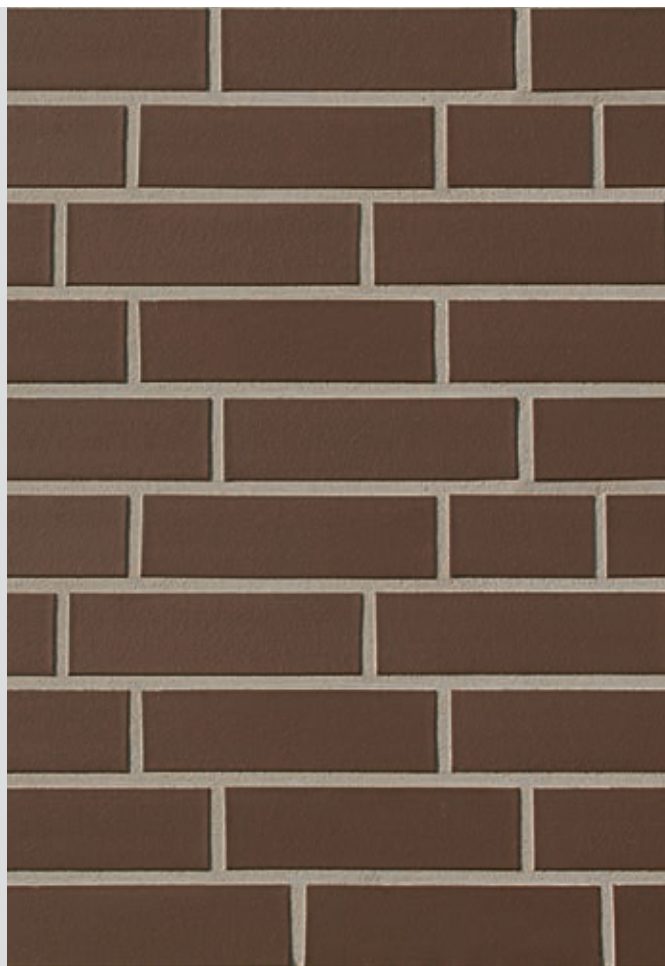
Administrative building in Laer / North Rhine-Westphalia (NRW)



1826/0 Baltrum smooth



1926/0 Brown smooth



1826/0 Baltrum smooth



1926/2 Brown grained



## Ceramic facade on ETIC system in variable architectural format.

### UTRECHT UNIVERSITY OF APPLIED SCIENCES, AMERSFOORT

The Utrecht University of Applied Sciences required a building for the Amersfoort location that housed the various disciplines under one roof. The building meets the individual requirements of different university departments. The ground and first floors were given a public character - the departments can present themselves to the public there. A transparent, open appearance was implemented. The remaining floors were distributed among the respective departments, taking the special demands of university departments into account. ([www.dp6.nl](http://www.dp6.nl))

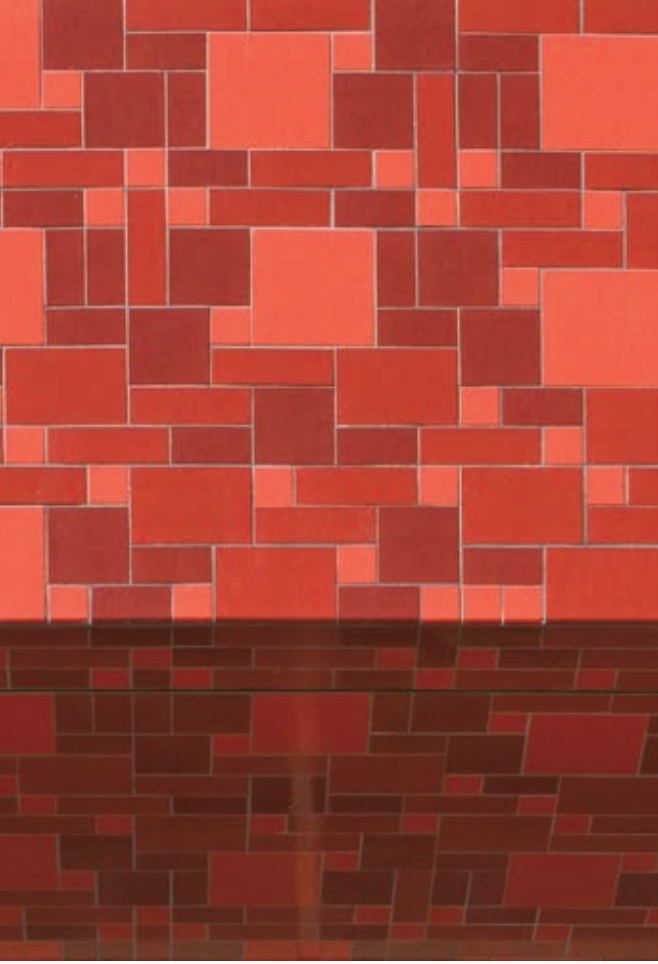
Variable architectural format for Utrecht University in Amersfoort

#### Project data

Project:	Utrecht University of Applied Sciences, Amersfoort
Client:	Burgfonds, 5300 AC Zaltbommel
Design office:	DP6 Architekturstudio - <a href="http://www.dp6.nl">www.dp6.nl</a>
Architect:	Chris de Weijer
Surface area:	18.000 m <sup>2</sup>
Facade:	ABC ceramic facade approx. 3.000 m <sup>2</sup>



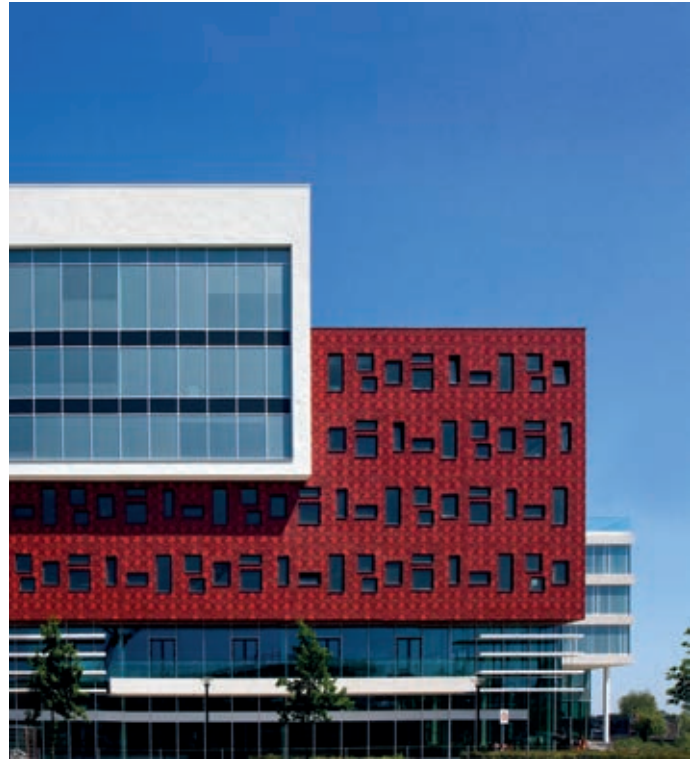
Variable architectural format



## Variable architectural format

### THE FREEDOM OF CREATIVE CERAMIC FACADES

Architecture has rediscovered the facade is a space for individual design. In the metropolises, buildings are being constructed whose facades astonish with new textures and patterns in colourful tile and ceramics. Our task is to implement the specifications and creativity of architects. Firing colours and formats in accordance with precise specifications and arranging them in new patterns is part of our service. Thus, individual buildings with constructively “light shells” of ceramic facades are realized in complementary collaboration with the design offices.



Variable architectural format





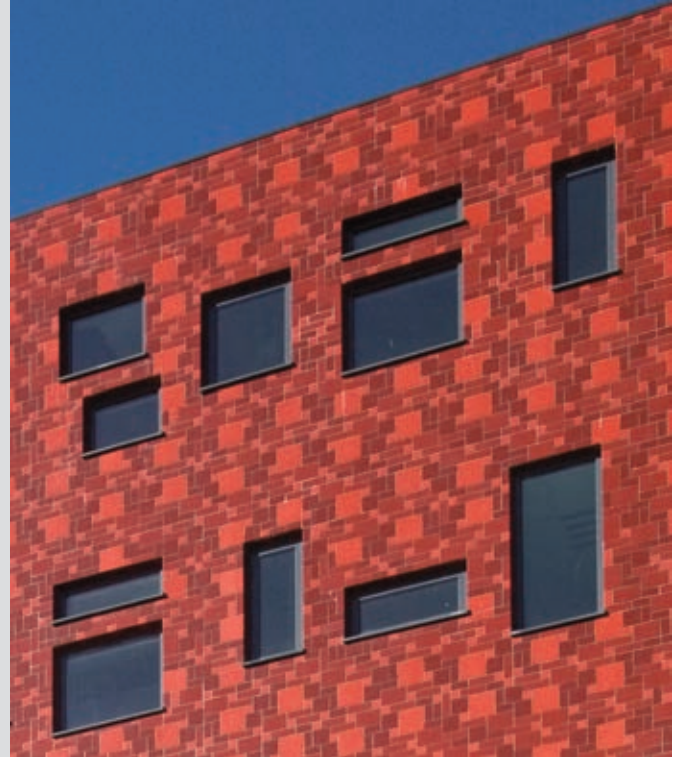
### Overview of facade weights

1. Masonry clinker wall  
11,5 cm thickness      2,1 kN per m<sup>2</sup>
2. Curtain wall- ceramics - natural stone - concrete  
3 cm thickness      0,8 - 1,2 kN per m<sup>2</sup>
3. ABC- ceramic facade on ETIC system  
1,2 cm thickness      0,45 kN per m<sup>2</sup>

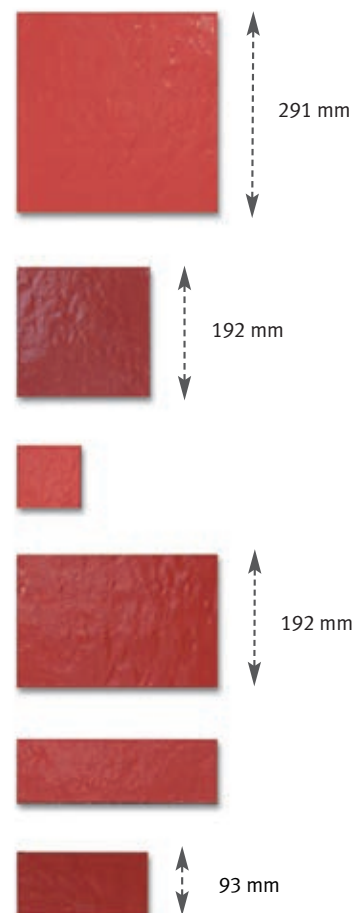
The overview shows that the ABC ceramic facade on thermal insulation has a low facade weight.

If a support structure is planned, two advantages result from the low weight.

1. The load-bearing wall can be built very cost-effectively.
2. With the ABC ceramic facade on an ETIC system, no costs arise for a facade support structure.



### Ceramic facade manufactured in accordance with dimensional and colour specifications



# State library renovation and new construction, Berlin

## AN IMPORTANT BERLIN BUILDING SITE

The centre that was lost to partial destruction has been given back to the Wilhelmine library building.

The new reading room was built in the middle of the great state library complex on “Unter den Linden” in Berlin. Germany’s largest scientific university library has been expanded by the new construction.

ABC quarter brick, Berlin state library

### Project data

Project:	Berlin state library
Construction period:	anticipated completion 2016
Scope:	frontage length Unter den Linden: 107 metres length on Charlotten and Universitätsstrasse: 170 metres, Floors above ground: 13
New construction:	46,250 m <sup>2</sup>
Estimated total cost:	approx. 800 million euros
Architecture:	HG Merz Architekten with offices in Stuttgart and Berlin





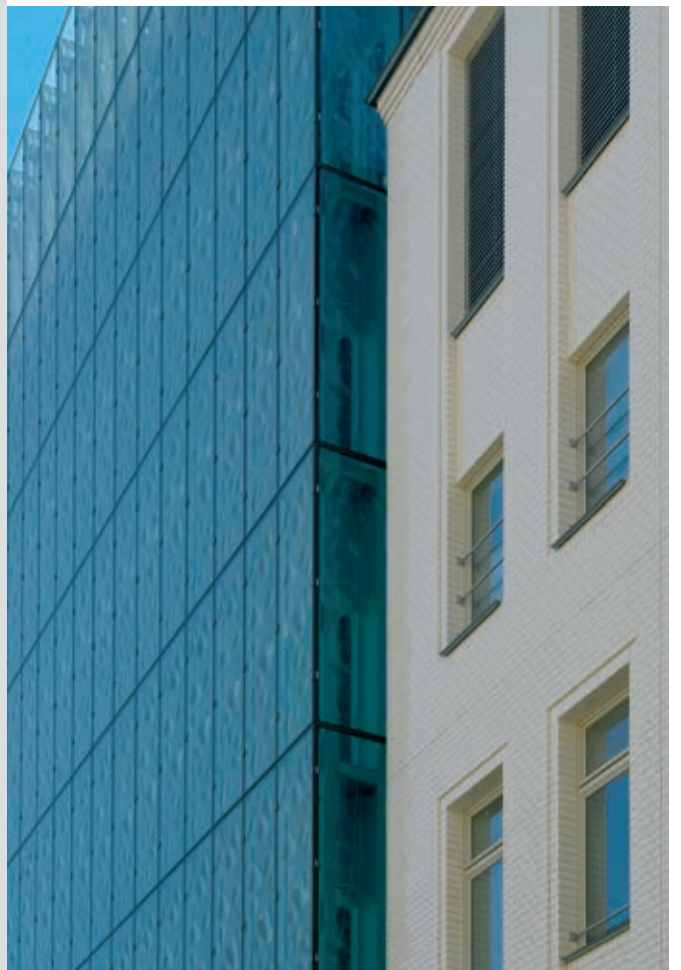


Berlin state library gate

ABC-Quarter brick 122 x 69 x 57 mm



View of ceramic facade



## State library renovation and new construction, Berlin

### **BERLIN STATE LIBRARY, UNTER DEN LINDEN**

The cubic light house of the new reading room picks up the proportions of its historic predecessor building. Its dimensions are constantly under-estimated: It fits almost modestly into the much larger, old Wilhelmine building, although Berlin Cathedral could easily be placed inside its area.

ABC 122 x 69 x 57 mm quarter bricks were used in the restoration of the large courtyard facades.

The new construction measures include the addition of two stories to the interior of the building and new construction of the reading room. The ceramic facade was created in the historic 122 x 69 x 12 mm quarter brick format on an ETIC system. ABC's ceramic developed the glaze colour for the new building based on the historic example of the courtyards.

ABC quarter brick, Berlin state library

### **PLENTY OF SPACE FOR GOOD THOUGHTS**

The restored and newly created ceramic courtyard facades are visible. They surround the glass cube with its translucent shell. A 36.5 m high, open air space was created in the interior - impressive.

The special feature of the double layered glass facade is its thermal deformation, which refracts the light and distributes it in a more pleasant manner. In the lower part of the cube, there is a wooden book shell which houses the workplaces and books.

[www.hgmerz.com](http://www.hgmerz.com) - architects museum designers

[www.staatsbibliothek-berlin.de](http://www.staatsbibliothek-berlin.de)





© Fotografie Jörg F. Müller

Interior view of the reading room



© Architektur Fotografie Krummow

Berlin state library, 2014

**Ceramic facade manufactured in accordance with dimensional and colour specifications**

ABC-Quarter brick



122 mm

Quarter brick format  
122 x 69 x 12 mm

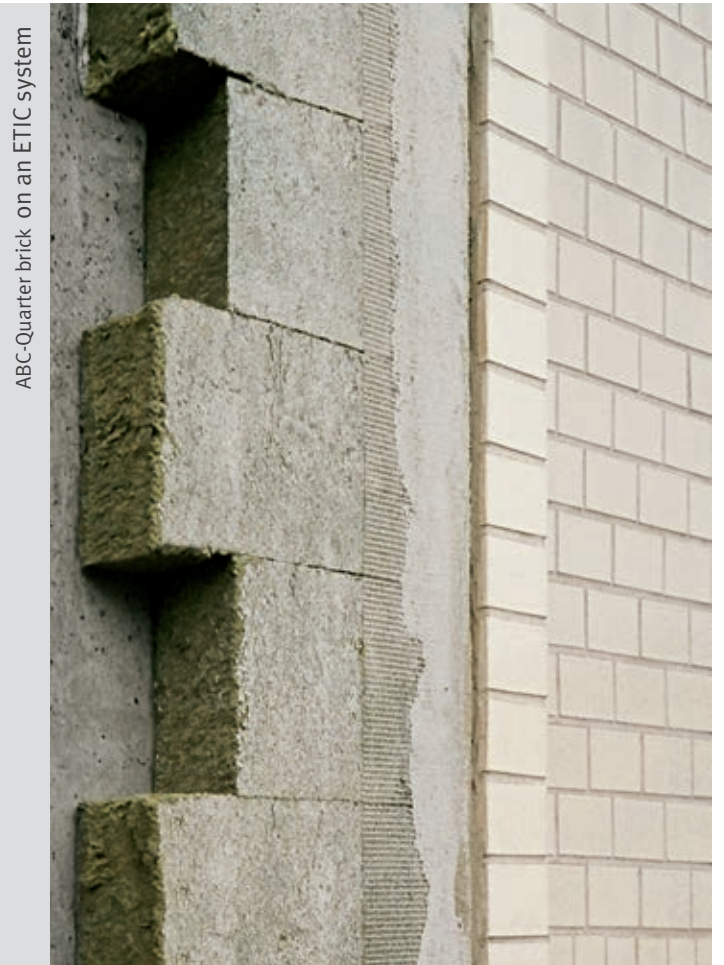
69 mm



Quarter brick  
122 x 69 x 57 mm



Quarter brick angle  
122 x 69 x 57 mm



ABC-Quarter brick on an ETIC system

## New construction with ceramic facades in clinker format.

In 2007, a new district with up-scale, owner-occupied apartments was built in Stettin. The Magnolia housing complex is distinguished by the special design of the row houses, its courtyards and green spaces. The upscale residential area in natural surroundings with excellent infrastructure are among the additional advantages of this development.

The limited materials used in the facade architecture, such as wood, rendering, clinker slips and the factory style of the large window elements give the entire residential area high value without breaking the established budget.

230 apartments were built and successfully marketed in the first construction phase. The successful Magnolia concept will be continued in a second construction phase. An additional 170 apartments will be built in 2008. A total of 12.000 m<sup>2</sup> of clinker slips were installed on the facades.

1924/0 Beige smooth



1924/0 Beige smooth



1924/0 Beige smooth



Skagen with slate texture



1924/0 Beige smooth



2108 Elmshorn ochre grey



## Markona Wohnpark Köln.

The MARKONA.TWO building project in Cologne-Neu Ehrenfeld was expanded by a further 76 owner occupied apartments in the 2nd phase. The apartments are distributed between a total of eight new buildings, which completes development of the 17.000 m<sup>2</sup> Markona residential park. In the process, 4 city residences with a total of 48 owner occupied apartments were built along Äusseren Kanalstrasse. Four garden buildings with a total of 28 apartments that open onto both the Markona residential park and the public Taku park were built in the interior area. Every apartment has open areas such as gardens, loggia, terraces or balconies. The ceramic facades of the housing complex were created with different clinker slips on a ETIC system. Go to sleep the new MARKONA.ZWEI construction project was built to the KfW 70 energy efficiency standard with an attached biomass heating plant..richtet.

Sandyellow smooth, Texel smooth, Winterhude, Juist smooth

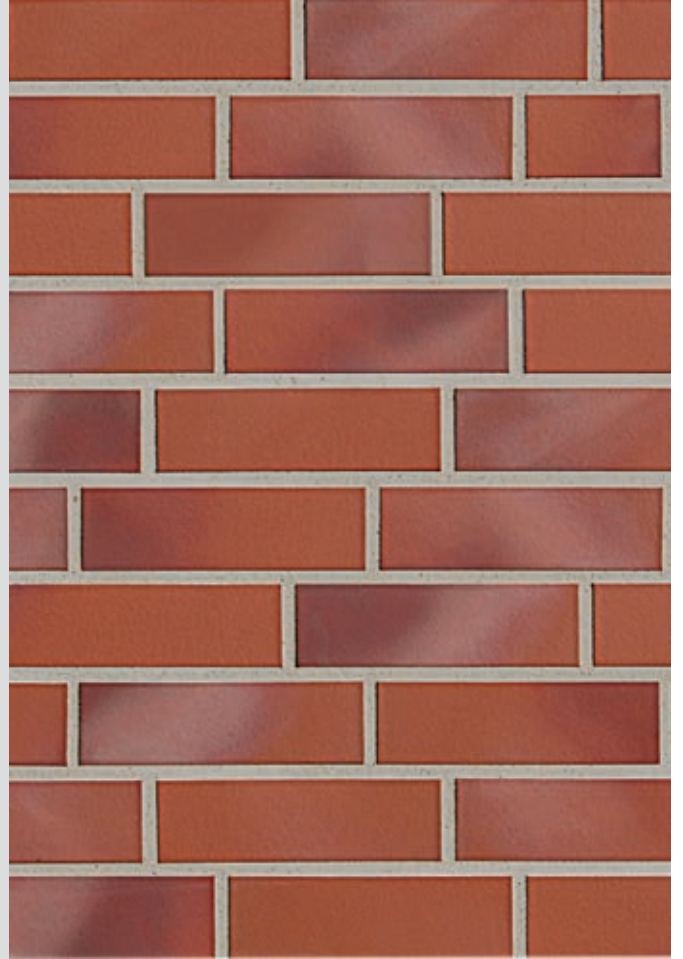


1927/0 Sandyellow smooth





1827/0 Juist smooth



2100 Blankenese dark coloured



1830/0 Texel smooth



## Markona residential park, Cologne.



Winterhude black blue coloured, Blankenese dark coloured, Juist smooth

Sandyellow smooth, Winterhude black blue coloured

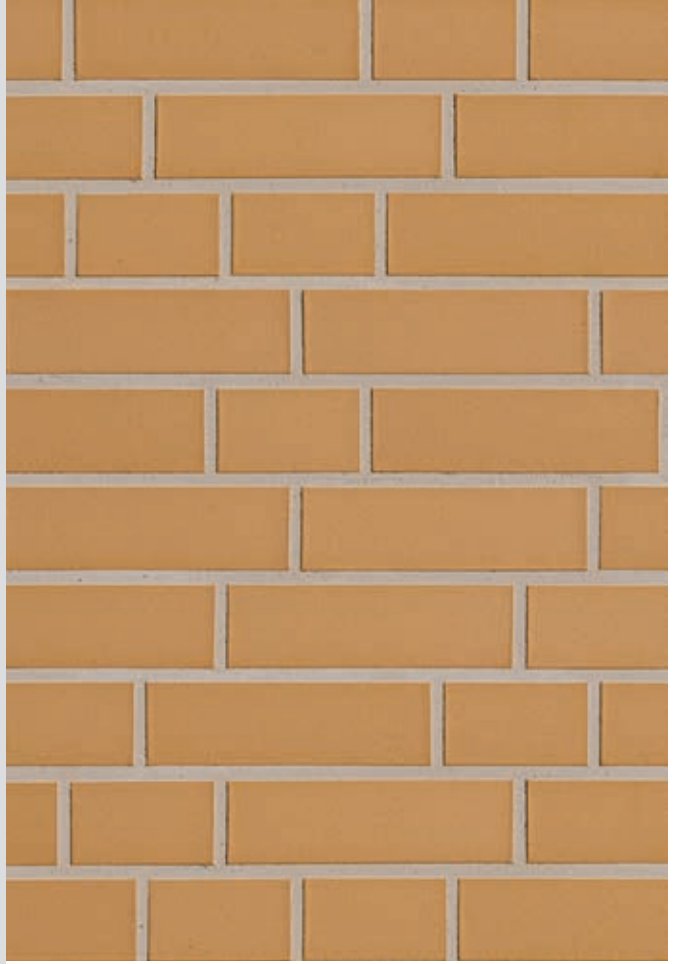




1927/0 Sandyellow smooth



1927/0 Sandyellow smooth



2103 Winterhude black-blue coloured



1927/2 Sandyellow grained



# ABC ceramic facade on thermal insulation / ETIC system.

E = External  
T = Thermal  
I = Insulation  
C = Composite

The ETIC system in a few steps.

## German Institute for Building Technology (DIBt), Berlin

The ETIC system shown has received an approval for:

### Mineral fibre insulation

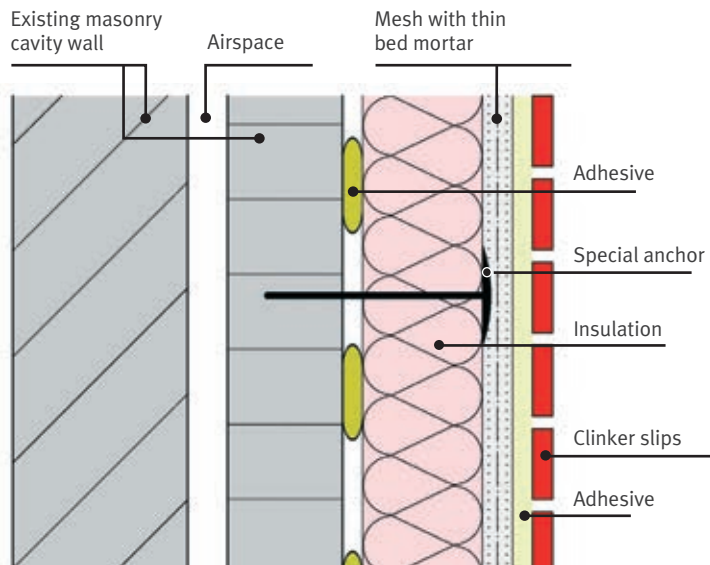
max. insulation thickness: 200 mm  
max. building height: 100 m

### Rigid polystyrene foam

max. insulation thickness: 200 mm  
max. building height: approx. 20 m



## Wall section, functional assembly



## Example of workflow

- 1a. + 1b. Application of adhesive to the insulation panels.
- 2a.+ 2b. Application of insulation panels to the facade.
3. Installation of a reinforcement layer.
4. Fastening of insulation panels with special anchors.
5. Application and smoothing of the second mortar layer.
6. Adhesive application.
7. Application of adhesive to the slip (buttering-floating procedure)
8. Setting the slip in the adhesive.
9. If the adhesive is set and the slip facade is completely dry, grouting can begin. There are two possibilities here:
  - a. Smooth clinker slips can be grouted using a sponging procedure. The excess joint mortar is neatly washed off with a sponge float.
  - b. Classic grouting with dry grouting mortar, jointing iron and hawk. This procedure is suitable for all clinker slips.
10. Standard clinker cleaner should be used for cleaning if the installed areas are contaminated with mortar. In every case, the effectiveness and suitability of this cleaner must be tested on the building in advance. Remmers Klinkerreiniger Combi WR, diluted 1 : 15 has produced good results.



### Important

We recommend that facade renovation is carried out by a specialist company.



### Important

Also pay attention to the manufacturer's processing requirements.

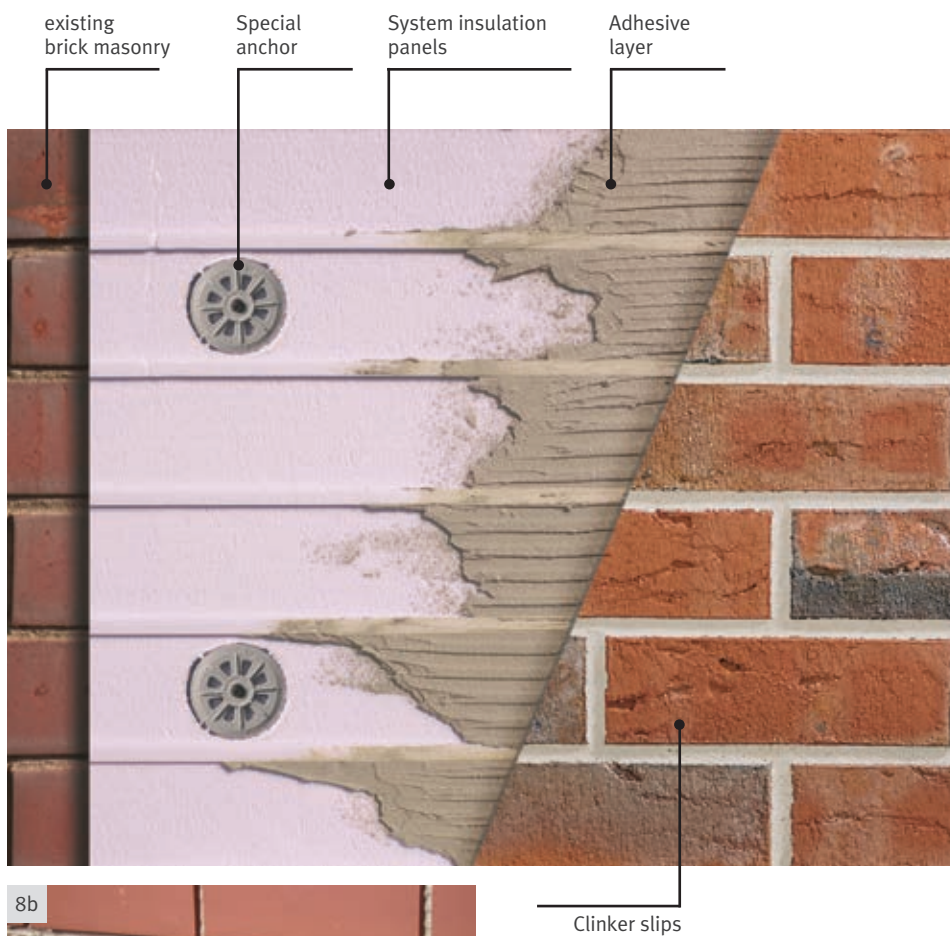
# Thermal insulation and facade modernization in a few steps with the joint alignment system.

## German Institute for Building Technology (DIBt), Berlin

The joint alignment system shown has received approval for:

- a max. insulation thickness: 100 mm
- a max. building height: approx. 20 m





8b

**Important**

We recommend that facade renovation is carried out by a specialist company.

**Example of workflow**

1. Application of adhesive to the insulation panels.
2. Setting insulation panels on the facade.
3. Fastening of insulation panels with special anchors.
4. Adhesive application.
5. Apply adhesive mortar to the clinker slips.
6. Firmly press the clinker slips into the adhesive bed.
7. Install the angle slips.
8. If the adhesive is set and the slip facade is completely dry, grouting can begin. There are two possibilities here:
  - a. Smooth clinker slips can be grouted using a sponging procedure. The excess joint mortar is neatly washed off with a sponge float.
  - b. Classic grouting with dry grouting mortar, jointing iron and hawk. This procedure is suitable for all clinker slips.
9. Standard clinker cleaner should be used for cleaning if the installed areas are contaminated with mortar. In every case, the effectiveness and suitability of this cleaner must be tested on the building in advance. Remmers Klinkerreiniger Combi WR, diluted 1 : 15 has produced good results.

**Important**

Also pay attention to the manufacturer's processing requirements.

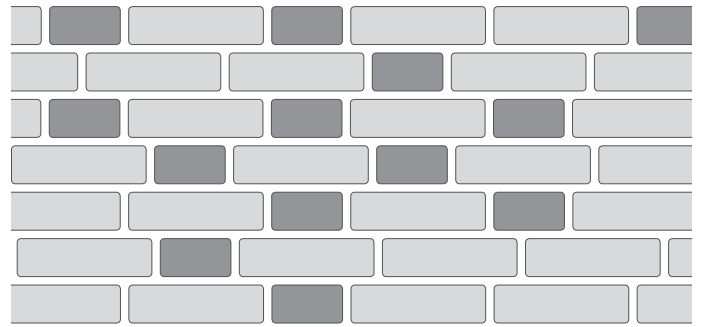
## A beautiful facade is not an accident.

### THE RANDOM BOND IS TYPICAL FOR A TRUE CLINKER FACADE.

In this style of brick laying, stretchers and headers alternate irregularly. The authentic appearance of a brick facade has its origins in monolithic construction. The header bricks ensure bonding of the masonry. This natural brick wall appearance has proven itself up to the present day.

With clinker slips, you are building on the traditional knowledge of good craftsmen, because the arrangement of half bricks in the masonry bond permits a multitude of natural masonry effects. Of course, other masonry bonds are also possible.

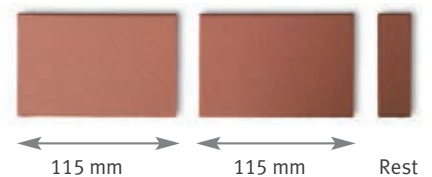
Building corners with angle slips - Buchsbaumweg, Hamburg



The random bond

### Decide on the random bond.

Two headers can easily be cut out of a clinker slip with a tile cutter, a flex or a wet saw.





Building corner with ledge, Buchsbaumweg, Hamburg



building corner with angle slip - 2100 Blankenese dark coloured

**Shaped ledge brick**



**The correct execution of window lintels:**

1. with angle slips
2. with header bricks and angle slips



**Window lintel laid in running bond.**

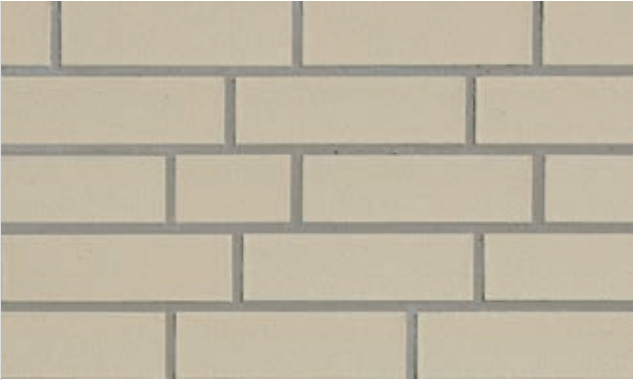
We have developed a special lintel element with drip edge for execution of window lintels in running bond. For DF and NF bonds. The long leg of the angle groups deep into the masonry niche and clads the structural elements.

3. with window lintel angle



## Product overview – ABC ceramic facade in clinker format.

1924/0 Beige smooth



1924/2 Beige grained



1925/0 Grey smooth



1925/2 Grey grained



1927/0 Sandyellow smooth



1927/2 Sandyellow grained



1926/0 Brown smooth



1926/2 Brown grained



1004/0 Natural fired smooth

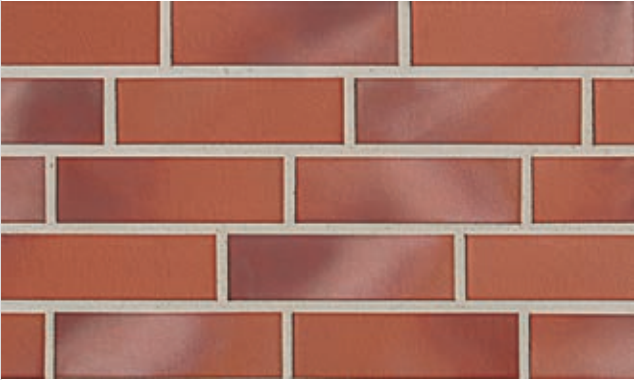




1004/2 natural fired grained



1827/0 Juist smooth



1827/2 Juist grained



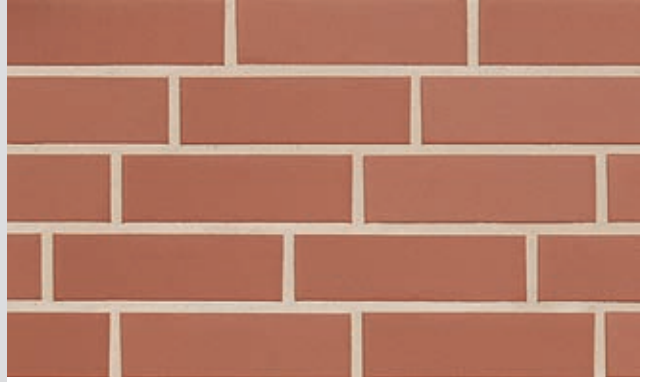
1823/0 Lanzarote smooth



1823/2 Lanzarote grained



1821/0 Malta smooth



1821/2 Malta grained



1822/0 Nordkap smooth



1822/2 Nordkap grained



Bern



1825/0 Borkum smooth



1825/2 Borkum grained



1828/0 Aubergine smooth



1830/0 Texel smooth



1831/0 Dresden smooth



1831/2 Dresden grained

1826/0 Baltrum smooth  
1826/2 Baltrum grained (not shown)

1829/0 silver black



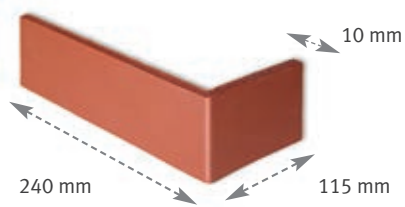
Slate grey texture



Slate coloured texture



## brick slips + angle slip · 10 mm thickness



Nr.	Bezeichnung	Farbe	240 x 52 x 10 mm angle slip		240 x 71 x 10 mm angle slip		240 x 115 x 10 mm angle slip		Base Mineral fibre insulation	Base Rigid polystyrene foam
			DF	DF	NF	NF	2 DF	2 DF		
1828/0	Aubergine / smooth	blue violet flamed	*				*			
1826/0	Baltrum / smooth	blue brown					*			
1826/2	Baltrum / grained	blue brown	*				*			
1924/0	Beige / smooth	beige self coloured								
1924/2	beige / grained	beige self coloured	*				*			
1825/0	Borkum / smooth	red brown flamed								
1825/2	Borkum / grained	red brown flamed	*				*			
1926/0	Brown / smooth	Brown self coloured								
1926/2	Brown / grained	Brown self coloured	*				*			
1925/0	Grey / smooth	Grey self coloured								
1925/2	Grey / grained	Grey self coloured	*				*			
1827/0	Juist / smooth	Red blue coloured flamed					*			
1827/2	Juist / grained	Red blue coloured flamed	*				*			
1823/0	Lanzarote / smooth	yellow flamed								
1823/2	Lanzarote / grained	yellow flamed					*			
1821/0	Malta / smooth	red self coloured								
1821/2	Malta / grained	red self coloured					*			
1004/0	Naturally fired TO / smooth	red black flamed	*				*			
1004/2	Naturally fired TO / grained	red black flamed	*				*			
1822/0	Nordkap / smooth	red coloured								
1822/2	Nordkap / grained	red coloured					*			
1927/0	Sandyellow / smooth	yellow self coloured	*							
1927/2	Sandyellow / grained	yellow self coloured					*			
1829/0	silver black / smooth	black, matte gloss	*				*			
1830/0	Texel / smooth	grey black	*				*			
1831/0	Dresden / smooth	black flamed	*				*			
1831/2	Dresden / texture	black flamed	*				*			
	slate grey texture		*	*			*			
	Slate coloured texture		*	*			*			
	Bern		*	*			*			

\* available upon request

### THE ESSENCE OF THE BRICK FACADE

The brick house has been a high quality building form of lasting value for centuries.

Beautiful brick villas, magnificent city houses from the turn-of-the-century and the incredible diversity of historic brick architecture in North Germany, they are all an impressive document of brick culture - they are witnesses to building history and document the special significance of this building material.

ABC brick slips are produced in the traditional manner in our brick kilns. Their natural character defines the appearance of buildings, unmistakable brick houses in light, thin bricks from fired slate clay.

ABC brick slips are manufactured as split slips in the classic process. Slight edge irregularities, deformations and spalling are deliberate and emphasize the typical clinker character in the completely grouted facade.

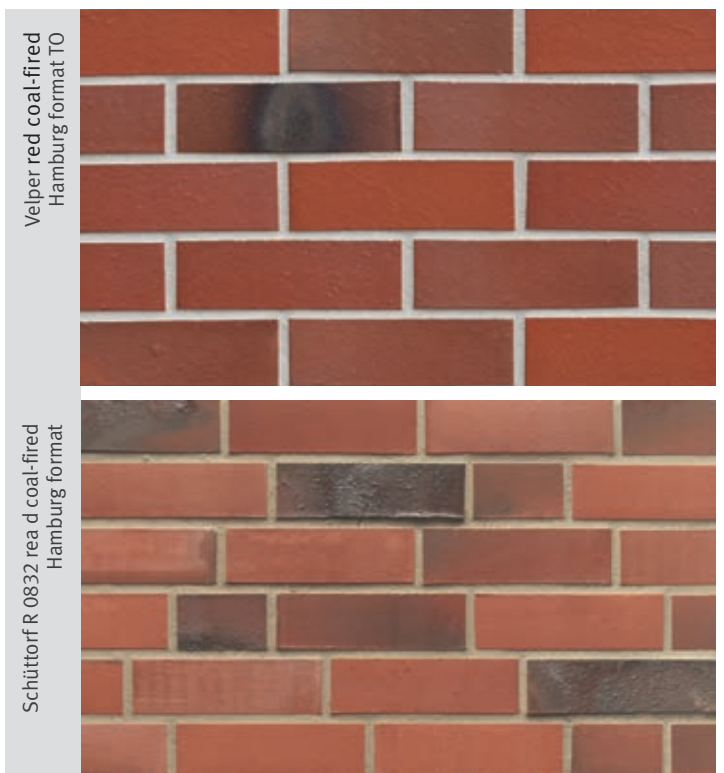
#### Additional ABC clinker and angle slips

in 12 mm and 15 mm thicknesses are available upon request. The 15 mm clinker slips are also available with a dovetailed back side.

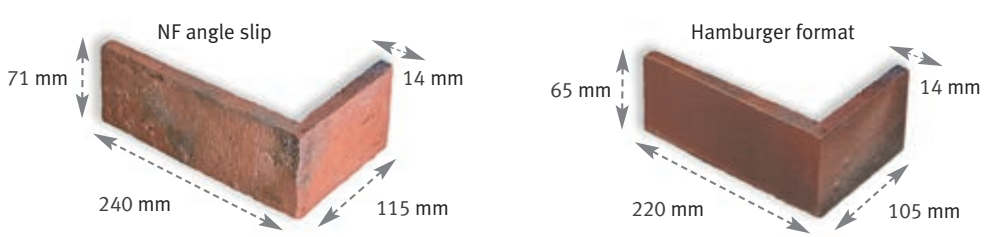


## Product overview – ABC brick slips® 14 mm and 10 mm.

14 mm



### brick slip + angle · 14 mm thickness



No.	Designation and Colour	Surface	NF	NF	HF	HF	base	Mineralfaser - Dämmstoffe	base	Polystyrol - Hartschaum
R 8354	yellow coal-fired	smooth	●						●	
	Velper red coal-fired Hamburg format TO	smooth		●						●
R 0832	Schüttorf red coal-fired Hamburg format	smooth			●					●

NF	240 x 71 x 14 mm	angle slip
HF	220 x 65 x 14 mm	angle slip
base	Mineralfaser - Dämmstoffe	
base	Polystyrol - Hartschaum	

10 mm

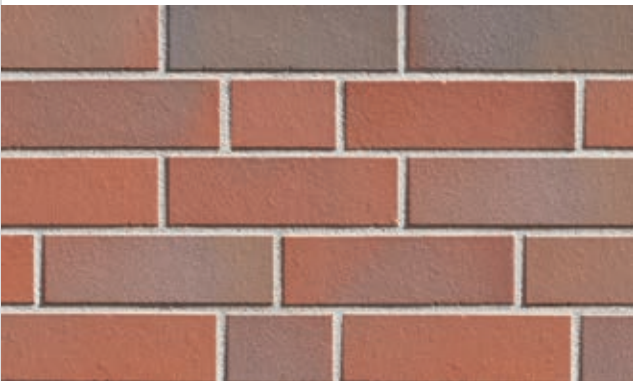
2106 Atlantis



2104 Buxtehude



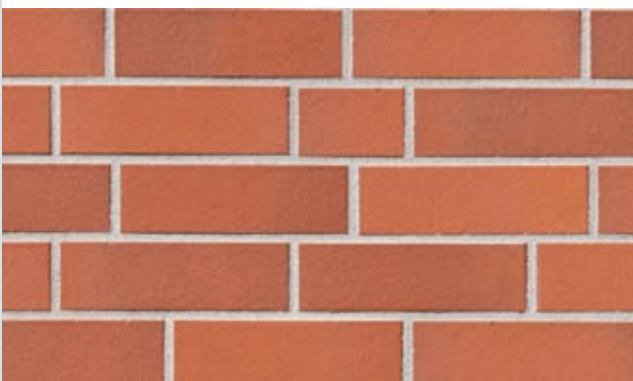
2102 Altona red coloured



2101 Finkenwerder FS red



2101 Finkenwerder red



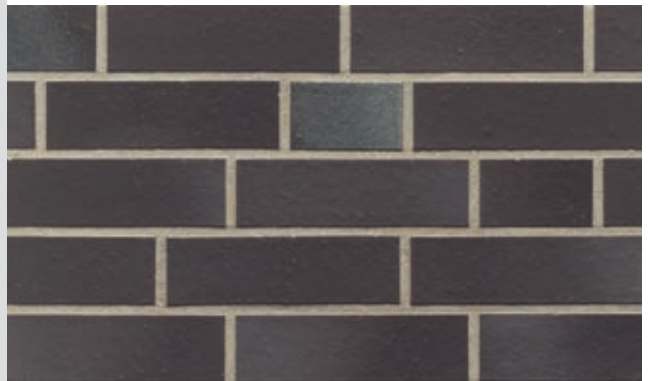
2108 Elmshorn ochre grey



1831/4 Dresden coal



2103 Winterhude black-blue coloured



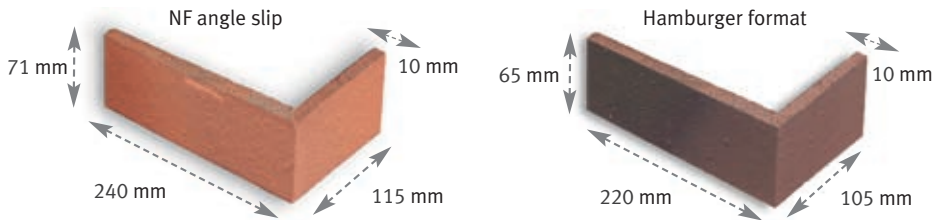
2100 + 2103 Blankenese-Winterhude dark coloured



2100 Blankenese dark coloured



## brick slips + angle slip · 10 mm thickness



Colour no.	Designation and Colour	Surface	NF	DF	HF	OF	base	base
2102	Altona red coloured	raw brick	●	*	*	*	●	●
2100	Blankenese dark coloured	raw brick	●	*	*	*	●	●
2101	Finkenwerder red	raw brick	●	*	*	*	●	●
2103	Winterhude black blue coloured	raw brick	●	*	*	*	●	●
2104	Buxtehude red brown coloured	raw brick	●	*	*	*	●	●
2106	Atlantis grey coloured	raw brick	●	*	*	*	●	●
2108	Elmshorn ochre grey	raw brick	*	*	*	*	●	●
1831/4	Dresden / coal black flamed	raw brick	●	*	*	*	*	●
* available upon request								

2106 Atlantis



## ABC ceramic facade in the living room.

### INTERIOR DESIGN

ABC ceramic facades offer a real alternative to brick patterned, artificial stone panels in interiors. A true brick wall can be achieved with an added thickness of as little as 16-20 mm.

The authentic character of brick slips is immediately impressive. They shape the space and create a comfortable, natural ambience in living rooms, restaurants and businesses. A decorative option that interior designers also know how to use. Lasting protection of interior walls must be achieved with every element of the ceramic facade. This offers numerous design options for schools, staircases and corridors (with graffiti protection).

The ABC colour and form programme enables implementation of diverse, creative concepts.

No individual approval for use in interior spaces is required for long formats greater than 490 mm and max. 665 mm.

2100 Blankenese dark coloured



## ABC ceramic facade Water-struck.

ABC water-struck are coarse ceramic products formed from natural raw materials such as regular and slate clay and fired in the clinker kiln at temperatures between 1,000-1,100°C. Through the addition of water in a mechanical striking process, the completed slips become soft and malleable. With its typical, natural face, the surface impression corresponds to a water or hand-struck brick.



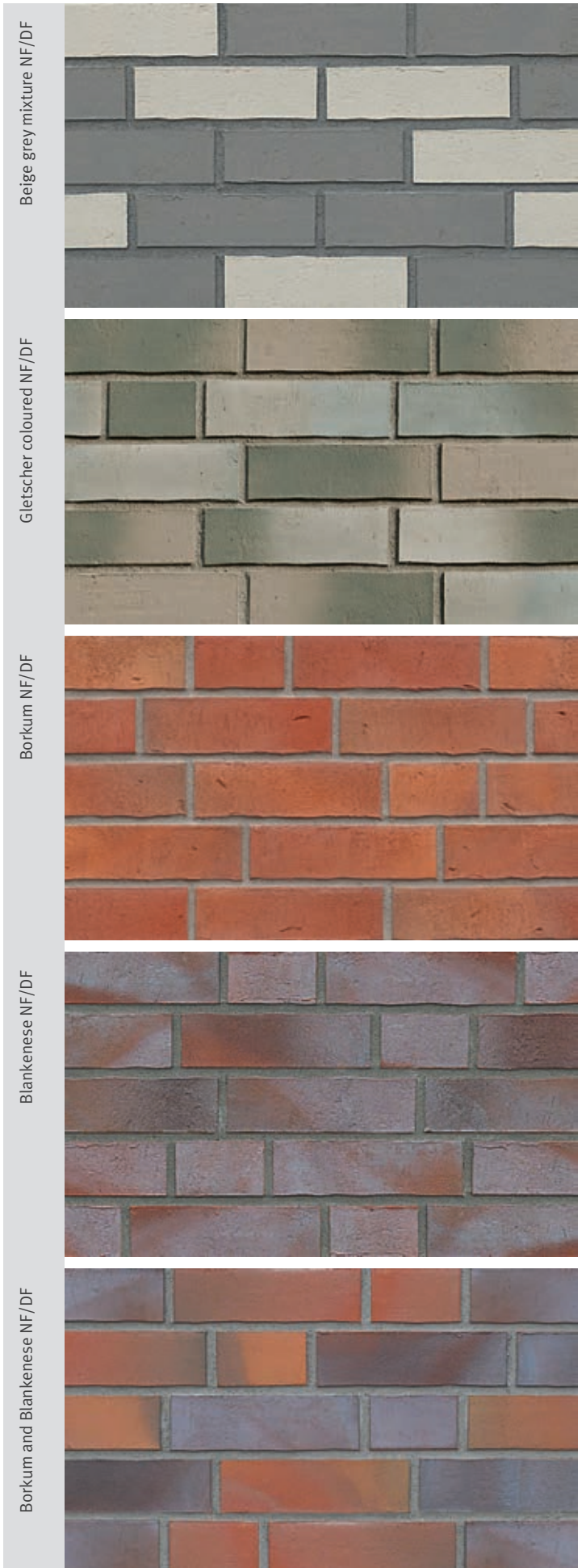
Skagen with slate texture

Skagen with slate texture and coal





# Product overview – water-struck



# Brick slips in ABC long format®.

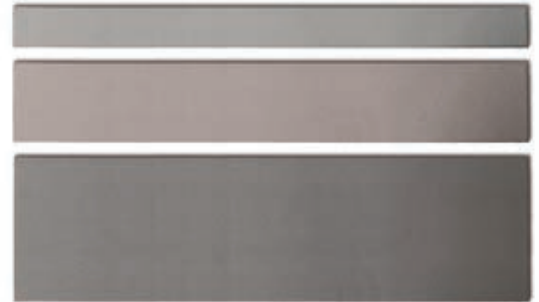
**Basic format**  
365 mm length  
Application in grid dimension:  
115 – 240 – 365 mm



**Basic format**  
490 mm length  
Application in grid dimension:  
115 – 240 – 365 – 490 mm



**Special format \***  
600 mm length



\* An individual approval for use in  
outdoor areas is required for  
lengths over 490 mm!

Atlantis, Long format 365 mm, in random masonry bond



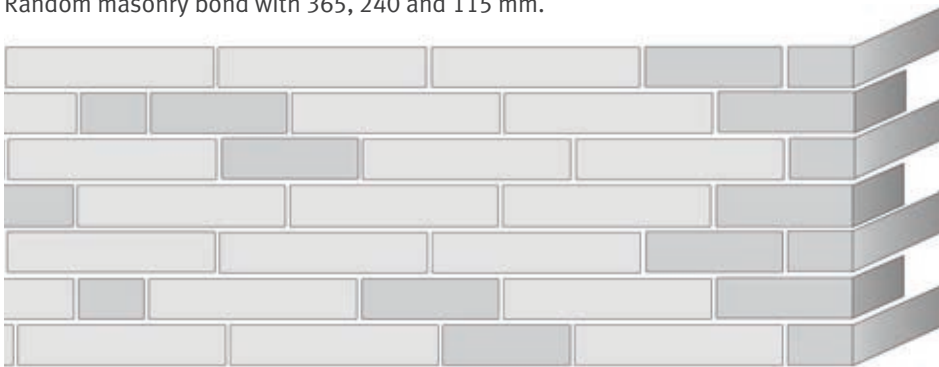
### Long format building corners with angles

The basic format corners (365 mm length) are optimally designed with an angle of 240 x 115 mm. In the random masonry bond, stretchers and headers alternate irregularly.

## Masonry pattern in ABC long format®.

Layout example:

Random masonry bond with 365, 240 and 115 mm.



#### ABC long format® in random bond

Length	Percentage distribution in terms of area	DF pcs/m <sup>2</sup>	NF pcs/m <sup>2</sup>
365 mm	70%	30	19
240 mm	20%	12	10
115 mm *	10%	12	9

\* cut from 240 mm slip on site

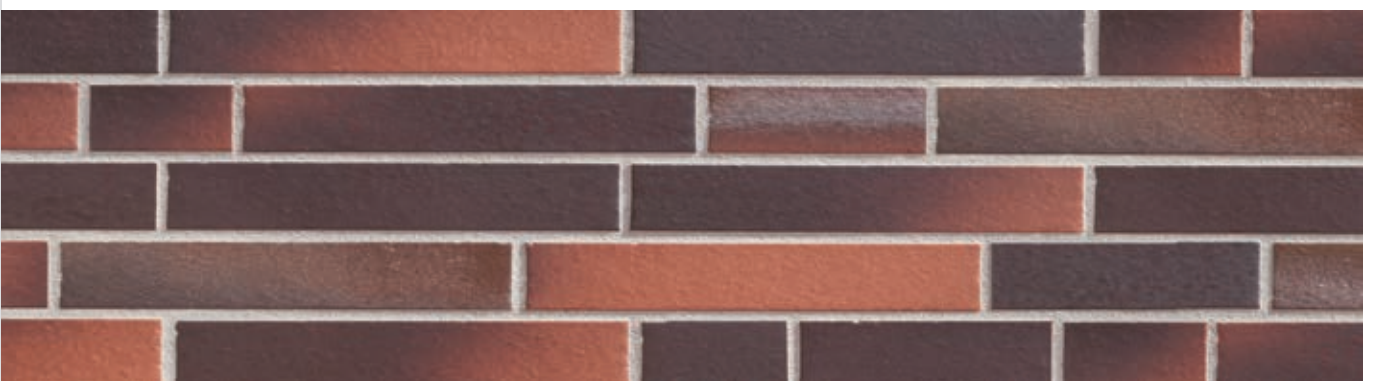
### Long format

- Long format in classic masonry pattern with lengths of 365 mm, 240 mm, 115 mm\*.
- Long format in 490 mm-grid (pcs per m<sup>2</sup>)  
DF = 32 pcs/m<sup>2</sup> - NF = 24 pcs/m<sup>2</sup> - 2DF = 18 pcs/m<sup>2</sup>
- An individual approval is necessary for long formats of more than 490 mm length to a max. of 600 mm length on ETIC systems.  
Not required when used **in interiors spaces**.

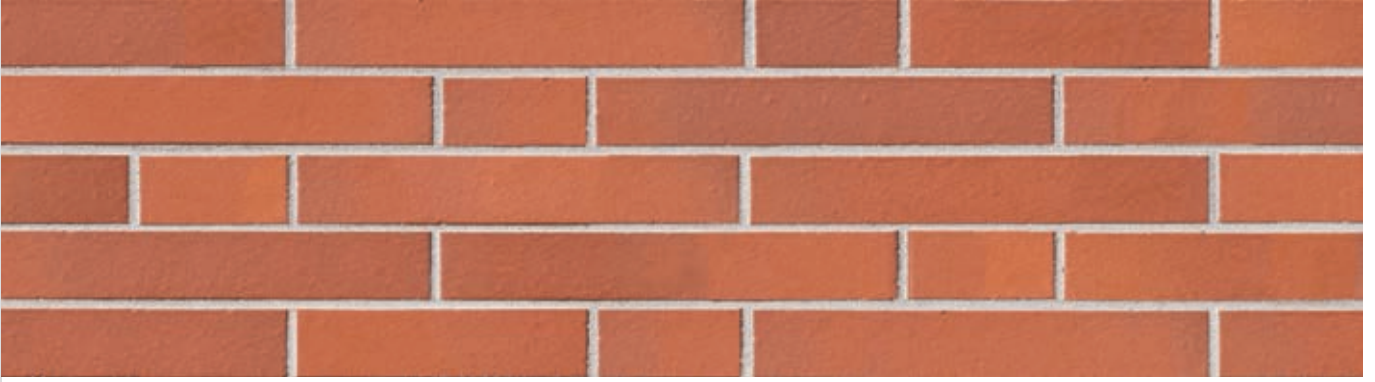
Product overview –  
Brick slips in  
ABC long format<sup>®</sup>  
10 - 13,5 mm.

Atlantis, Long format 365 mm, in random masonry bond

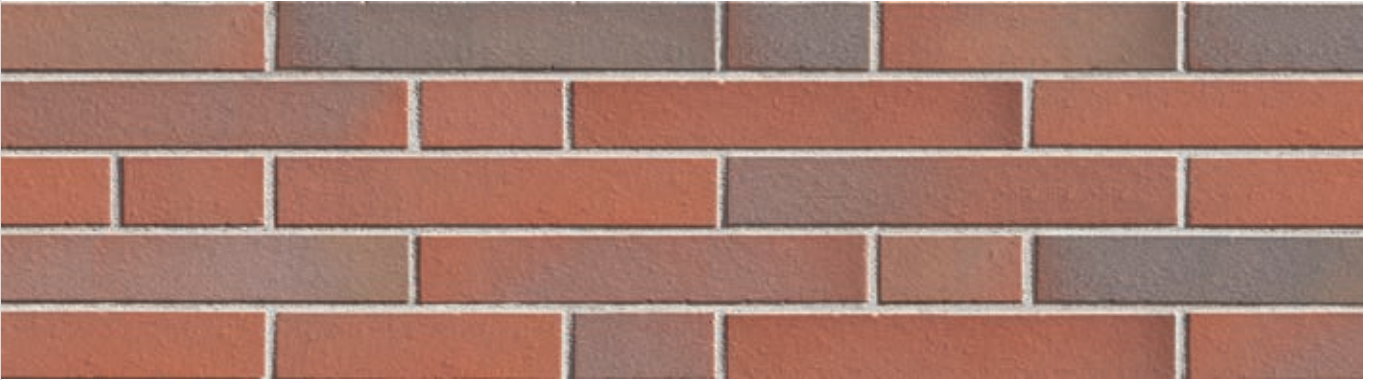


2106-L Atlantis long format  
DF 365 mm1830-L Texel smooth long format  
DF 365 mm2878-L Amrum seashell white smooth  
long format DF 365 mm2108-L Elmsborn ochre grey  
long format DF 365 mm2104-L Buxtehude long format  
DF 365 mm

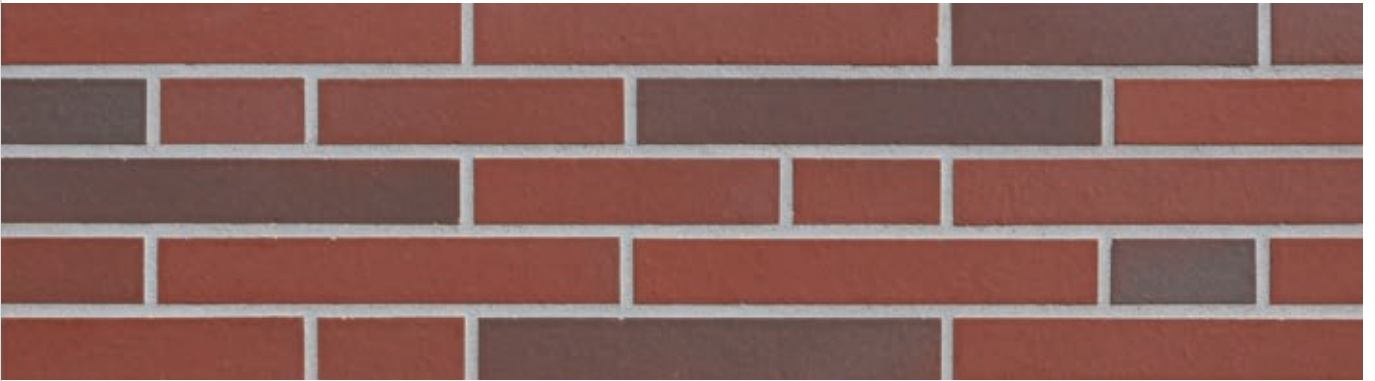
2101-L Finkenwerder long format  
DF 365 mm



2102-L Altona red coloured  
long format DF 365 mm



2107-L Teuto red coloured  
long format DF 365 mm



2100-L Blankenese dark coloured  
long format DF 365 mm



2100-L/2103-L Blankenese-Winterhude  
dark coloured long format DF 365 mm



2103-L Winterhude long format  
DF 365 mm

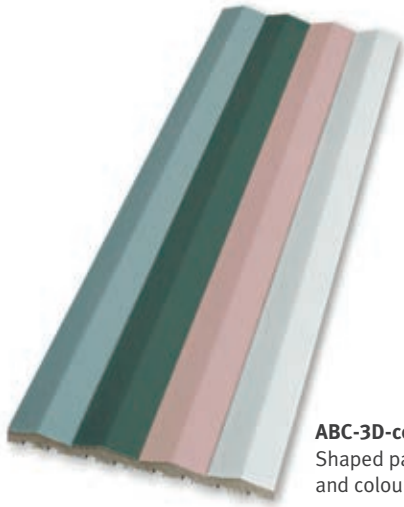
### ABC long format brick slips • 10 mm thickness

Also available in 13.5 mm thickness upon request.

Colour no.	Designation and colour	Surface	365 x 71 x 10 mm		365 x 52 x 10 mm	
			NF	DF	base	base
2106-L	Atlantis • long format	smooth	●	*	●	●
1830-L	Texel smooth • long format	smooth	●	*		●
2108-L	Elmshorn ochre grey • long format	smooth	●	*	●	●
2104-L	Buxtehude • long format	raw brick	●	*	●	●
2102-L	Altona red coloured • Long format	raw brick	●	*	●	●
2100-L	Blankenese dark coloured • long format	raw brick	●	*	●	●
2101-L	Finkenwerder red • long format	raw brick	●	*	●	●
2103-L	Winterhude black-blue coloured • long format	raw brick	●	*	●	●
2104-L	Buxtehude red brown coloured • long format	raw brick	●	*	●	●
2106-L	Atlantis grey coloured • long format	raw brick	●	*	●	●
2107-L	Teuto red coloured • long format	raw brick	●	*	●	●
2100-L / 2103-L	Blankenese-Winterhude • long format	raw brick	●	*	●	●
2110-L	Othmarschen grey coloured • long format	raw brick	●	*	●	●
2878-L	Amrum seashell white • long format	raw brick	●	*	●	●

\* auf Anfrage lieferbar

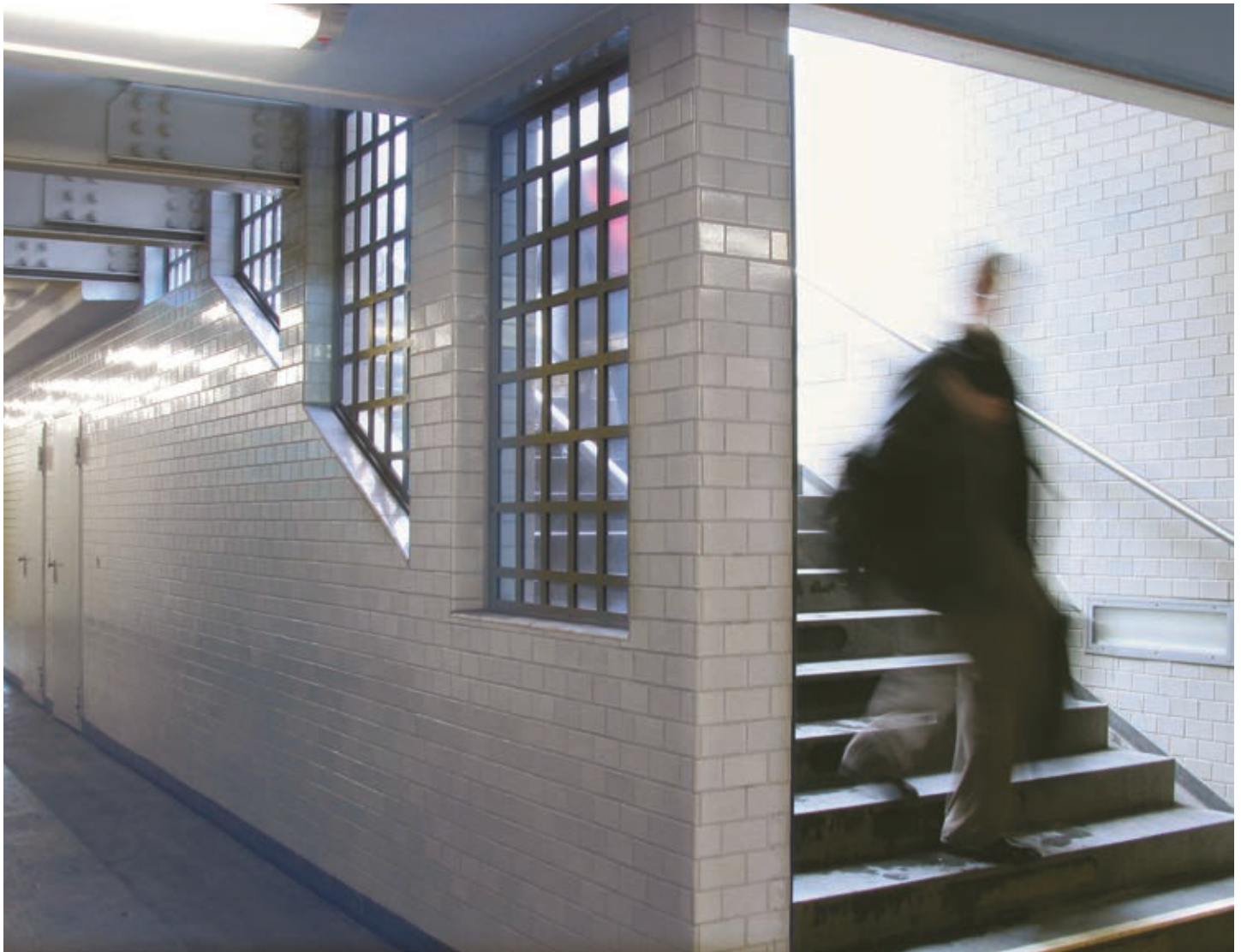
## Glazed ABC ceramic facade.



**ABC-3D-ceramic**  
Shaped parts to architectural  
and colour specifications



Glazed ABC ceramic facade, "Mitte" underground station / restoration and historic preservation, Berlin underground stations





E-Werk Berlin



Restoration and historic preservation, Berlin underground stations



360 fern green, Wilhelm-Busch school, Glinde/Hamburg

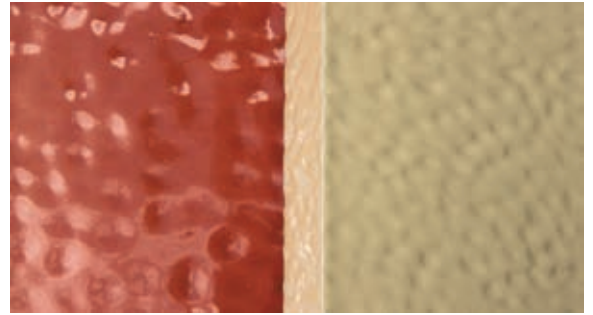


Special colour and formats, Swiss project



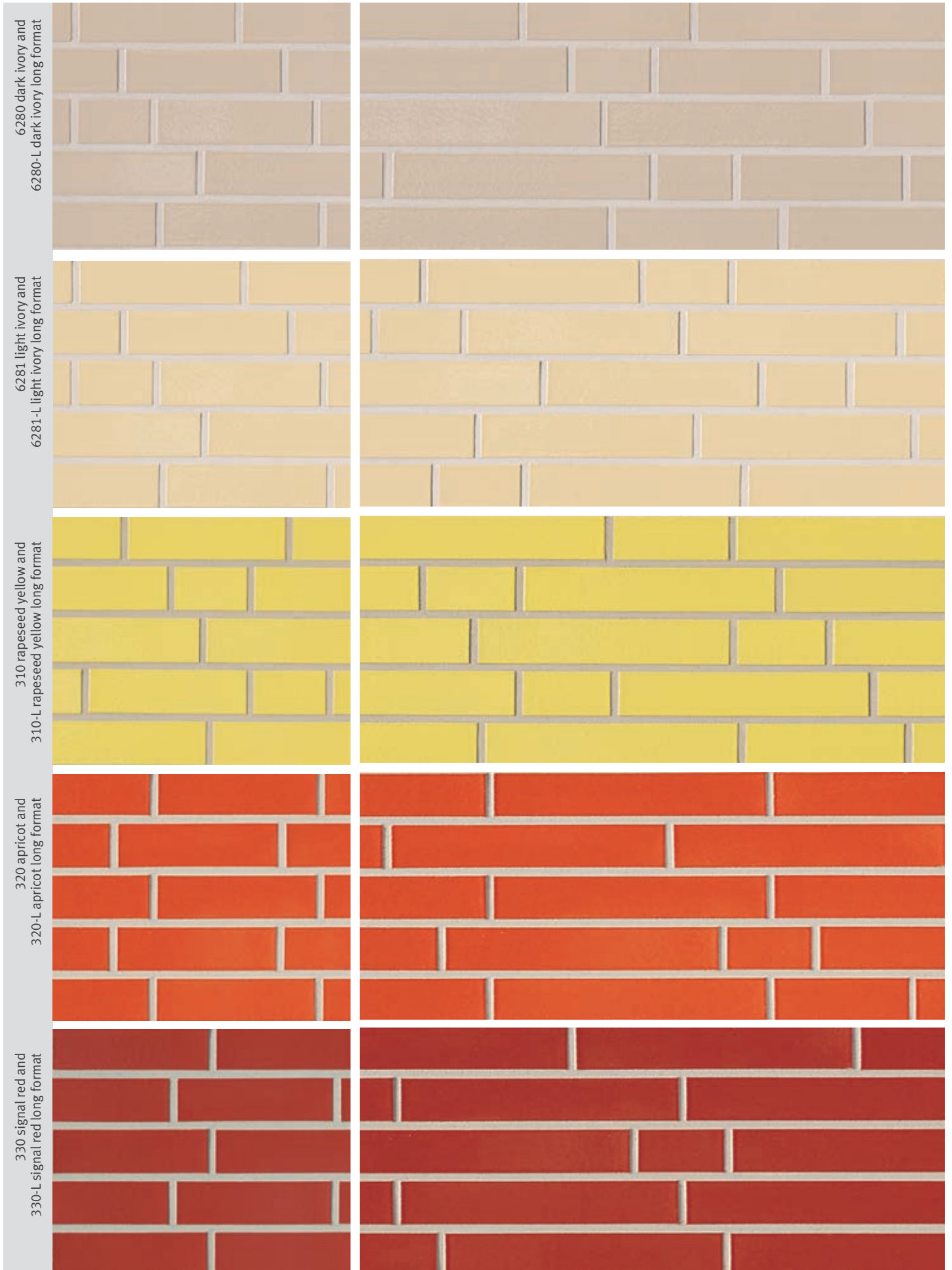
## Product Overview – glazed ceramic facade.

Individual object colors with selected surfaces are available by default and in coordination with the planners for special architectural projects. The pictured colors are available in a short time.



textured surface, high gloss





370 chestnut brown and  
370-L chestnut brown long format



360 fern green and  
360-L fern green long format



400-L apple green long format



350 navy blue and  
350-L navy blue long format



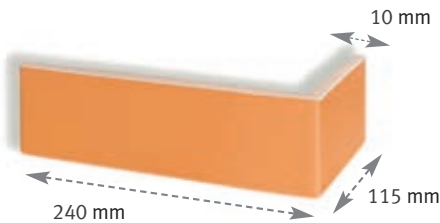
#### Glazes and variable formats

to individual specifications for distinctive architecture are available by arrangement.

360 green, Wilhelm-Busch school, Glinde/Hamburg



Glazed clinker and angle slips · 10 mm thickness



Colour no.	Designation	Colour	240 x 52 x 10 mm angle slips		240 x 71 x 10 mm angle slips		Base Mineral fibre insulation	Base Rigid polystyrene foam
			DF	DF	NF	NF		
300	Astral white / smooth	white self-coloured gloss	*		●		●	
310	Rapeseed yellow / smooth	yellow self-coloured gloss	*		●		●	
320	Apricot / smooth	orange self-coloured gloss	*		●		●	
330	Signal red / smooth	red self-coloured gloss	*		●		●	
340	Frisian blue / smooth	light blue self-coloured gloss	*		●		●	
350	Navy blue / smooth	dark blue self-coloured gloss	*		●		●	
360	Fern green / smooth	green self-coloured gloss	*		●		●	
370	Chestnut brown / smooth	brown self-coloured gloss	*		●		●	
380	Icelandic grey / smooth	dark grey self-coloured gloss	*		●		●	
390	Deep black / smooth	black self-coloured gloss	*		●		●	
400	Apple green / smooth	light green self-coloured gloss	*		●		●	
6281	Ivory / light	light yellow self-coloured gloss	*		●		●	
6280	Ivory / dark	light ochre self-coloured gloss	*		●		●	
6270	Greenland / smooth	light grey self-coloured gloss	*		●		●	

\* available upon request

12 mm thick, **glazed ABC clinker and angle slips** always have a **thin-bed back side**. The 13.5 mm clinker slips are available with a **dovetail back side**. Glazed clinker slips for use on **mineral fibre insulation** are available upon request.

## ABC ceramic facade Creativa.



1208 Kitzbühel

1660/0 Cordoba smooth



# Product overview – Creativa.

1207 Salzburg



1309 White textured



1659/2 Kesch textured



1659/0 Kesch smooth



1208 Kitzbühel



1308 Red coloured textured sanded



1307 Red coloured textured



Mixed colour



1666/0 Tasna smooth



1666/2 Tasna textured



2001 Granite grey



1701 Sandstone



1702 Copper



1704 Bronze



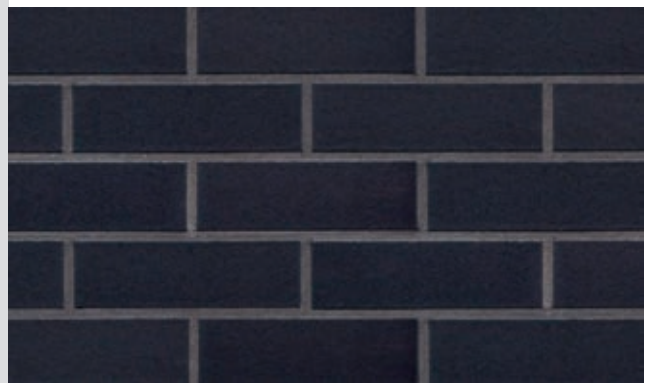
2003 Granite red



1707 Manganese



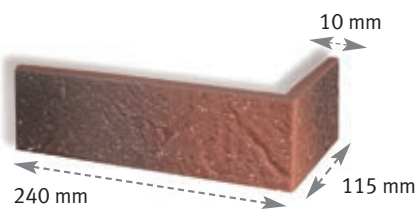
1005 Black glazed

Blankenese rustic  
(rustic texture can be produced in all colours)



1666/0 Tasna smooth long format  
and 6290/L Light grey

## Creativa glazed clinker and angle slips · 10 mm thickness



Colour no.	Designation	DF 240 x 52 Angle slip	NF 240 x 71 Angle slip	2 DF 240 x 115 angle slips	Base Mineral fibre insulation	Base Rigid polystyrene foam
1207	Salzburg	*	●	*	●	●
1208	Kitzbühel	*	●	*	●	●
1307	Red coloured textured	●	●			●
1308	Red coloured textured sanded	*	●			●
1309	White textured	*	●	*	●	●
1659/0	Kesch smooth	●	*	*	●	●
1659/2	Kesch textured	●	*	*	●	●
1666/0	Tasna smooth	●	●	*	●	●
1666/2	Tasna textured	●	●	*	●	●
1701	Sandstone	*	●	*	●	●
1702	Copper	*	●	*	●	●
1704	Bronze	*	●	*	●	●
1707	Manganese	*	●	*	●	●
2001	Granite grey	*	●	*	●	●
2003	Granite red	*	●		●	●
1005	Black glazed	*	●	*	●	●
	Blankenese rustic (rustic texture can be produced in all colours)	*	●	*	●	●

\* available upon request

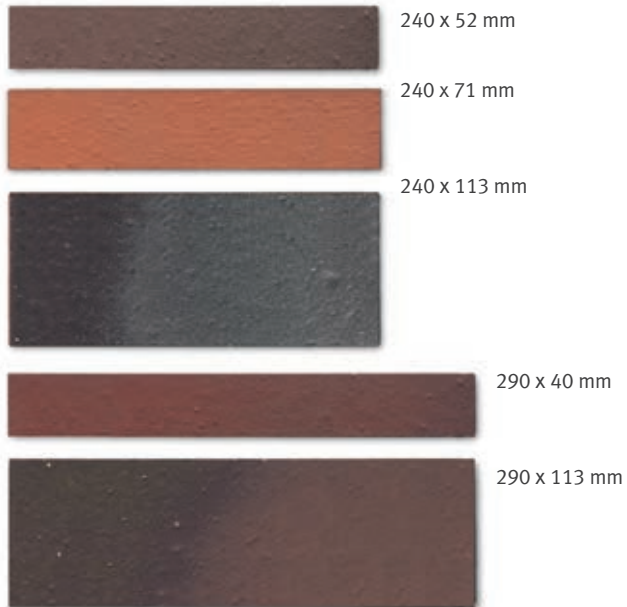
## ABC ceramic facade mixed formats.

Mixed long formats • light and medium grey matte surface, dark grey gloss

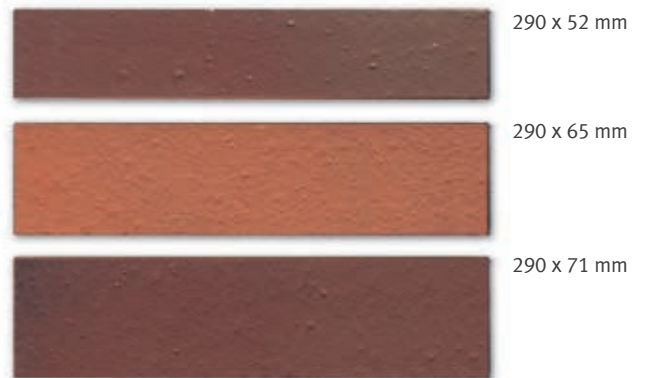


## Size overview ceramic facade and brick slips.

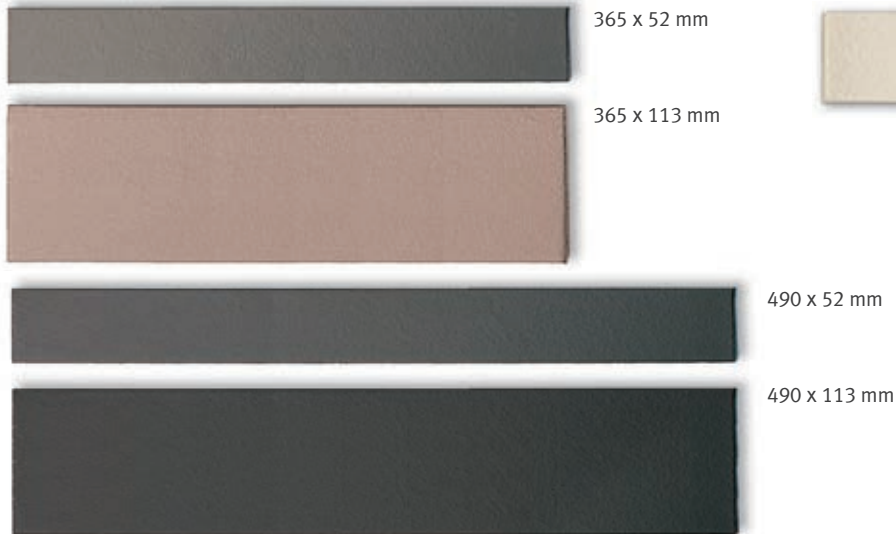
### Brick slips



### Brick slips



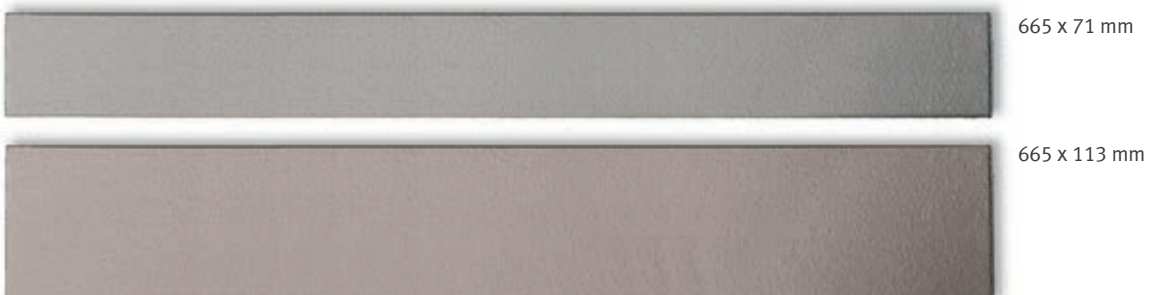
### Ceramic facade long format



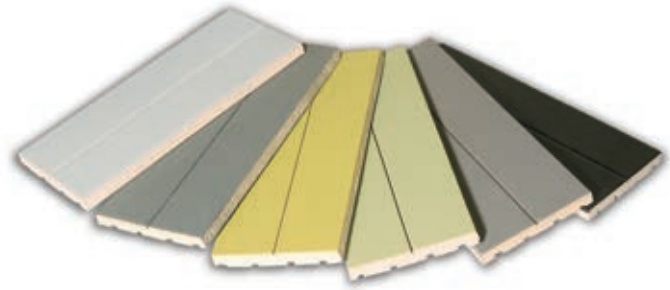
### Quarter stone format



### Special ceramic facade formats



## Package and delivery data - ABC ceramic facades.



### Packing data · 13.5 mm + 15 mm thickness

Packing data	Slips 239/50/13.5	Slips 239/50/13.5	Slips 239/69/15	Corner slips 239/112/69/15	Slips 239/69/13.5	Slips 365/52/10
pcs / sq. m / vert. m	64 pcs/sq. m	64 pcs/sq. m	48 pcs/sq. m	12 pcs/vert. m	48 pcs/sq. m	42 pcs/sq. m
kg / sq. m / pc	21 kg/sq. m	24 kg/sq. m	24 kg/sq. m	0,72 kg/pcs	21,5 kg/sq. m	18 kg/sq. m
pcs/package	36 pcs/package	30 pcs/package	34 pcs/package	7 pcs/package	36 pcs/package	34 pcs/package
sq. m / package	0,56 sq. m/pack.	0,46875 sq. m/pack.	0,708 sq. m/pack.		0,75 sq. m/pack.	0,8 sq. m/pack.
sq. m / pallet	40,32 sq. m/pal.	33,75 sq. m/pal.	42,48 sq. m/pal.		45 sq. m/pal.	62,4 sq. m/pal.
pcs / pallet	2592 pcs/pal.	2160 pcs/pal.	2040 pcs/pal.	840 pcs/pal.	2160 pcs/pal.	2652 pcs/pal.
packages / pallet	72 packages/Pal	72 packages/pal.	60 packages/pal.	120 packages/pal.	60 packages/pal.	78 packages/pal.
kg / pallet	847 kg/pal.	810 kg/pal.	1020 kg/pal.	605 kg/pal.	968 kg/pal.	1123 kg/pal.

Slips are manufactured in pairs. They must be separated on site.

### Packing data · slips DF + NF

Slips Packing data	Slips DF	Slips DF 240/52/8	Corner slips DF 240/52/10	Slips DF 240/115/52/10	Corner slips DF 240/52/14	Slips NF 240/115/52/14	Slips NF 240/71/7	240/71/8
pcs / sq. m / vert. m	64 pcs/sq. m	64 pcs/sq. m	16 pcs/sq. m	64 pcs/sq. m	16 pc/vert. m	48 pcs/sq. m	48 kg / sq. m / pc	
kg / sq. m / pc	15 kg/sq. m	17 kg/sq. m	0,5 kg/ pc	25 kg/sq. m	0,5 kg/ pc	14,05 kg/sq. m	14 kg/sq. m	
pcs/package	60 pcs/package	48 pcs/package	10 pcs/package	30 pcs/package	8 pcs/package	68 pcs/package	60 pcs/package	
sq. m / package	0,938 sq. m/pack.	0,75 sq. m/pack.		0,47 sq. m/pack.		1,417 sq. m/pack.	1,25 sq. m/pack.	
sq. m / pallet	67,536 sq. m/pal.	54 sq. m/pal.		33,84 sq. m/pal.		85,02 qm/Palette	75 sq. m/pal.	
pcs / pallet	4320 pcs/pal.	3456 pcs/pal.	1200 pcs/pal.	2160 pcs/pal.	768 pcs/pal.	4080 pcs/pal.	3600 pcs/pal.	
packages / pallet	72 packages/pal.	72 packages/pal..	120 packages/pal..	72 packages/pal..	96 packages/pal..	60 packages/pal..	60 packages/pal..	
kg / pallet	1013 kg/pal.	918 kg/pal.	600 kg/pal.	846 kg/pal.	384 kg/pal.	1195 kg/pal.	1050 kg/pal.	

Slips are manufactured in pairs. They must be separated on site.

### Verpackungsdaten · Riemchen NF + 2DF + HF

Riemchen Verpackungsdaten	Riemchen NF 240/71/10	Eckriemchen NF 240/115/71/10	Riemchen 2DF 240/115/10	Eckriemchen 2DF 240/115/113/10	Riemchen HF 220/65/14	Eckriemchen HF 220/105/65/14	Riemchen NF 240/71/14	Eckriemchen NF 240/115/71/14
pcs / sq. m / vert. m	48 pcs/sq. m	12 pcs/vert. m	33 pcs/sq. m	8 pcs/vert. m	56 pcs/sq. m	13 pcs/vert. m	48 kg/sq. m/pc	12 pcs/vert. m
kg / sq. m / pc	18,5 kg/sq. m	0,6 kg/pcs	20 kg/sq. m	1,1 kg/sq. m	26 kg/sq. m	0,9 kg/pcs	29,4 kg/sq. m	0,9 kg/pcs
pcs/package	48 pcs/pack.	10 pcs/pack.	24 pcs/pack.	20 pcs/pack.	24 pcs/pack.	8 pcs/pack.	24 pcs/pack.	8 pcs/pack.
sq. m / package	1 sq. m/pack.	–	0,727 sq. m/pack.	–	0,4286 sq. m/pack.	–	0,5 sq. m/pack.	–
qm / pallet	60 sq. m/pal.	–	52,344 sq. m/pal.	–	32,145 sq. m/pal.	–	37,5 sq. m/pal.	–
pcs / pallet	2880 pcs/pal.	1200 pcs/pal.	1728 pcs/pal.	720 pcs/pal.	1800 pcs/Pal	768 pcs/pal.	1800 pcs/pal.	768 pcs/pal.
packages / pallet	60 Pakete/Pal	120 pack./pal.	72 pack./pal.	36 pack./pal.	75 pack./pal.	96 pack./pal.	75 pack./pal.	96 pack./pal.
kg / pallet	1110 kg/pal.	720 kg/pal.	1047 kg/pal.	792 kg/pal.	836 kg/pal.	691 kg/pal.	1103 kg/pal.	691 kg/pal.

Slips are manufactured in pairs. They must be separated on site.

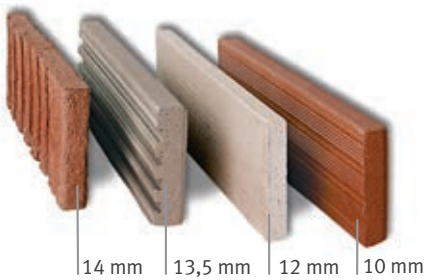
# Specifications.



## Mortar contamination

Standard clinker cleaner must be used for cleaning mortar contamination from installed areas. In every case, the effectiveness and suitability of this cleaner must be tested on the building in advance.

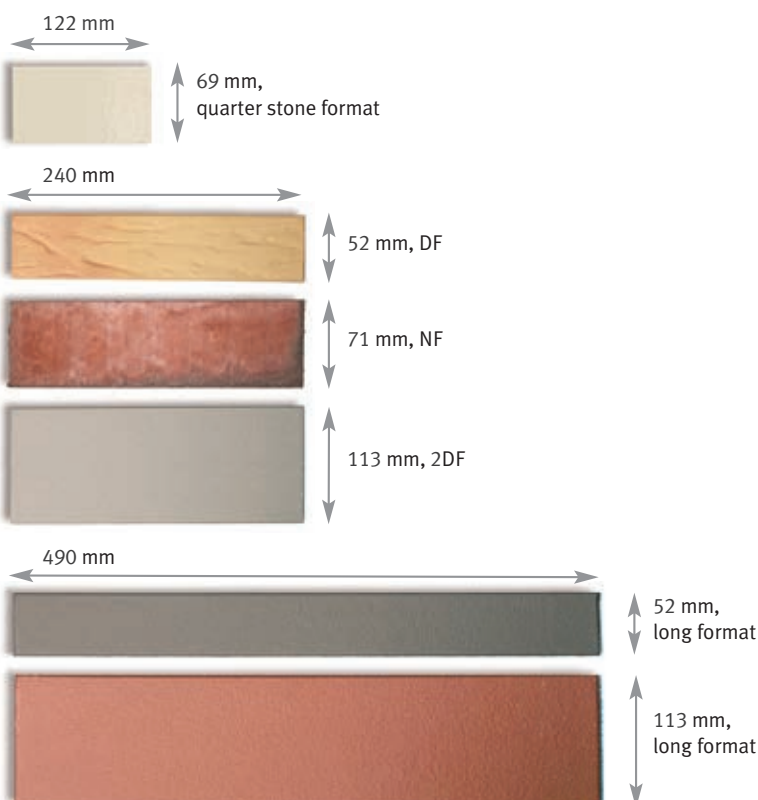
**We recommend:** Remmers-Klinkerreiniger Combi WR, diluted 1 : 15.



## Material thicknesses

ABC clinker and angle slips are available in 10 mm, 12 mm, 13.5 mm and 14 mm thicknesses.

## Formats



## Requirements for ceramic facade on external thermal insulation composite systems.

### Proven by test certificates:

**ABC ceramic clinker slips comply with building regulation specifications.**

1. DIN EN 771-1/May 2011, Part 1 regulates:

- frost resistance
- and additional properties

2. According to DIN 18515, Part 1

for exterior wall claddings, the following apply:

Section 1, area of application, rules:

- slip area  $\leq 0.12 \text{ m}^2$
- Slip side length  $\leq 0.49 \text{ m}$
- Slip thickness  $\leq 15 \text{ mm}$

Section 4.3, building materials, rules:

- a maximum pore radius over  $0.2 \mu\text{m}$  ( $2 \times 10^{-4}$ )
- an adhesion layer pore volume of at least  $20 \text{ mm}^3/\text{g}$

3. According to specifications of the

German Institute of Building Technology (DIBt), Berlin, the following apply:

- maximum water absorption of 3%, with mineral fibre insulation
- maximum water absorption of 6%, with rigid polystyrene foam insulation panels

### Clinker slip requirement

The stated clinker slip quantities per  $\text{m}^2$  include joints (12 mm).

- quarter brick format
 

122 x 69 mm	96 pieces pro $\text{m}^2$
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- DF
 

240 x 52 mm	64 pieces pro $\text{m}^2$
-------------	----------------------------
- NF
 

240 x 71 mm	48 pieces pro $\text{m}^2$
-------------	----------------------------
- 2DF
 

240 x 113 mm	33 pieces pro $\text{m}^2$
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- long format
 

365 x 52 mm	43 pieces pro $\text{m}^2$
-------------	----------------------------
- long format
 

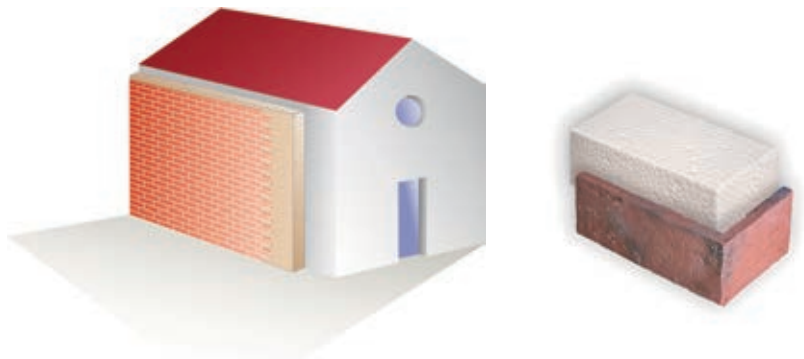
490 x 52 mm	32 pieces pro $\text{m}^2$
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## Warm a wrapping saves heating costs.

### FROM OLD BUILDING TO ENERGY-SAVING PROPERTY.

#### Example: Residential building built in 1950

Uninsulated exterior walls compared with exterior walls with 12 cm of thermal insulation



Energy consumption with uninsulated exterior walls	295 kWh/m <sup>2</sup>
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Energy consumption with insulated exterior walls, 12 cm	210 kWh/m <sup>2</sup>
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Energy savings	approx. 30%
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Thermal insulation of the exterior walls significantly lowers consumption of heating energy.

In the residential building example, built in 1950, the annual heating energy consumption is reduced from 295 kWh/m<sup>2</sup> to 210 kWh/m<sup>2</sup>.

The potential energy savings with insulated exterior walls (12 cm) is approx. 30 percent.

With every additional energy-saving measure, such as installation of thermally insulated windows and roof insulation, the savings impact increases.

In addition to the significant energy savings of approx. 30 percent in the residential example with 120 m<sup>2</sup> of living area, the annual output of environmentally harmful CO<sup>2</sup> is reduced by approx. 71 kg/m<sup>2</sup>. You can find more information about thermal insulation composite systems (ETIC systems) at: [www.heizkosten-einsparen.de](http://www.heizkosten-einsparen.de)



## Helpful building renovation partners.

### **An energy expert can lead you safely through the thermal jungle.**

Make the correct energy-saving decisions - nowadays, an expert is indispensable.

Advice can be obtained from architects, engineers, insulation experts and energy consultants. The district and municipal administrations and environmental offices in your region have lists of local energy consultants and will be happy to provide information.

You can also find a list of insulation experts online. [www.energie-effizienz-experten.de/expertensuche/](http://www.energie-effizienz-experten.de/expertensuche/)

## **THE STATE PROMOTES THERMAL INSULATION OF EXTERIOR WALLS**

### **Energy savings consultation**

The federal government promotes energy consultation for residential buildings in accordance with the Federal Ministry for Economic Affairs and Energy directive concerning promotion of on-site energy consultation for residential buildings - On-site consultation - dated 29/10/2014 (German Federal Gazette BAnz AT 12/11/2014). Energy-oriented renovation of residential buildings plays a key role in the success of the energy system transformation. The objective of the support is to trigger private investments that lower energy consumption in residential buildings and reduce environmental pollution, especially CO<sub>2</sub> emissions. This supports the energy policy goal of a largely climate-neutral building stock in 2050.

### **Experts**

Get advice from an expert. You will need one anyway, if you apply for a grant from the KfW. This also applies to individual measures such as exterior wall insulation. We also recommend that you consult an expert for qualified construction monitoring, which can also be subsidized.

### **Energy certificate for buildings**

Like a wanted poster, the energy certificate documents the energy standard of the building. The owner must present an energy certificate when renting or selling an apartment or house. Potential buyers or tenants are thus informed about the anticipated amount of energy costs, which represent an ever-increasing percentage of housing

costs in unrenovated buildings. Non-residential buildings (such as offices, administrative buildings, commercial or shopping centres) require a so-called "energy certificate for non-residential buildings".

### **Funding programmes for energy oriented renovation**

There are numerous federal and regional funding programmes. They should be scrutinised, based on the latest information, because they change very quickly. References to important current federal funding programs are listed below:

#### **Energy-efficient renovation - 151/152 loan**

For renovation to KfW efficient house standard or individual energy oriented measures

[www.kfw.de/inlandsfoerderung/Öffentliche-Einrichtungen/Wohnwirtschaft/Finanzierungsangebote/Energieeffizient-Sanieren-Kredit-\(151-152\)/](http://www.kfw.de/inlandsfoerderung/Öffentliche-Einrichtungen/Wohnwirtschaft/Finanzierungsangebote/Energieeffizient-Sanieren-Kredit-(151-152)/)

#### **IKK - Energy oriented city renovation - Energy efficient renovations for municipalities that renovate buildings**

[www.kfw.de/inlandsfoerderung/Partner-der-KfW/Kommunen/Relevante-Förderprodukte/218.html](http://www.kfw.de/inlandsfoerderung/Partner-der-KfW/Kommunen/Relevante-Förderprodukte/218.html)

Energy-efficient renovation - construction monitoring

For design and construction monitoring by experts

[www.kfw.de/inlandsfoerderung/Privatpersonen/Bestandsimmobilien/Finanzierungsangebote/Energieeffizient-Sanieren-Baubegleitung-\(431\)/](http://www.kfw.de/inlandsfoerderung/Privatpersonen/Bestandsimmobilien/Finanzierungsangebote/Energieeffizient-Sanieren-Baubegleitung-(431)/)

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