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Finchley Memorial Hospital / Finchley, UK / Murphey Philipps Architects







slip resistance swimming pool ceramics

facade systems

AGROB BUCHTAL. Progressive.

AGROB BUCHTAL offers concentrated competence in the field of ceramic tiles for all areas of application. The brand was born in 1992 by the merger of two companies rich in tradition: Deutsche Steinzeug Cremer & Breuer AG and AGROB Wessel Servais AG.

The brand name is composed of a part of the firm name AGROB Wessel Servais AG and Buchtal, the ceramic factory of Deutsche Steinzeug at Schwarzenfeld. Both companies can look back on a history which already started in the 18th century.

The combination of functionality, highest quality and first-class design for individual requirements is the challenge which we successfully meet again and again at the development of new products. This results in new and innovative products just as well as individual solutions.



In the spirit of partnership

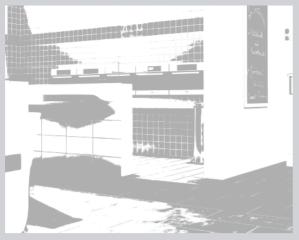
So that architects can concentrate exclusively on the implementation of their creative ideas, our experienced in-house planning department relieves them of many tasks.

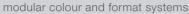


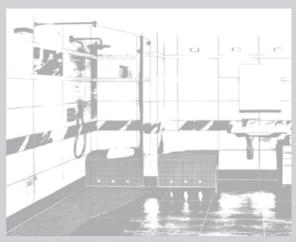
Functional

Our innovative and continually improved facade systems offer economical and ecological advantages both in the case of new buildings and renovations.









high quality ceramics for living environments

The air-cleaning and antibacterial HT coating, the surface upgrading Protecta, the facade system CeraVent®, orientation aids for the blind as well as tiles producing a photoluminescent effect in the darkness are only some of our innovations. Besides product quality "made in Germany", we offer extensive services and professional advice.

More information about our products and our services for architects and planners is available at www.agrob-buchtal.de.



Individual

We fulfil almost any special request by means of the know-how and experience, which we have gained in many projects throughout the world.



Sustainable

Active against pollutants in the air, antibacterial and extremely easy to clean: AGROB BUCHTAL's permanently burned in HT surface coating. www.clean-air-ceramics.com

Innovative from experience

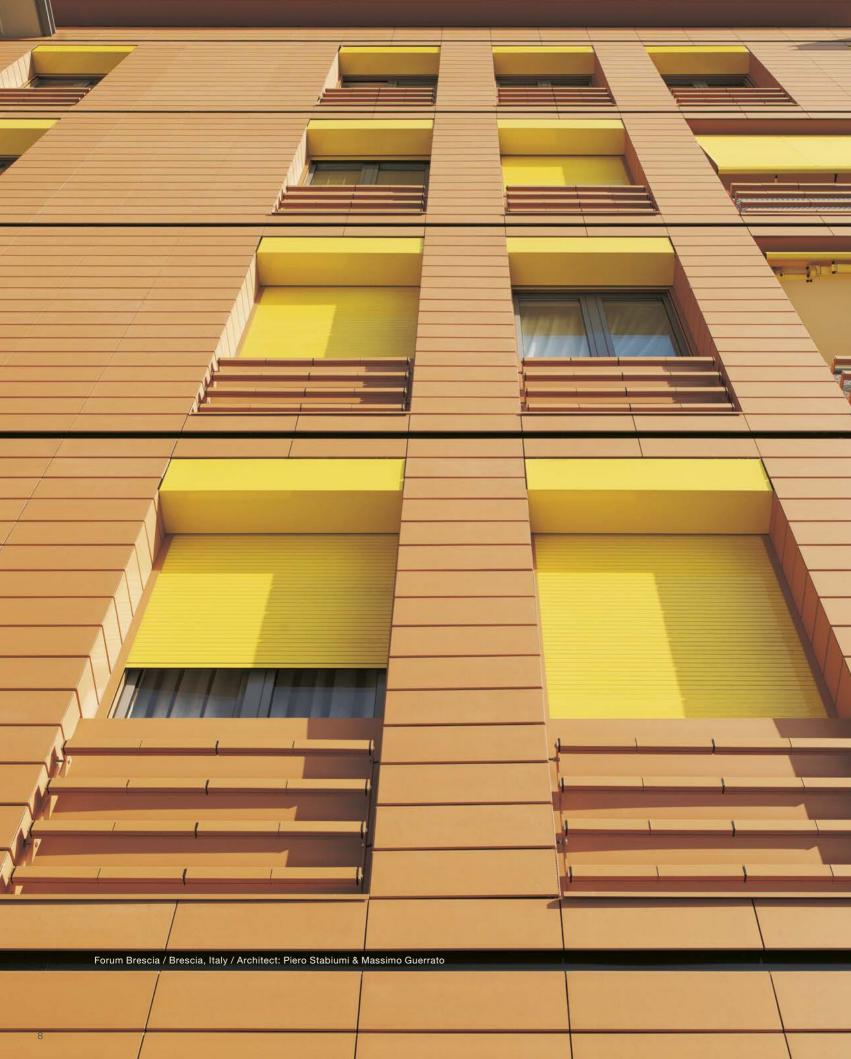
With attractive designs, sophisticated techniques and constant high quality made in Germany, facade ceramics from AGROB BUCHTAL has built up an excellent reputation in contemporary architecture. Demanding projects all over the world are realized with the proven products of the manufacturer rich in tradition, which besides an attractive look and efficient processing also guarantee uncompromising safety.

Thus, a unique wealth of experiences has developed in the course of the years, which forms the sound basis for innovations in line with the market. The development work focuses on new, particularly efficient installation methods which result in a considerable saving of time and thus in a reduction of costs.

Progress

Chelmsford Magistrates, Law Courts / Chelmsford, UK / Aedas Architects & Hurd Rolland Architects







Services from which you can benefit

At AGROB BUCHTAL, high-quality products and competent services are supplied. In this way, planners and architects using our ceramic facade systems can benefit from the know-how of our experienced in-house planning department when specifying our products. This means: we carry out many tasks for you, so that you can exclusively concentrate on the realization of your creative ideas. A committed team of qualified technicians, engineers, architects, designers and colour experts ensures a quick and problem-free realization of individual concepts.

Our range of services:

- Laying plans
- Determinations of quantities
- Detailed estimates
- Texts for bidding purposes
- Project-specific advice regarding application techniques
- Upon request, persons to contact on location world-wide



Curtain-type, rear-ventilated facade system.

Combined with insulating materials in any thickness desired, curtain-type, rear-ventilated facades ensure an agreeable, healthy interior climate and reach U-values regarding thermal insulation which satisfy the elevated requirements to be met by low-energy houses without any problems. Summer heat cannot penetrate into the interior, and the measurable reduction of the heating energy requirement helps to protect the climate due to the lower CO_2 emission. As the steam diffusion resistance decreases from inside towards outside, building or utilization moisture is carried away through the rear ventilation space. In this way, the function of the insulation is permanently retained. And thanks to the great variety of colours and formats of our ceramic facade systems, there are no limits to creative design.



Principle: curtain-type, rear-ventilated facade with heat insulation

Enhancing the status of existing buildings

Modern facade ceramics also offers solutions for the renovation of buildings with problematic basic structure, which are convincing visually and with regard to energy efficiency. Numerous buildings erected as low-cost projects above all at the beginning of the 1960s prove this. If the owner of a building decides against the demolition and in favour of a general renovation, not only the flats but also the facades are modernized in most cases – for some good reasons. Because the replacement of the old claddings by curtain-type, rear-ventilated facades realized with KeraTwin® or KerAion panels has several positive effects at the same time: thanks to the enormous range of colours and formats, renovation projects turn into highlights in urban development in modern look, while the exemplary heat insulation reduces energy costs, saves natural resources and protects the climate.

HT: the revolutionary surface coating.

Environmental protection is one of the most urgent tasks of our days, and we feel obliged to contribute to it to a high degree. That is why we are coating our ceramic tiles with HT, which offers three special economical and ecological advantages:

- it is extremely easy to clean / self-washing effect with long-term guarantee
- it has an antibacterial effect without using chemical products
- it decomposes the exhaust fumes produced by cars and industry:

1,000 m² of facade ceramics with HT clean the air as effectively as 70 medium-sized deciduous trees.

The principle

Titanium dioxide (TiO₂) is baked onto the tile surface as catalyst at high temperature and effects a reaction between light, oxygen and air humidity. Activated oxygen is produced, and the result is a hydrophilic (= "water-friendly") surface with the following advantageous properties:

- antibacterial: microorganisms such as e.g. fungi, algae, moss or germs are decomposed.
- extremely easy to clean: instead of being repelled, the water spreads to form a thin film, which washes down the dirt.
- odour-eliminating: unwelcome or harmful odours and atmospheric pollutants are eliminated both indoors and

The effects are permanently conserved and activated by light again and again. Titanium dioxide is non-toxic as well as free of irritating substances and can even be added to food. The unique surface coating guarantees perfectly clean facades – in the long term and without effort. Because sun and rain perform the active cleaning. In this way, HT considerably reduces the maintenance costs.

Test certificates and certificates

Our HT coating is baked onto the tile at high temperatures. It is exactly as wear-resistant as the surface of the corresponding tile itself. We guarantee that with our certificate. In addition, tests of renowned institutes prove the advantages of the coating.





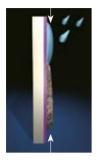


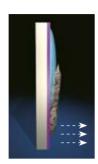


Further information is available at www.clean-air-ceramics.com

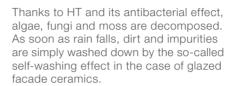
No chance for dirt, oil and grease



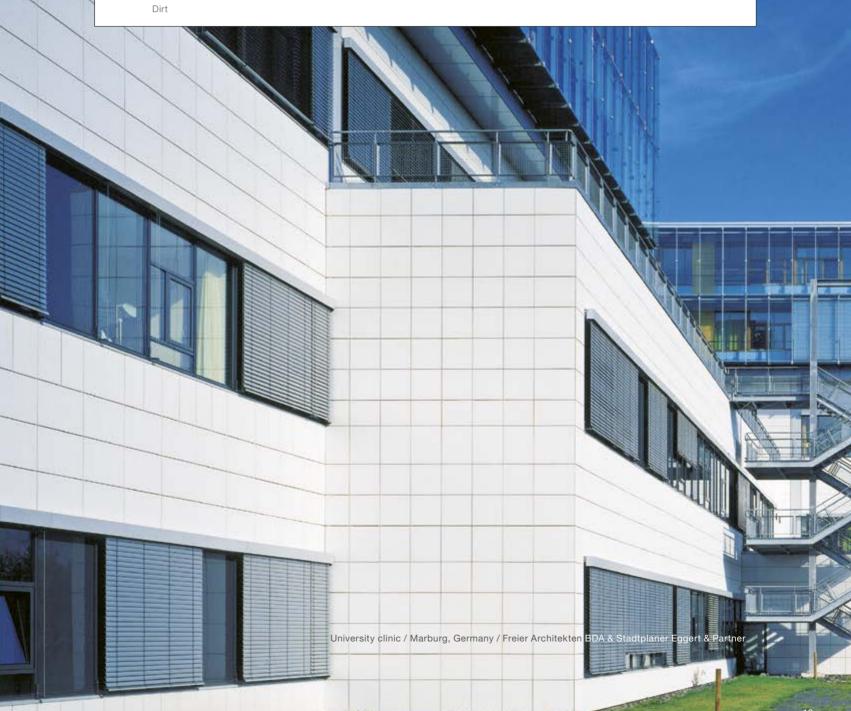


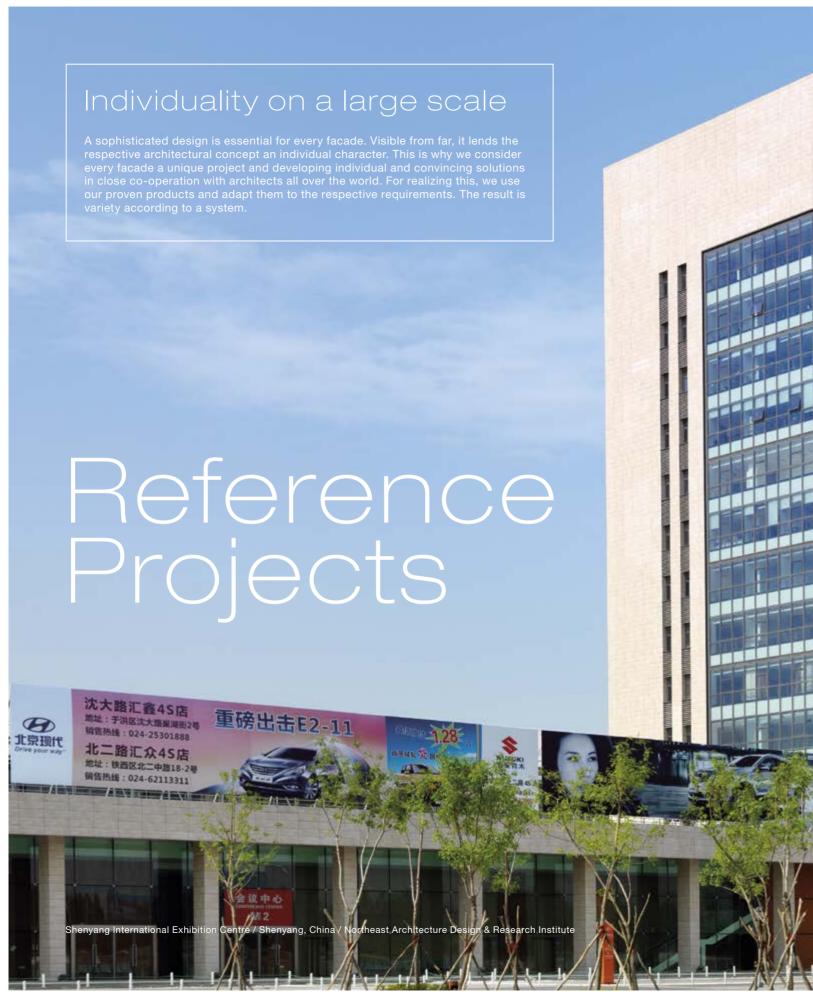








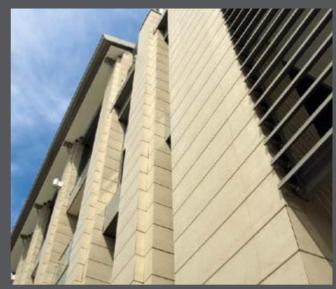








Symfonie / Voorburg, Netherlands / Architect: Van Tilburg en Partners



Piazza Conciapelli / Corregio, Italy / Architect: Malavolta



Meieritomte / Foerde, Norway / Architektfirmaet CF Møller



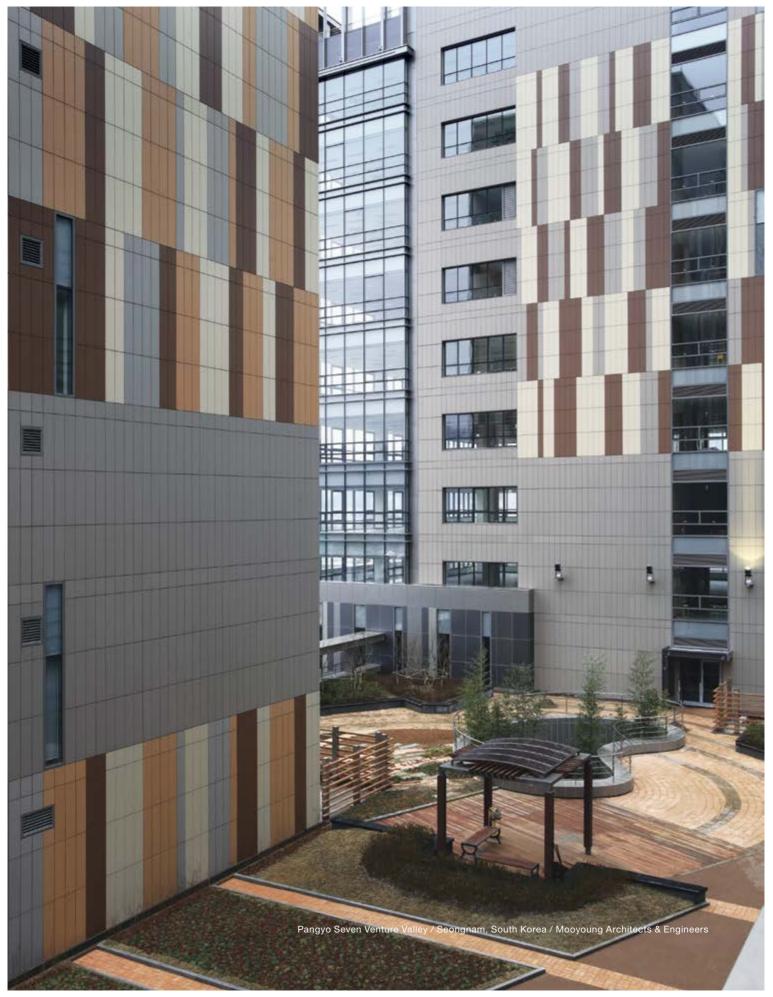
Sun Mart / Penza, Russia / Architect: Suraprojekt



Residential building / Affoltern, Switzerland / pool Architekten



Srednja ekonomska sola / Kranj, Slovenia / Architect: Boris Vovk



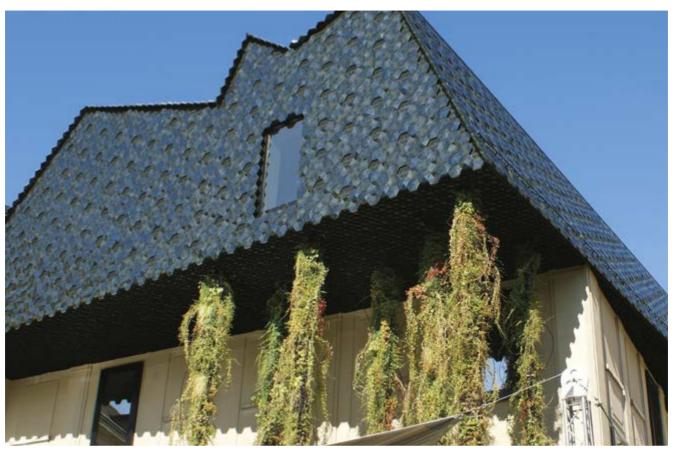


Muhammad Ali Center / Louisville, USA / Lee H. Skolnick Architecture + Design Partnership/Beyer Blinder Belle Arcitects & Planners LLP

Colours, forms, formats: just as you wish!

Thanks to our extensive know-how and the experience from innumerable projects all around the world, we are also well prepared for realizing unusual ideas. In close cooperation between our laboratory, our production and our efficient in-house planning department, we develop and supply the facade ceramics exactly corresponding to your ideas – independent of the standard examples shown in this Programme of Delivery. We have several tens of thousands of glaze recipes at our disposal and can benefit from our immense practical experience in the field of ceramics. In addition, we open new horizons for individual design by state-of-the-art printing techniques and precise water jet cuts – no matter whether it is a company logo or the stylistically appropriate restoration of historical monuments. Artists which themselves want to lend a hand with the realization of their creations are welcome, because this is how contemporary facade art is created which gives residential, business and public buildings an unmistakable look. Conclusion: if you have any special wishes regarding colours, forms or formats, simply contact us. We have the solution which optimally supports your design concept.

- Several tens of thousands of glaze recipes
- State-of-the-art printing techniques
- Water jet cuts
- Hand painting
- Realization of individual concepts



Museum der Kulturen (Museum of Cultures) / Basel, Switzerland / Architect: Herzog & de Meuron



Bluemax-Theatre / Berlin, Germany / Architect: Renzo Piano

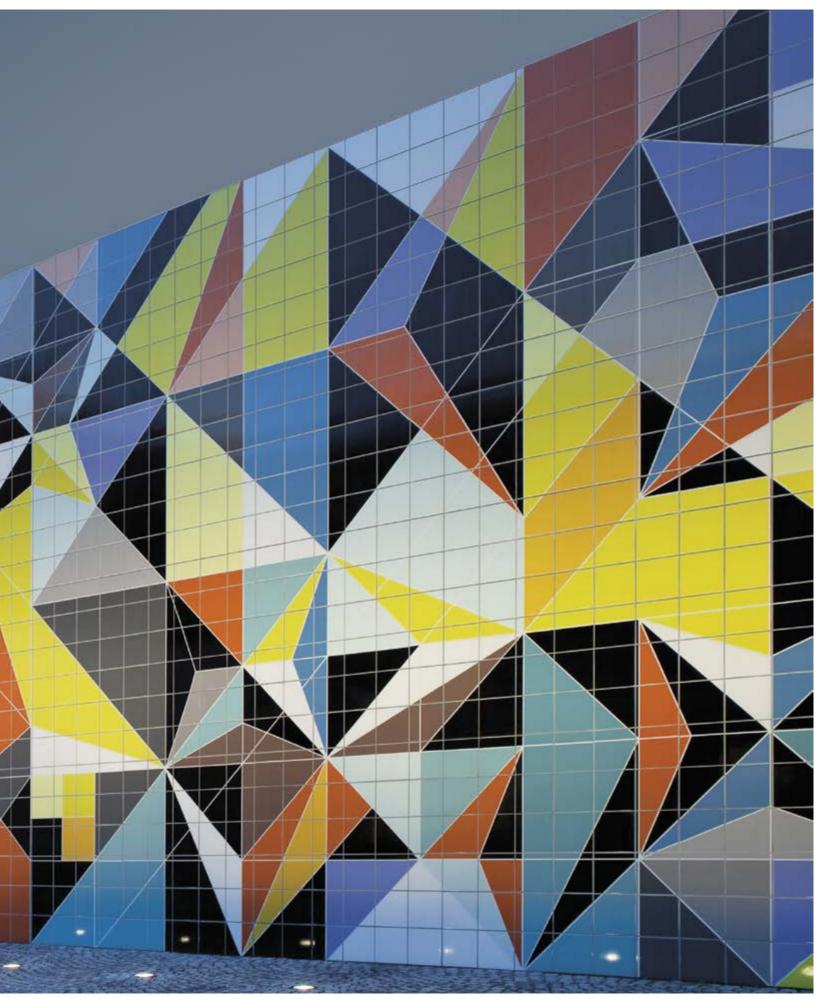


Shopping centre / Roermond, Netherlands / Architect: NIO architecten

Which colour would you like?

Those who prefer the soft warmth and harmonious look of discreet earthy shades find what they are looking for just as those who are fond of striking colours, which set visual accents on a simple and unobtrusive facade. This spectrum has now been enlarged by four new colours under the category "Design unglazed". The absolutely colour- and light-fast panels are reminiscent of the successful split tile series "Goldline" and are impressive because of their subtle play of colours. The characteristic feature is the embossed surface, which lends the panel more visual depth.





SpectraView* (glazed, silky-matt) System – colour – harmony.



Contrasting colours (glossy)



154 contrasting red H

Н

144 intense blue H

Upon request, the silky-matt colours of the colour system can also be supplied in glossy surface.

In addition to the variants shown, the production of individual articles is also possible. After a short check of the individual case for technical and economical feasibility, we will be pleased to provide you with project-specific information.

 $\mathbf{H} = \mathsf{HT}$ coating

* for facade systems KeraTwin®, KerAion and Special Pieces

153 violet H



Holiday Inn / Manchester, UK / Marc Weintraub Architecture and Design





From now on, our proven facade systems KeraTwin® and KerAion will respond to current trends in architecture even more specifically: SpectraView, the colour range developed by the renowned colour designer Peter Zoernack, comprises nine colour families harmoniously matched to each other and several contrasting colours permitting to set striking accents. As the colours can be combined both horizontally and vertically, an enormous design scope opens up.

The varying shades of the colours are characteristic of SpectraView, and each individual shade has a vivid and organic look in all lightness grades. The range is completed by black and white, alternatively available in matt and glossy version. In addition, all colour families are provided with the innovative HT surface coating.



Natural look for attractive combinations.

The rustic design with an effect of depth, which offers more creative freedom at the design of facades, is one of the advantages of the panel novelty "Design unglazed". Its colours are based on the muted shades of the series "Natura unglazed", which is reminiscent of sandstone or classic brickwork thanks to its natural look. Because of this, attractive combinations are also possible.

Natura unglazed*



Design unglazed**



1403 golden red · 1403 golden red H



1410 golden cream · 1410 golden creme H



1414 golden grey · 1414 golden grey H



1415 golden anthracite · 1415 golden anthracite H

H = HT coating

^{*} for facade system KeraTwin® and Special Pieces

^{**} for facade system KeraTwin®

Design glazed: Individual design for facades.

Metal, wood, natural stone: with an enormous range of glazes, the glazed design surfaces lend architecturally demanding facades a modern, individual look.



H = HT coating

The colours shown on these pages are available for all systems KeraTwin® and KerAion; in KerAion formats only up to a panel width of 60 cm. In addition to the variants shown, the production of individual articles is also possible. After a short check of the individual case for technical and economical feasibility, we will be pleased to provide you with project-specific information.

Rockface Metal



1115 Rockface 1 H



1116 Rockface 2 H



1117 Rockface 3 H



1180 Metal 1 H



1181 Metal 2 H



1182 Metal 3 H

Construct



1140 Construct 1 H



1141 Construct 2 H



Residential building / Lupinvej, Denmark / Sahl Arkitekter



Alternatives for connoisseurs.

Developed as an economical and design alternative to the KerAion facade systems, the KeraTwin® system is convincing by architectural flexibility and visual variety. And the joints are realized in such a way that the construction is optimally protected against driving rain. Now, the system KeraTwin® K20 with its new, innovative T-profile K20 ensures an even more rapid and simpler installation: as the fastenings for the ceramic panel are already integrated in the T-profile, only one single profile remains to be aligned and mounted. Flexible, low-cost installation also on problematic bases is guaranteed by the "Omega" profile variant, which permits, among other things, the free planning of the panel lengths. In addition, well thought-out system components ensure a time-saving installation in the case of sophisticated project solutions. Standard panel thicknesses at all formats and the low own weight facilitate the transport and the handling.



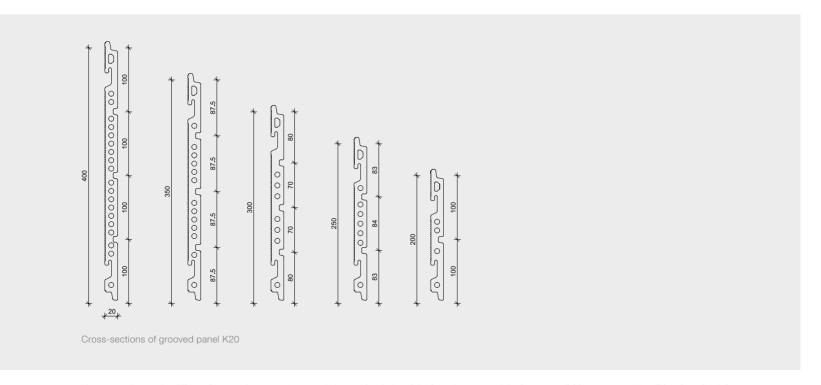


Great variety

Surfaces with a three-dimensional structure can make large facades less monotonous and lend an entire building a distinctive character. No matter whether undulated structure, sine wave, stripy pattern, brushed surface or grooved panel – whether laid continuously or in rhythmic change: with the variety of their attractive surfaces, our ceramic facade systems ensure a perfect look everywhere.





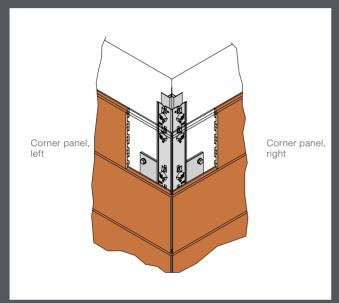


Please note: Due to the different forms and cross-sections, restrictions at the choice of the fastening type and the formats available may occur. We will be pleased to inform you about the current possibilities as well as other project-specific surfaces upon request.

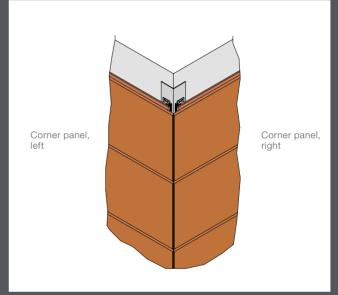
The perfect solution for every corner.

In addition to several ceramic corner profiles (see pages 62-63) and aluminium profiles (see page 40), different mitre-cut panels are available for KeraTwin® as corner solution, which round off a harmonious facade design.

Corner solutions for KeraTwin®



Corner solution with mitre-cut panels



Corner solution with mitre-cut panels / undercut



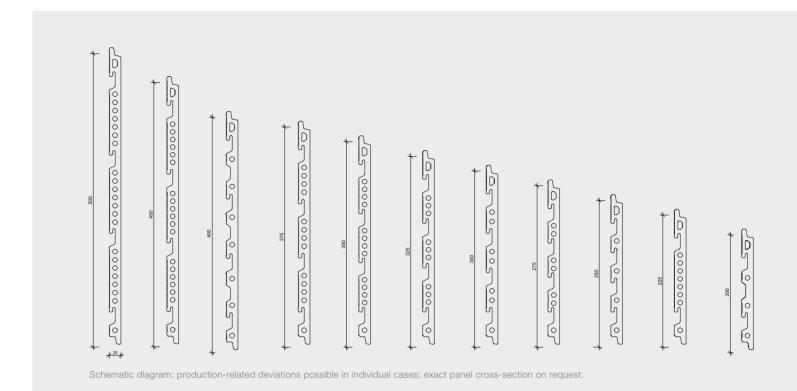
Mitre-cut panel for fastening with system rail K20, Omega profile K20 and T-profile K20



Mitre-cut panels / undercut for clamp fastening K20



KeraTwin® K20







Extruded Ceramic Panels, Precision, DIN EN 14411, group All_a, glazed/unglazed (GL/UGL) (small-/large-size stoneware panels)

Standard heights: 20 cm / 205 mm, 22.5 cm / 230 mm, 25 cm / 255 mm, (grid size/work size) 27.5 cm / 280 mm, 30 cm / 305 mm, 32.5 cm / 330 mm,

35 cm / 355 mm, 37.5 cm / 380 mm, 40 cm / 405 mm,

 $45\ \text{cm}$ / $455\ \text{mm},\ 50\ \text{cm}$ / $505\ \text{mm}$ Other heights available on request.

Lengths (work size): 392 up to 1,350 mm (in 1 mm steps)

Thickness: 20 mm

Weight per unit area: 32 kg/m²

Colours/surfaces: For the colour chart, see pages 22 – 27

For surfaces and cross-section variations, see pages 30 – 31

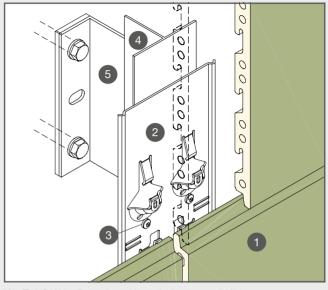
Essential system advantages

- Even more rapid and simpler installation by the innovative system rail, T-profile, Omega profile and/or the proven clamp fastening
- Great number of well thought-out system components
- Economical installation also for special, sophisticated project solutions
- Standard panel thickness and low own weight at all formats

KeraTwin® K20 – Fastening with vertical system rail K20

System description

The KeraTwin® K20 facade panels are simply hung in the vertical system rail with the holding grooves on its reverse side. For mounting the panels, no additional tools are required. The compression spring and removal protection integrated in the system rail prevents clattering and constraining forces in the case of alternating wind loads and also the easy removal of panels. The position of the panels is secured either by means of a joint profile adjusted to the joint width or by means of spacers.

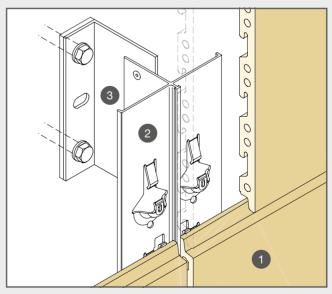


KeraTwin® K20 - Fastening with vertical system rail K20

KeraTwin® K20 – Fastening with vertical T-profile K20

System description

The KeraTwin® K20 facade panels are simply hung in the vertical T-profile K20 with the holding grooves on its reverse side. For mounting the panels, no additional tools are required. The compression spring and removal protection integrated in the T-profile K20 prevents clattering and constraining forces in the case of alternating wind loads and also the easy removal of panels. The position of the panels is secured either by means of profile types adjusted to the joint width or by means of spacers for closed or open vertical joints.



 $\rm KeraTwin^{\it @}~K20$ - Fastening with vertical T-profile K20

- 1 Facade panel KeraTwin® K20
- 2 Vertical system rail K20, article 620
- A4 stainless steel screw, article 659 (alternatively, fastening with Al blind rivet, article 658, is possible) Fixing necessary under each fastening hook!
- 4 Vertical bearing profile (basic substructure)
 Minimum width 80 mm / recommended width 100 mm
- 5 Wall bracket (basic substructure)

Essential system advantages

- Rapid and simple panel installation with well thought-out system components
- The low panel weight of 32 kg/m² facilitates transport and handling and also permits the use in case of a statically demanding building structure
- Extensive range of accessories for various details such as e.g. corner solutions, etc.
- Execution with joint profile is possible
- Great design scope thanks to a wide variety of colours, surfaces and sizes with standard panel thickness
- General approval of the construction supervisory authority by "Deutsches Institut für Bautechnik", Berlin: no. Z-33.1-1175

- 1 Facade panel KeraTwin® K20
- 2 Vertical T-profile K20, article 698
- 3 Wall bracket (basic substructure)

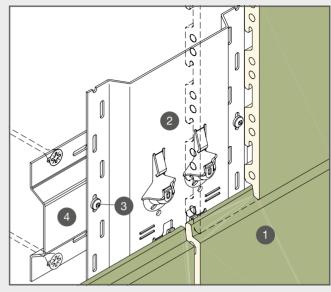
Essential system advantages

- Rapid and simple panel installation with well thought-out system components
- More rapid and cheaper installation of the substructure thanks to fewer individual components
- The low panel weight of 32 kg/m² facilitates transport and handling and also permits the use in case of a statically demanding building structure
- Execution with closed or open vertical joints is possible
- Great design scope thanks to a wide variety of sizes with standard panel thickness
- General approval of the construction supervisory authority by "Deutsches Institut für Bautechnik", Berlin: no. Z-33.1-1175

KeraTwin® K20 – Fastening with vertical Omega profile K20

System description

The Omega profile stands out due to its simple and efficient installation on difficult bases such as e.g. walls with post and beam construction. Horizontal bearing profiles are fixed at the posts. The vertical Omega profiles can then be arranged independent of the distance between the posts, and the panel lengths can be freely planned. The complex system structure with dowel, wall bracket and vertical bearing profile is not required. The subsequent laying of the ceramics is carried out as in the case of the system rail K20. The KeraTwin® K20 facade panels are simply hung in the vertical Omega profile with the holding grooves on the reverse side. No additional tools are required for mounting the panels. The compression spring and removal protection integrated in the Omega profile prevents clattering and constraining forces in the case of alternating wind loads and also the easy removal of panels. The position of the panels is secured either by means of a joint profile adjusted to the joint width or by means of spacers.

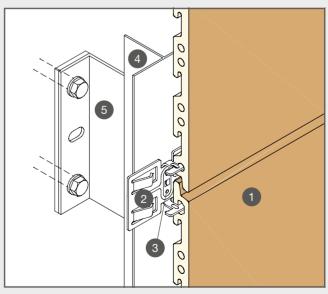


KeraTwin® K20 – Fastening with vertical Omega profile K20

KeraTwin® K20 – Fastening with clamp system K20

System description

The KeraTwin® K20 facade panels are fixed by means of the clamps K20, which laterally engage with the channels of the facade panel. The compression spring integrated in the clamps prevents clattering and constraining forces in the case of alternating wind loads.



KeraTwin® K20 - Fastening with clamp system K20

- 1 Facade panel KeraTwin® K20
- 2 Vertical Omega profile K20, article 624
- 3 A4 stainless steel screw, article 659 (alternatively, fastening with AI blind rivet, article 658, is possible)
- 4 Horizontal bearing profile (basic substructure)

Essential system advantages

- Rapid and simple panel installation with well thought-out system components
- Efficient installation on difficult wall constructions such as e.g. post and beam construction
- The low panel weight of 32 kg/m² facilitates transport and handling and also permits the use in case of a statically demanding building structure
- Extensive range of accessories for various details such as e.g. corner solutions, etc.
- Execution with joint profile is possible
- Great design scope thanks to a wide variety of sizes with standard panel thickness
- General approval of the construction supervisory authority by "Deutsches Institut für Bautechnik", Berlin: no. Z-33.1-1175

- 1 Facade panel KeraTwin® K20
- 2 Twin-clamp K20, article 680
- 3 Stainless steel blind rivet, article 675
- 4 Vertical bearing profile (basic substructure)
- 5 Wall bracket (basic substructure)

Essential system advantages

- Rapid and proven panel installation with well thought-out system components
- The low panel weight of 32 kg/m² facilitates transport and handling and also permits the use in case of a statically demanding building structure
- Horizontal and vertical installation is possible
- Panel installation on ceilings is possible
- Great design scope thanks to a wide variety of colours, surfaces and sizes with standard panel thickness
- General approval of the construction supervisory authority by "Deutsches Institut für Bautechnik", Berlin: no. Z-33.1-1175

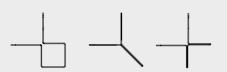
KeraTwin® K20 – Fastening with vertical system rail K20



Article 620 System rail, painted*

Material: AlMg3 H22 (EN AW-5754)

painted black, for installation with joint spacer K20/8



Article 650 / 652 / 654

External angle profile Square / Sword / Negative

Material: AlMg3 H22 (EN AW-5754)

painted black

RAL-colour-painted on request



Article 625 System rail, bright*

Material: AlMq3 H22 (EN AW-5754)

unpainted, for installation with joint profile K20/8



Article 658 Al blind rivet, bright

Weight: 1.3 kg / box Nom. dimen.: 4.8 x 10 mm Box contents: 500 pieces

for system rail and Omega profile installation



Article 630

System rail, external angle*

Material: AIMg3 H22 (EN AW-5754) unpainted, for installation of mitre-cut panels

and externalangle profiles



Article 659

A4 stainless steel screw, bright

Weight: 2.8 kg / box Nom. dimen.: 4.8 x 16 mm Box contents: 1,000 pieces

for system rail and Omega profile installation

KeraTwin® K20 – Fastening with vertical Omega profile K20 and vertical T-profile K20



Omega profile, painted*

Material: AlMg3 H22 (EN AW-5754)

painted black, for installation with joint spacer K20/8



Omega profile, bright*

Material: AlMq3 H22 (EN AW-5754)

unpainted, for installation with joint profile K20/8



Article 633

Omega profile, external angle*

Material: AlMg3 H22 (EN AW-5754) unpainted, for installation of mitre-cut panels

and externalangle profiles



Article 635 Embrasure profile*

AlMg3 H22 (EN AW-5754) Material:

unpainted

Dimensions and grid according to project-specific requirements



Article 640 Joint profile K20/8

Material: AlMg3 H22 (EN AW-5754)

painted black

RAL-colour-painted on request



Article 645 Joint spacer K20/8

Weight: 0.5 kg / box

Material: AlMg3 H22 (EN AW-5754) Box contents: 250 pieces

painted black



T-profile K20 with joint profile, painted

Material: EN AW-6063 T66

painted black



T-profile K20 with recessed joint profile, painted

EN AW-6063 T66

painted black



T-profile K20 without joint profile, painted

painted black, for installation with joint spacer K20/8



Article 645 Joint spacer K20/8

painted black

0.5 kg / box AlMg3 H22 (EN AW-5754) Weight: Material:

Box contents: 250 pieces

* legally protected

Important: The use of silicone caoutchoucs must be absolutely avoided, because silicone fluids segregate and effect sticky surfaces on which dirt adheres. Therefore, only use the system components mentioned (foamed pieces, EDPM rubber profile, neoprene rubber washer) and pointing, bonding and sealing materials recommended by us. We will be pleased to inform you in detail. The usual final cleaning after completion of the construction works is still required. A warranty for the system KeraTwin® K20 in the scope of the general approval no. Z-33.1-1175 of the construction supervisory authority only applies if the system components shown on these pages are used.

KeraTwin® K20 - Fastening with clamp system K20



Article 680 Twin-clamp K20*

painted black



Article 681 Edge-clamp K20*

painted black



Article 682 Edge-clamp K20, left

Weight: 24 kg / 1,000 piecesPerforation: $4 \times 3.3 \text{ mm } \emptyset$

Material: AIMg3 H22 (EN AW-5754)

painted black



Artikel 506 Joint tape, black

Weight: 0.5 kg / roll
Nom. dimen.: 40 mm wide, 50 m
self-adhesive, weather-resistant



Article 675

Stainless steel blind rivet, black Weight: 1.05 kg / box Nom. dimen:: 3.2 x 9.5 mm Box contents: 500 pieces

* legally protected

Important: The use of silicone caoutchoucs must be absolutely avoided, because silicone fluids segregate and effect sticky surfaces on which dirt adheres. Therefore, only use the system components mentioned (foamed pieces, EDPM rubber profile, neoprene rubber washer) and pointing, bonding and sealing materials recommended by us. We will be pleased to inform you in detail. The usual final cleaning after completion of the construction works is still required. A warranty for the system KeraTwin® K20 in the scope of the general approval no. Z-33.1-1175 of the construction supervisory authority only applies if the system components shown on these pages are used.



Article 683 Edge-clamp K20, right

24 kg / 1,000 pieces 4 x 3.3 mm Ø AlMg3 H22 (EN AW-5754) Weight: Perforation:

Material:

painted black



Article 684 Single-clamp K20

Weight: Perforation: Material: 45 kg / 1,000 pieces 2 x 3.3 mm Ø AlMg3 H22 (EN AW-5754)

painted black

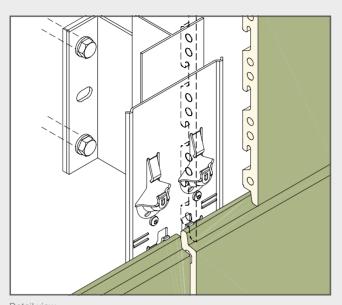
- Clamp delivery:

 Twin- and single-clamps: 7 pieces/string
 Edge-clamps: 13 pieces/string

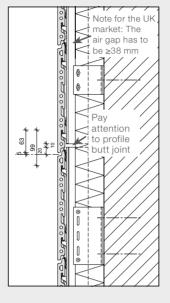


Teatro Ermanno Fabbri / Vignola, Italy / Architect: Carlo Armani

Mounting instructions for KeraTwin® K20 – Fastening by means of vertical system rail K20



Detail view



Important

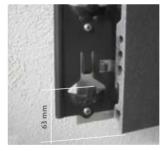
A profile butt joint of the vertical bearing profiles behind a panel is not allowed! See standard technical detail drawings.



Basic substructure



Put on system rail



Distance between panel lower edge and hook upper edge = 63 mm



Fasten system rail with screws* or rivets** (only use approved fastening means - it is absolutely necessary to fix the rail under each fastening hook!)



Fixing detail, e.g. windows, parapet, etc.



Slide panel in the clamp and hook



Always install a pair of panels



Finally drill the holes in the joint \dots

^{*}A4 stainless steel screw 4.8 x 16 mm, Article 659

^{**}Al blind rivet 4.8 x 10 mm, Article 658

Substructure

The mounting of the basic substructure must be carried out according to project-specific, static calculation. The general approval Z-33.1-1175 of the construction supervisory authority serves as basis.

- The profiles of the basic substructure have to be mounted perpendicularly and in a flush way.
- The system rails have to be precisely aligned horizontally and fastened at the provided holes by means of screws or rivets.
- The distance of the rails in horizontal direction must correspond to the longitudinal grid of the panels.
- The length of the vertical profiles must be divisible by the height of the panel format and should not exceed the height of a storey of the building.



Fastening at the provided holes



Hang in joint profile or insert spacer



Put panels on the fastening hooks



Hang in panel



... and fix it with rivets (or screws)



Mounted surface

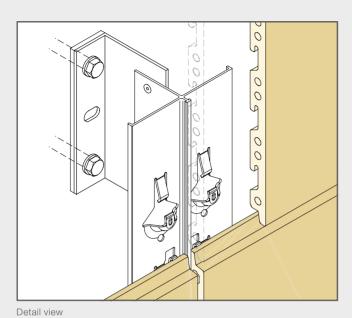
Replacement of a panel

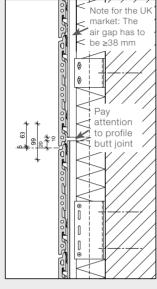




Insert 2 mm thick sheet metal in horizontal joint, press upward and remove panel (possibly push panels on top of it upward in addition). Hang the panel in the system rail from top towards the bottom.

Mounting instructions for KeraTwin® K20 – Fastening by means of vertical T-profile K20





Important

A profile butt joint of the vertical bearing profiles behind a panel is not allowed! See standard technical detail drawings.



Wall bracket



Connect T-profile K20 to wall bracket. Pay attention to fixed and sliding points!



Exactly align the T-profiles



Distance between panel lower edge and hook upper edge = 63 mm

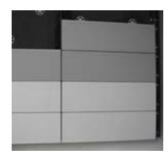
Substructure

The mounting of the substructure must be carried out according to project-specific, static calculation. The general approval Z-33.1-1175 of the construction supervisory authority serves as basis.

- The system profiles have to be mounted perpendicularly and in a flush way
- The distance of the rails in horizontal direction must correspond to the longitudinal grid of the panels.



Use spacers in case of plane T-profile K20



Hang in panels

Replacement of a panel

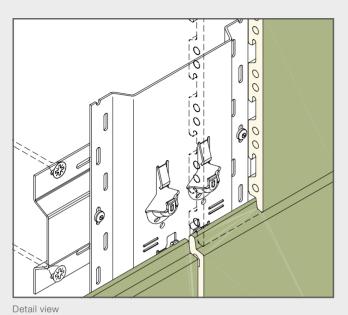




Insert 2 mm thick sheet metal in horizontal joint, press upward and remove panel (possibly push panels on top of it upward in addition). Hang the panel in the system rail from top towards the bottom.

For further information, see the standard technical details of the system K20, which we will make available to you on request.

Mounting instructions for KeraTwin® K20 – Fastening by means of vertical Omega profile K20



Note for the UK market: The air gap has to be ≥38 mm

Pay attention to profile butt joint

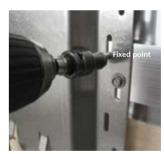
Important

A profile butt joint of the K20 Omega profiles behind a panel is not allowed! See standard technical detail drawings.









Top-hat profile (or alternatively Z-profile) as basic substructure











In case of installation without joint profile, spacers have to be used.

Hang in the panel

Mounted surface

Substructure

The mounting of the substructure must be carried out according to project-specific, static calculation. The general approval Z-33.1-1175 of the construction supervisory authority must be observed.

- The profiles of the basic substructure have to be mounted perpendicularly and in a flush way (top-hat or alternatively Z-profile).
- The Omega system rails must be exactly aligned horizontally and be fixed through the long holes provided on the edge by means of screws* or rivets**.
- The distance of the rails in horizontal direction must correspond to the longitudinal grid of the panels.



Fixing the Omega profile



Exactly align the profiles, observe grid distance



Click in the joint profile



Replacement of a panel



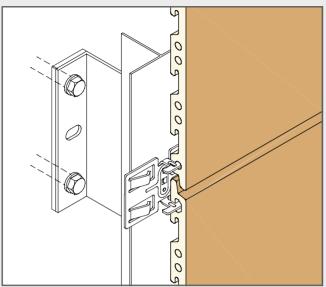


Insert 2 mm thick sheet metal in horizontal joint, press upward and remove panel (possibly push panels on top of it upward in addition). Hang the panel in the system rail from top towards the bottom.

^{*} A4 stainless steel screw 4.8 x 16 mm, Article 659

^{**} Al blind rivet 4.8 x 10 mm, Article 658

Mounting instructions for KeraTwin® K20 -Fastening by means of clamp system K20



Detail view

Note for the UK market: The air gap has to be >38 mm attention to profile

Important

A profile butt joint of the vertical bearing profiles behind a panel is not allowed! See standard technical detail drawings.



Apply joint tape on vertical bearing



Mark position for clamps



Positions

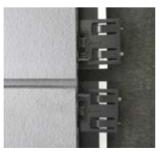


Fastening of the edge-clamps (with rivets*)

Replacement of panels



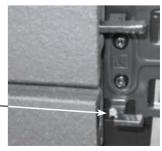
Profile butt joint with edge-clamps 682 and 683



Profile butt joint with single-clamps



Cut off clamp lips



Substructure

The mounting of the substructure must be carried out according to project-specific, static calculation. The general approval Z-33.1-1175 of the construction supervisory authority must be observed.

- The profiles have to be mounted perpendicularly and in a flush way.
- The distance of the rails in horizontal direction must correspond to the longitudinal grid of the panels.
- The length of the vertical profiles must be divisible by the height of the panel format and should not exceed the height of a storey of the building.



Insert the panels in the clamps laterally



Position and fasten clamps



Finally insert edge-clamps ...



... and fasten them



Remove panel



Insert single-clamps



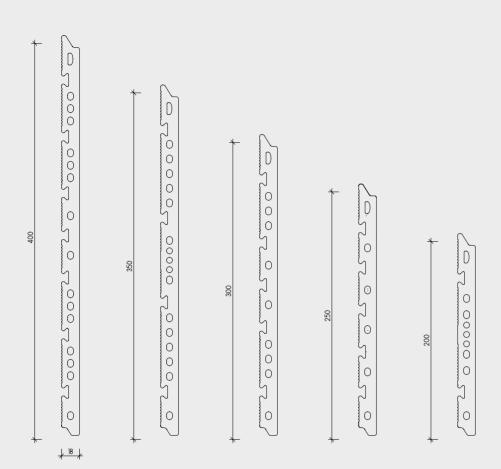
Mount panel



Fasten clamps



KeraTwin® K18





Extruded Ceramic Panels, Precision, DIN EN 14411, group All_a, glazed/unglazed (GL/UGL) (small-/large-size stoneware panels)

Standard heights: 20 cm / 204 mm, 25 cm / 254 mm, 30 cm / 304 mm,

(grid size/work size) 35 cm / 354 mm, 40 cm / 404 mm

Other heights available on request.

Lengths (work size): 392 up to 1,192 mm (in 1 mm steps)

Thickness: 18 mm

Weight per unit area: 32 kg/m²

Colours/surfaces: For the colour chart, see pages 22 - 27

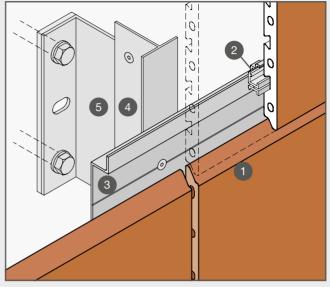
For surface and cross-section variations, see pages 30 - 31



KeraTwin® K18 - with adapter fastening

System description

The facade panels KeraTwin® K18 have dovetail grooves on the back into which at least four adapters per panel are pushed (symmetrical arrangement). The position of the adapters in the panel depends on the static requirements. The KeraTwin® K18 panel is hung in horizontally installed supporting rails by means of these adapters. The stainless steel springs inserted in the adapters serve for the nonrigid installation. A spacer put in the grooves, which is adjusted to the joint width, secures the position of the panels.



KeraTwin® K18 with adapter fastening on system substructure (horizontal)

KeraTwin® K18 - Accessories



Article 596 Complete adapter*

Weight: 15 kg / box
Material: EN AW 6063 T66
Box contents: 1,000 pieces



Article 594 Joint spacer F8

 Weight:
 0.5 kg / box

 Material:
 AlMg3 H22 (EN AW-5754)

Box contents: 250 pieces

painted black



Article 597

Horizontal supporting rail
Standard length: 2995 mm

Nom. dimen.: 105/90 x 25 mm Material: EN AW 6063 T66

unpainted

^{*} legally protected

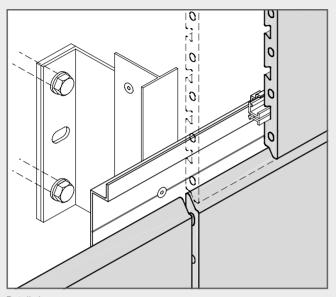
- 1 Facade panel KeraTwin® K18
- 2 Complete adapter, article 596
- 3 Horizontal supporting rail, article 597
- 4 Vertical bearing profile (basic substructure)
- 5 Wall bracket (basic substructure)

Essential system advantages

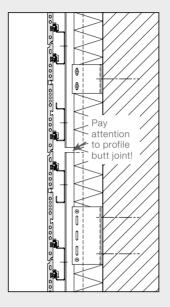
- Rapid panel installation with well thought-out system components
- The low panel weight of 32 kg/m² facilitates transport and handling and also permits the use in case of a statically demanding building structure
- Installation in semi-bond or irregular bond is possible
- Great design scope thanks to a wide variety of sizes with a panel thickness of 18 mm

Important: The use of silicone caoutchoucs must be absolutely avoided, because silicone fluids segregate and effect sticky surfaces on which dirt adheres. Therefore, only use the system components mentioned (foamed pieces, EPDM rubber profile, neoprene rubber washer) and pointing, bonding and sealing materials recommended by us. We will be pleased to inform you in detail. The usual final cleaning after completion of the construction works is still required.

Mounting instructions for KeraTwin® K18 with adapter fastening







Important

A profile butt joint of the vertical bearing profiles behind a panel is not allowed! See standard technical detail drawings.



Connect horizontal system rails to pre-mounted vertical substructure by means of approved fastening means.



Connect horizontal system rails to pre-mounted vertical substructure by means of approved fastening means. Observe exact grid distance (using spacers)!



Push in adapter (art. no. 596)



Panel with at least 4 adapters

Substructure

- The mounting of the basic substructure must be carried out according to project-specific, static calculation.
- The supporting rails are installed according to the vertical grid of the panels



Hang panels with pre-mounted adapters in the horizontal rails. Cover horizontal profile at the joint with black joint tape or black paint.



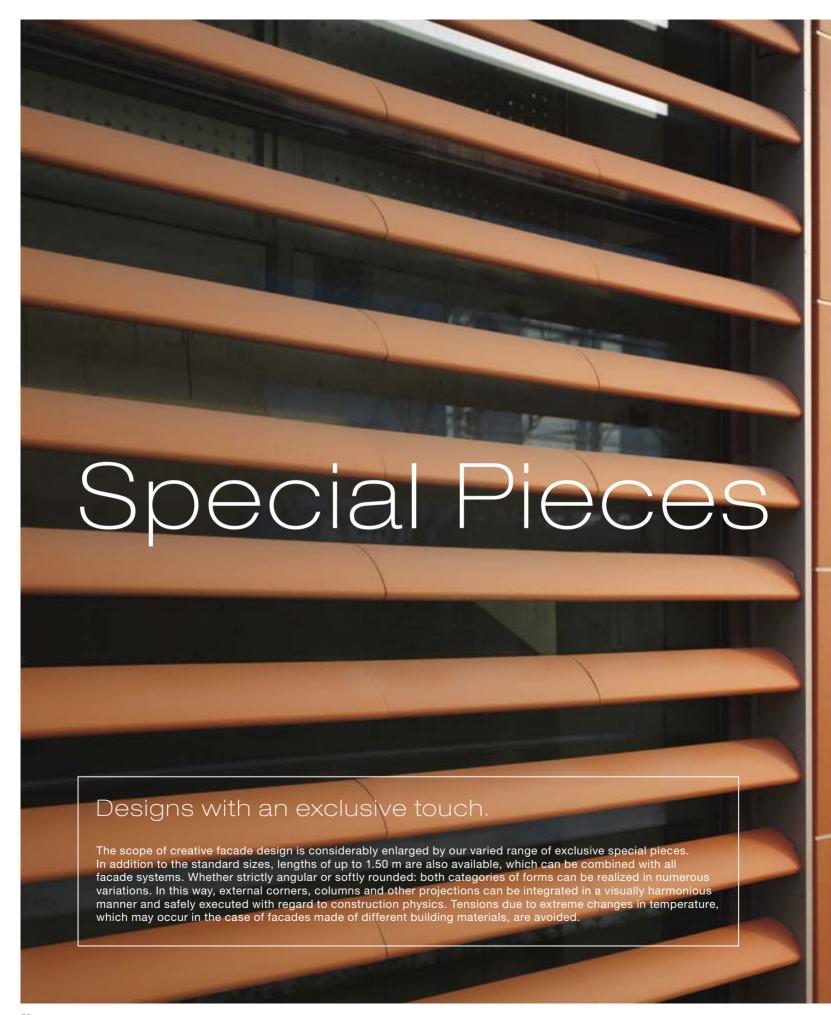
Hang in the panels with straight joints or in bonds

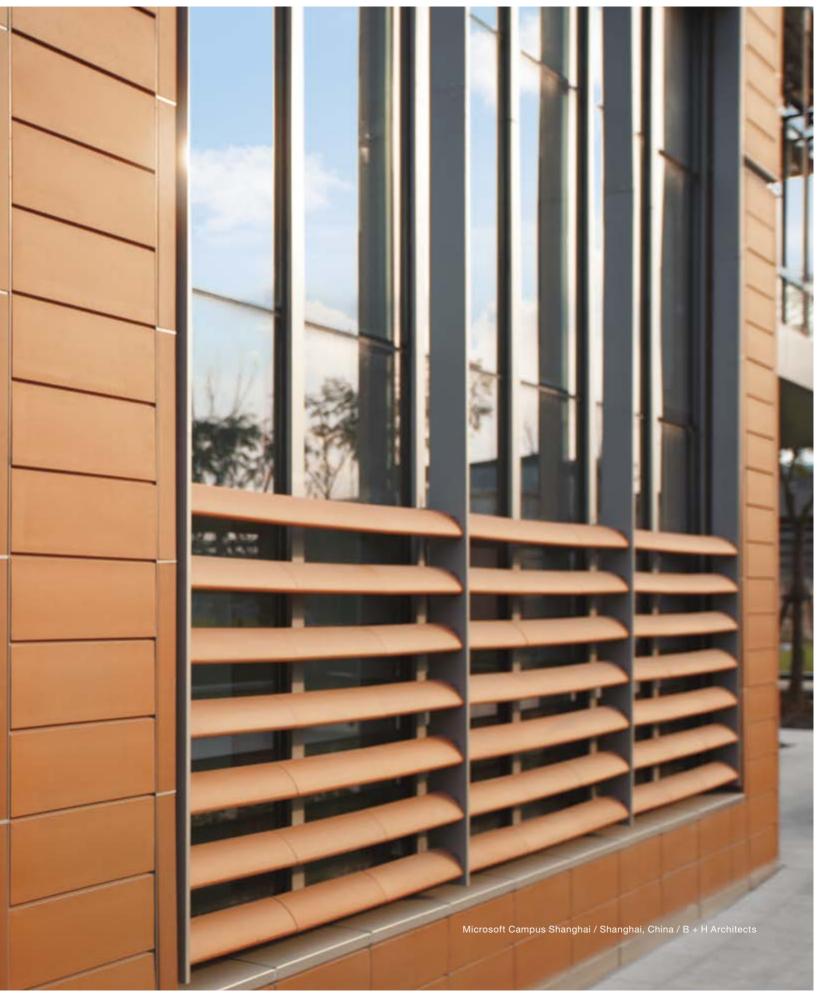
Replacement of a panel



Push two panels arranged above the panel to be replaced upward, press panel upward, remove it and replace it by a new panel.

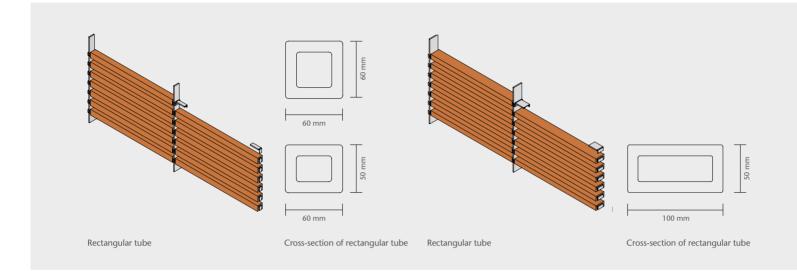
For further information, see the standard technical details of the system K18, which we will make available to you on request.

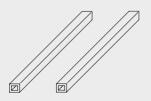




Perfect solutions in detail.

Special pieces are used above all as protection against the sun or view, for realizing elegant corner solutions or setting design accents. As both glazed and unglazed versions are available in numerous colour variations, special pieces can be used either tone in tone or - for more variety - in contrasting colours. For working out individual, project-specific fastening proposals, please contact us. For standard fastening variants, see the standard technical details. It is also possible to join several parts together to make a compact element. For this, various rubber spacers to be mounted between the individual parts are available.





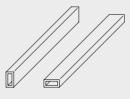
Rectangular tube 50 x 60 mm / 60 x 60 mm**

Work size: 50 x 60 mm / 60 x 60 mm 50 x 60 mm: 4.29 kg / lin. m. 60 x 60 mm: 4.49 kg / lin. m. Weight:

Glazed: possible on 3 sides. 4 glazed sides up to 1,200 mm available on request.

** available in lengths of up to 1,500 mm

Matching rubber spacers available on request.



Rectangular tube 50 x 100 mm**

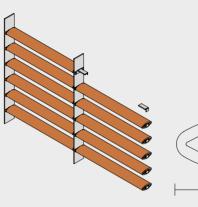
Work size: 50 x 100 mm Weight: 6.84 kg / lin. m.

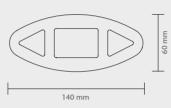
Glazed: possible on 3 sides. 4 glazed sides up to 1,200 mm available on request.



Lamellar element

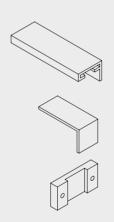
Work size: 140 x 60 mm 9.00 kg / lin. m. Weight: up to a length of 1,200 mm



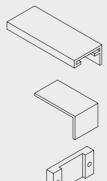


Lamellar element Cross-section of lamellar element

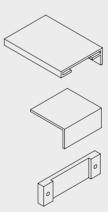
In addition to the variants shown, the production of individual articles is also possible. After a short check of the individual case for technical and economical feasibility, we will be pleased to provide you with project-specific information.



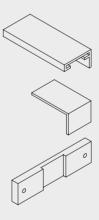
Article 605
Fastening set
Rectangular tube 60 x 50 mm
painted black



Article 606
Fastening set
Rectangular tube 60 x 60 mm
painted black

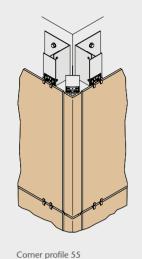


Article 607
Fastening set
Rectangular tube 50 x 100 mm
painted black

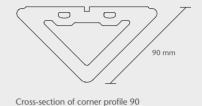


Article 608 Fastening set Lamellar element painted black

Corner solutions







Cross-section of corner profile 55

Corner profile 90

Article 47270 3D profile

Work size: Weight:

592 x 150 x 42 mm 3.55 kg / pieces



Article K140H Radial corner piece

Work size: 592 x 52 x 8 mm Weight: 1.60 kg / pieces



Article K150 Corner profile 55

Work size: 592 x 55/55 x 8 mm Weight: 1.75 kg / pieces



Corner profile 90

Work size: 90/90 x 15 mm Weight: ca. 7.75 kg / lfm Available in lengths corresponding to the vertical grid of the KeraTwin® panels



Article 360 Twin-clamp KT

Weight: 20 kg / 1,000 pieces Perforation: 4 x 3.3 mm Ø Base plate: painted black Lips: painted black* . Material: 1.4571



Article 361 Edge-clamp KT

Weight: 20 kg / 1,000 pieces Perforation: 4 x 3.3 mm Ø Base plate: painted black Lips: painted black* Material: 1.4571



Article 365 Terminal-clamp KT

Weight: 20 kg / 1,000 pieces Perforation: 4 x 3.3 mm Ø Base plate: painted black painted black* . Material: 1.4571

* Painted lips in other colours available on request.

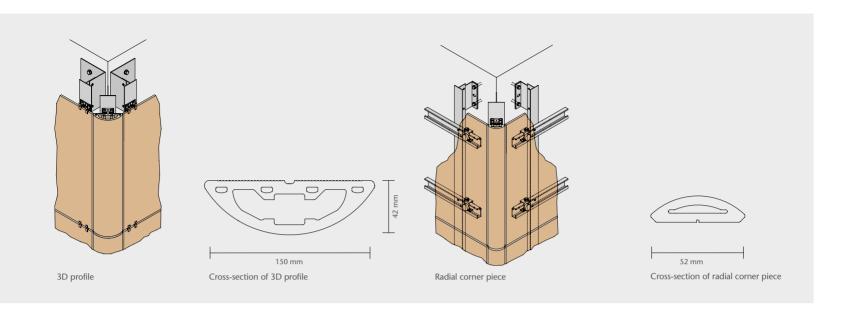
- The following applies to all ceramic special pieces on this page:

 HT coating not possible except for the radial corner piece (art. no. K140H)

 Available in the colours "natura unglazed" and "SpectraView" (glazed)

 Not possible in the colours of the series "design glazed"!

 For technical reasons at production, slight colour differences compared to the standard products may occur.





Article 676 A2 stainless steel screw, black

Weight: 0.9 kg / box Nom. dimen.: 3.5 x 9.5 mm Box contents: 1,000 pieces

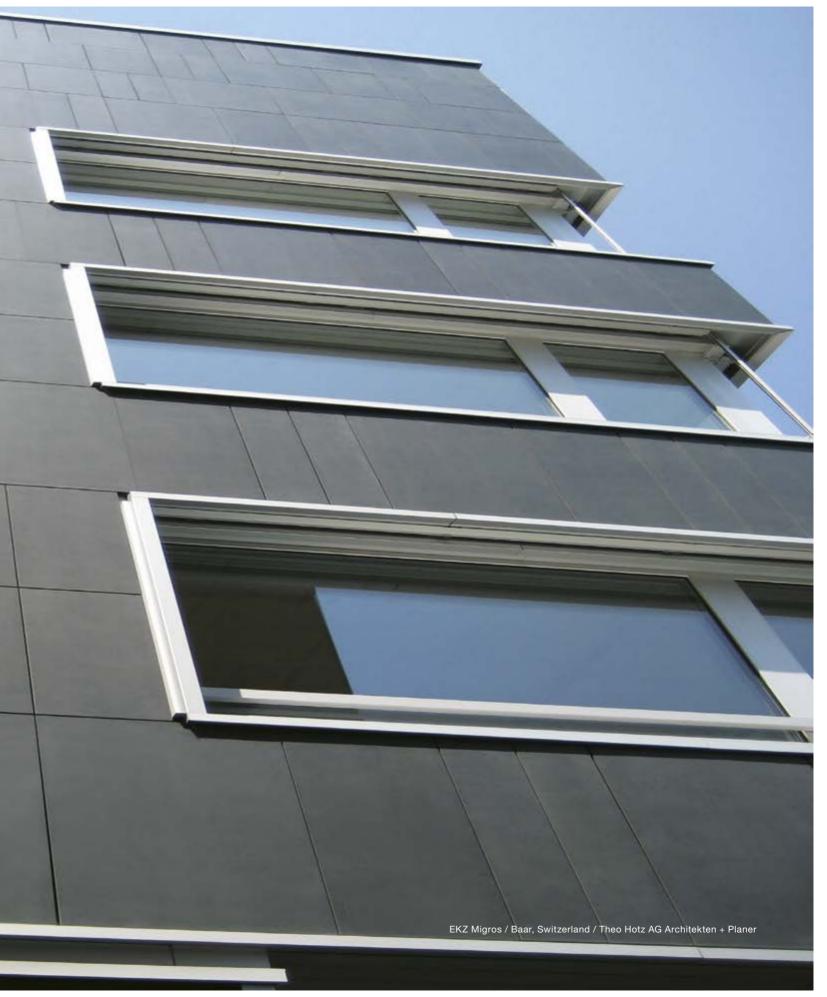


Article 675 Stainless steel blind rivet, black

Weight: 1.05 kg / box Nom. dimen.: 3.2 x 9.5 mm Box contents: 500 pieces

Important: The use of silicone caoutchoucs must be absolutely avoided, because silicone fluids segregate and effect sticky surfaces on which dirt adheres. Therefore, only use the system components mentioned (foamed pieces, EPDM rubber profile, neoprene rubber washer) and pointing, bonding and sealing materials recommended by us. We will be pleased to inform you in detail. The usual final cleaning after completion of the construction works is still required.

Sophisticated technique. For decades, buildings all around the world have been successfully cladded with facade systems of AGROB BUCHTAL. Apart from the typical advantages of the ceramic material, it is above all the sophisticated technique which speaks in favour of KerAion: KerAion facades are conforming to standards, to official approvals and – thanks to their practically unlimited durability – very economical. With a well balanced range of colours, diverse sizes and project-specific special productions, KerAion facade systems give buildings with large surfaces an individual and aesthetic look. Compared to the board formats of the KeraTwin® systems, square large-size formats from 60 x 60 up to 120 x 120 cm with a panel thickness of only 8 mm are also available in the case of KerAion.



KerAion

Surfaces

Besides the smooth standard surface of the KerAion panels, you also have the possibility of setting accents with the brushed surface in partial areas or also on the entire facade.

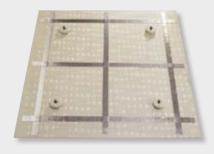




KerAion Quadro / KerAion K8

Safety tapes

With the safety tapes we offer you a safety system specially matched to the KerAion facade panels. The safety tapes applied to the panel reverse side in-plant prevent larger pieces from falling down if panels are destroyed mechanically.



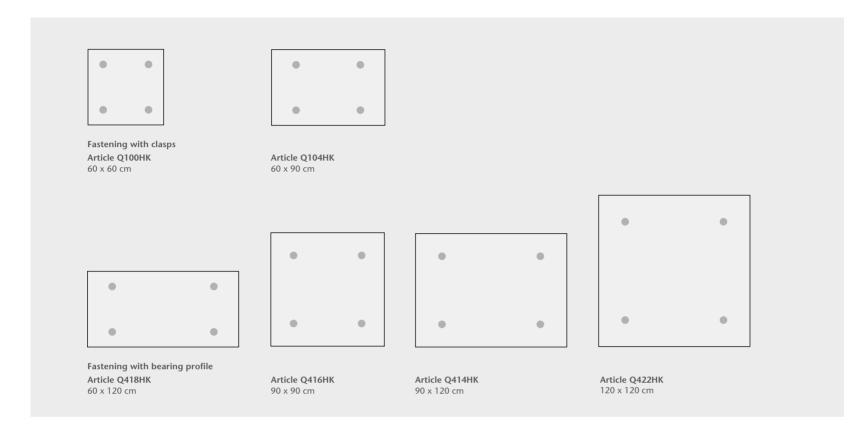
KerAion Quadro with safety tape



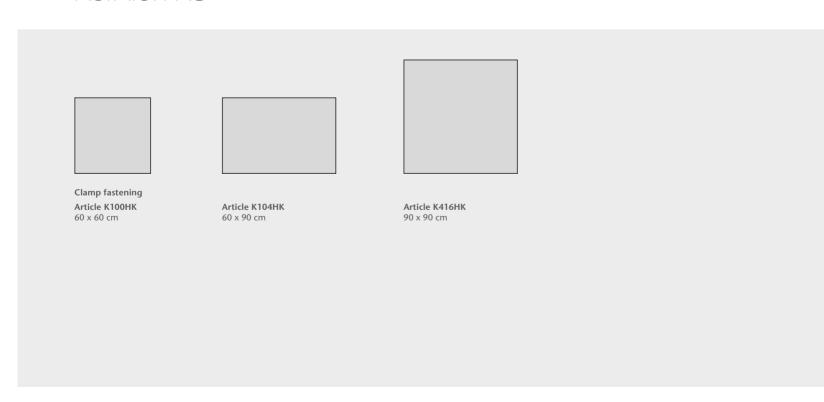
KerAion K8 with safety tape



KerAion Quadro



KerAion K8





Extruded Ceramic Panels, Precision, DIN EN 14411, group Al_n, glazed (GL) (large-size stoneware panels)

Standard sizes: invisible fastening with clasps:

(grid size/work size*) 60 x 60 cm / 592 x 592 mm, 60 x 90 cm / 592 x 892 mm

invisible fastening with bearing profile:

60 x 120 cm / 592 x 1192 mm, 90 x 90 cm / 892 x 892 mm, 90 x 120 cm / 892 x 1192 mm, 120 x 120 cm / 1192 x 1192 mm

Other sizes available on request.

Thickness: 8 mm

Weight per unit area: 18.5 kg/m²

Colours/surfaces: For the colour charts "SpectraView" glazed and "design glazed", see pages 22 – 23 and

26 – 27. Unglazed colours on request. For surface variations, see pages 66 – 67.

Safety tapes: Safety tapes are available for all sizes. For information, see pages 66 – 67.



Extruded Ceramic Panels, Precision, DIN EN 14411, group AI, glazed (GL) (large-size stoneware panels)

Standard sizes: 60 x 60 cm / 592 x 592 mm, 60 x 90 cm / 592 x 892 mm,

(grid size/work size*) 90 x 90 cm / 892 x 892 mm Other sizes available on request.

31101 01200 available 011

Thickness: 8 mm

Weight per unit area: 18 kg/m²

Colours/surfaces: For the colour charts "SpectraView" glazed and "design glazed", see pages 22 - 23 and

26 – 27. Unglazed colours on request. For surface variations, see pages 66 – 67.

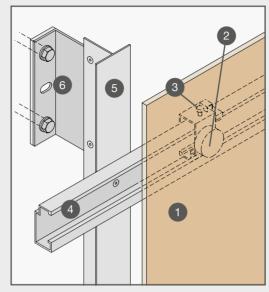
Safety tapes: Safety tapes are available for all sizes. For information, see pages 66 – 67.

^{*} rectified – available with natural edge on request.

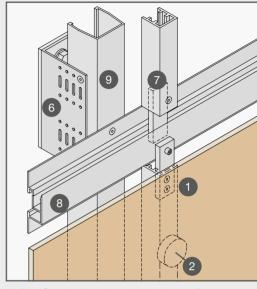
KerAion Quadro with invisible fastening (clasps / bearing profile)

System description

Quadro fastening points (ceramic composite element) with integral stainless steel screw are sinter-fused on the reverse side of the KerAion Quadro facade panels in a special firing process. On these fastening points, clasps (up to the size of 60 x 90 cm) or a bearing profile (up to the size of 120 x 120 cm) can be screwed by means of which the facade panels are hung in the substructure.



KerAion Quadro, clasp fastening

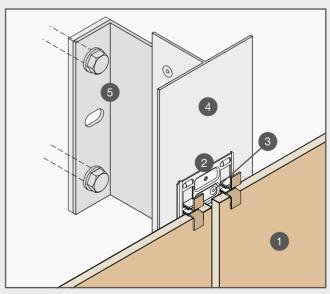


KerAion Quadro, fastening with bearing profile

KerAion K8 with visible clamp fastening

System description

The KerAion facade panels are fixed on the substructure by means of the stainless steel clamps K8. The colour of the clamp lips is matched to the panel design. To prevent clattering and constraining forces in the case of alternating wind loads, the facade panels are installed on the substructure in a non-rigid way by means of foamed pieces.



KerAion with clamp fastening K8

- 1 Facade panel KerAion Quadro
- 2 Quadro fastening point
- 3 Clasp with adjusting screw
- Horizontal bearing profile for clasp fastening (basic substructure)
- 5 Vertical bearing profile (basic substructure)
- 6 Wall bracket (basic substructure)
- 7 Bearing profile (basic substructure)
- 8 Horizontal bearing profile for fastening with bearing profile (basic substructure)
- 9 Vertical bearing profile (basic substructure)

Essential system advantages

- No visible fastening means
- No weakening of the facade panels by undercut anchors
- The low panel weight of 18.5 kg/m² facilitates transport and handling and also permits the use in case of a statically demanding building structure
- Great design scope thanks to a wide variety of sizes up to $120 \times 120 \text{ cm}$
- Excellent look of the facade thanks to a particularly uniform ioint structure
- General approval of the supervisory authority by the "Deutsches Institut für Bautechnik", Berlin: no. Z-33.1-21 Fastening with clasps, no. Z-33.1-27 Fastening with bearing profiles

- 1 Facade panel KerAion K8
- 2 Twin-clamp K8, article 545
- 3 Stainless steel blind rivet, article 675 (alternatively, fastening with A2 stainless steel screw, article 676, is possible)
- 4 Vertical bearing profile (basic substructure)
- 5 Wall bracket (basic substructure)

Essential system advantages

- Rapid and proven panel installation with well thought-out system components
- The low panel weight of 18 kg/m² facilitates transport and handling and also permits the use in case of a statically demanding building structure
- Suitable for use both on metal and wooden substructure
- Great design scope thanks to a wide variety of sizes up to 90 x 90 cm
- General approval of the supervisory authority by the "Deutsches Institut für Bautechnik", Berlin: no. Z-33.1-18

Important: The use of silicone caoutchoucs must be absolutely avoided, because silicone fluids segregate and effect sticky surfaces on which dirt adheres. Therefore, only use the system components mentioned (foamed pieces, EPDM rubber profile, neoprene rubber washer) and pointing, bonding and sealing materials recommended by us. We will be pleased to inform you in detail. The usual final cleaning after completion of the construction works is still required.

KerAion K8



Article 545 Twin-clamp K8

20 kg / 1,000 pieces 4 x 3.3 mm Ø Weight: Perforation: Base plate: painted black

painted similar to panel colour Lips:

Material: 1.4571



Edge-clamp K8

20 kg / 1,000 pieces 4 x 3.3 mm Ø Weight: Perforation: Base plate: painted black

painted similar to panel colour Lips:

Material:



Edge-clamp K8, left

20 kg / 1,000 pieces 4 x 3.3 mm Ø Weight: Perforation: Base plate: painted black

painted similar to panel colour Lips:

Material: 1.4571



Article 675

Stainless steel blind rivet, black

1.05 kg / box Weight: Nom. dimen.: 3.2 x 9.5 mm Box contents: 500 pieces



Article 347 Foamed piece*

Weight: 0.85 kg / roll Nom. dimen.: 20 x 30 x 8 mm Roll: 652 pieces / roll

self-adhesive



Article 506 Joint tape, black

Weight: 0.5 kg / roll Nom. dimen.: 40 mm wide, 50 m self-adhesive, weather-resistant

KerAion Quadro



Article 370

Stainless steel nut, self-locking Weight: 2 kg / 1,000 pieces

Nom. dimen.: M6



Article 371

Rubber washer, neoprene

Weight: 1 kg / 1,000 pieces Nom. dimen.: 30 x 1.5 mm

* Alternatively, nonrigid installation is also possible with PUR or MS polymer bonding materials

Important: The use of silicone caoutchoucs must be absolutely avoided, because silicone fluids segregate and effect sticky surfaces on which dirt adheres. Therefore, only use the system components mentioned (foamed pieces, EPDM rubber profile, neoprene rubber washer) and pointing, bonding and sealing materials recommended by us. We will be pleased to inform you in detail. The usual final cleaning after completion of the construction works is still required.



Edge-clamp K8, right

Weight: Perforation: 20 kg / 1,000 pieces 4 x 3.3 mm Ø painted black Base plate:

Lips: painted similar to panel colour

Material: 1.4571



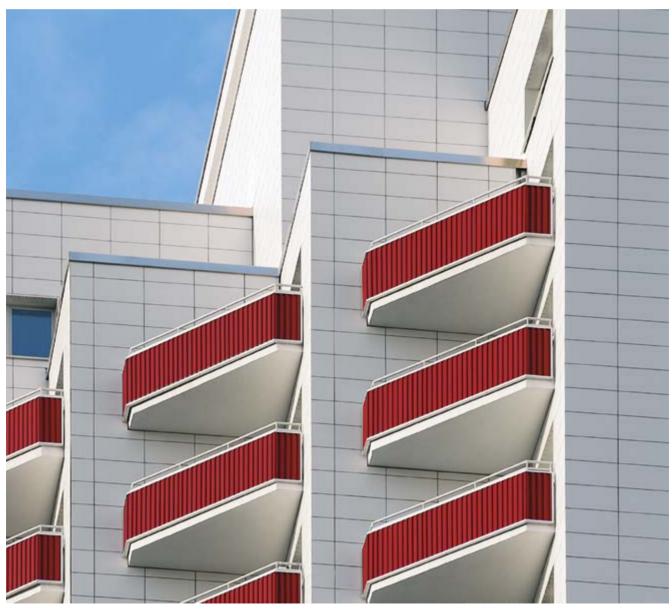
Single-clamp K8

Weight: Perforation: 20 kg / 1,000 pieces 4 x 3.3 mm Ø painted black Base plate: Lips: Material:

painted black painted similar to panel colour 1.4571



Article 676 A2 stainless steel screw, black Weight: 0.9 kg / box Nom. dimen.: 3.5 x 9.5 mm Box contents: 1,000 pieces

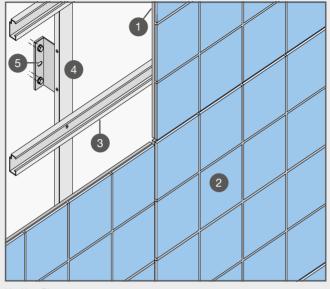


Messehochhaus / Leipzig, Germany / Architect: L.P. Bauplanung

Ceramic composite elements KerAion Plus with invisible fastening

System description

The KerAion Plus composite elements consist of 8 mm thick KerAion base panels which are covered with 6 or 8 mm thick ceramic tiles (e.g. series Chroma II). The individual tiles of the surface covering with a maximum side length of 40 cm must not cover more than an area of 0.12 m² (DIN 18515, Part 1). Bonding and pointing are carried out in-plant by a specially tested technique.



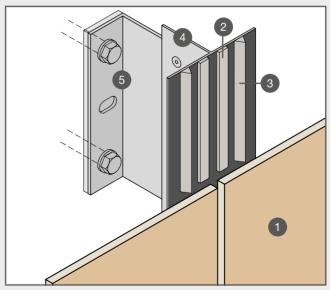
KerAion Plus

SikaTack®-Panel – invisible fastening by glueing technique

System description

The economical system SikaTack®-Panel is a glueing system for the hidden and stress-free mounting of facade panels. The system consists of the permanently elastic glue SikaTack®-Panel, the SikaTack®-Panel mounting tape, self-adhesive on both sides, for the fixing of the panels as well as the corresponding products for the pretreatment of the bases. With the system SikaTack®-Panel, facade panels are invisibly fastened on commercially available substructures.

Only those companies are permitted to carry out the glueing which have furnished proof of the corresponding aptitude according to Annex A of the general approval of the supervisory authority (no. Z-10.8-286).



SikaTack®

- 1 KerAion base panel
- 2 Covering material
- Horizontal bearing profile for clasp fastening (basic substructure)
- 4 Vertical bearing profile (basic substructure)
- 5 Wall bracket (basic substructure)

Essential system advantages

- Proven and safe invisible fastening with system KerAion Quadro
- Varied possibilities of application above all at the protection of historical monuments, renovations and restorations
- The look of smaller ceramic formats combined with the fastening technique and the construction-physical advantages of rear-ventilated, heat-insulated facade systems
- Applicable up to the size of 120 x 120 cm (grid sizes of the surface covering matched to the respective panel size of the base panel)
- Non-combustible, building material class A2
- General approval of the supervisory authority by the "Deutsches Institut für Bautechnik", Berlin, as extension to the existing approvals Z-33.1-21 and Z-33.1-27

- 1 KerAion facade panel
- 2 SikaTack®-Panel mounting tape
- 3 Permanently elastic glue SikaTack®-Panel
- 4 Vertical bearing profile (basic substructure)
- 5 Wall bracket (basic substructure)

- Invisible fastening by glueing technique
- No weakening of the facade panel by undercut anchors
- The low panel weight of 18 kg/m² facilitates transport and handling and also permits the use in case of a statically demanding building structure
- Complete system: building material class B1, max. building height according to the legal construction specifications of the country concerned
- Great design scope thanks to a wide variety of sizes up to 120 x 120 cm
- General approval of the supervisory authority by the "Deutsches Institut für Bautechnik", Berlin: no. Z-10.8-286

Porcelain stoneware

A whole spectrum of new surfaces.

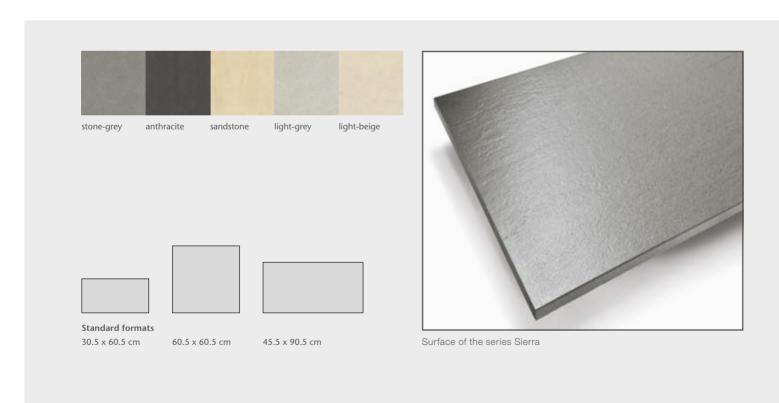
The integration of successful porcelain stoneware series gives ceramic facade design new aesthetic impetus. Metry, Sierra, Vision and Xeno add a whole spectrum of harmoniously graded colours to the existing range. At the same time, the choice of surface variants available has increased. For fastening, the proven clamp (visible) and undercut (invisible) systems are available. The panels are supplied in various standard formats from 30.5 x 60.5 cm up to 45.5 x 90.5 cm.



Porcelain stoneware "Metry"



Porcelain stoneware "Sierra"



Articles for clamp fastening K10 - panel thickness: 10.5 mm - weight per unit area: 23 kg/m² Standard formats: (grid size / work size*)

 $30.5 \times 60.5 \text{ cm} / 297 \times 597 \text{ mm}$ $60.5 \times 60.5 \text{ cm} / 597 \times 597 \text{ mm}$ $45.5 \times 90.5 \text{ cm} / 447 \times 897 \text{ mm}$

432840-30 anthracite 432947-30 anthracite 459088-30 anthracite 434469-30 calcite 459091-30 calcite 434469-30 calcite 432857-30 calcite 459089-30 basalt-grey 459090-30 black 433505-30 basalt-grey 432918-30 basalt-grey 432917-30 black 433504-30 black

Articles with undercut drill-hole - panel thickness: 10.5 mm - weight per unit area: 23 kg/m² Standard formats: (grid size / work size*)

30.5 x 60.5 cm / 297 x 597 mm 60.5 x 60.5 cm / 597 x 597 mm 45.5 x 90.5 cm / 447 x 897 mm

432947-32 anthracite 459088-32 anumae 459091-32 calcite 432840-32 anthracite 432947-32 calcite 434469-32 calcite 459088-32 anthracite 459089-32 basalt-grey 432918-32 basalt-grey 433505-32 basalt-grey 432917-32 black 433504-32 black 459090-32 black

Articles for clamp fastening K10 - panel thickness: 10.5 mm - weight per unit area: 23 kg/m² Standard formats: (grid size / work size*)

 $30.5 \times 60.5 \text{ cm} / 297 \times 597 \text{ mm}$ $60.5 \times 60.5 \text{ cm} / 597 \times 597 \text{ mm}$ $45.5 \times 90.5 \text{ cm} / 447 \times 897 \text{ mm}$

059701-30 stone-grey 059704-30 stone-grey 059852-30 anthracite 059854-30 light-beige

 059701-30 anthracite
 059706-30 anthracite

 059703-30 anthracite
 059705-30 sandstone

 059702-30 sandstone
 059802-30 light-grey

 059800-30 light-beige
 059803-30 light-beige

Articles with undercut drill-hole - panel thickness: 10.5 mm - weight per unit area: 23 kg/m² Standard formats: (grid size / work size*)

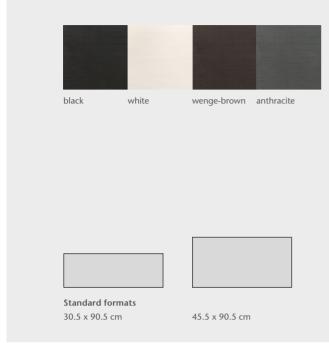
30.5 x 60.5 cm / 297 x 597 mm 60.5 x 60.5 cm / 597 x 597 mm 45.5 x 90.5 cm / 447 x 897 mm

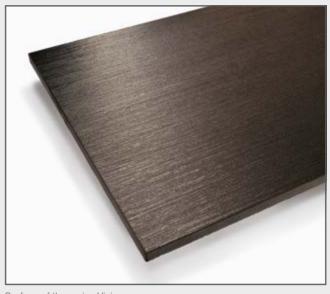
059701-32 stone-grey 059704-32 stone-grey 059852-32 anthracite 059703-32 anthracite 059706-32 anthracite 059854-32 light-beige

059702-32 sandstone 059705-32 sandstone 059800-32 light-grey 059802-32 light-grey 059801-32 light-beige 059803-32 light-beige

^{*} rectified

Porcelain stoneware "Vision"





Surface of the series Vision

Porcelain stoneware "Xeno"



Articles for clamp fastening K10 – panel thickness: 10.5 mm – weight per unit area: 23 kg/m² Standard formats: (grid size / work size*)

 $30.5 \times 90.5 \text{ cm} / 297 \times 897 \text{ mm}$ $45.5 \times 90.5 \text{ cm} / 447 \times 897 \text{ mm}$

 459070-30 black
 459050-30 black

 459071-30 white
 459051-30 white

 459072-30 wenge-brown
 450952-30 wenge-brown

 459073-30 anthracite
 459053-30 anthracite

Articles with undercut drill-hole – panel thickness: 10.5 mm – weight per unit area: 23 kg/m² Standard formats: (grid size / work size*)

30.5 x 90.5 cm / 297 x 897 mm 45.5 x 90.5 cm / 447 x 897 mm

459070-32 black 459050-32 black 459071-32 white 459072-32 wenge-brown 450952-32 wenge

459072-32 wenge-brown 459073-32 anthracite 459053-32 anthracite

Articles for clamp fastening K10 – panel thickness: 10.5 mm – weight per unit area: 23 kg/m² Standard formats: (grid size / work size*)

45.5 x 45.5 cm/ 30.5 x 60.5 cm/ 60.5 x 60.5 cm/ 45.5 x 90.5 cm/ 297 x 597 mm 597 x 597 mm 447 x 447 mm 447 x 897 mm 432631-30 anthracite 432641-30 anthracite 459080-30 anthrac 432632-30 black 432642-30 black 459081-30 black 432974-30 anthracite 459080-30 anthracite 432975-30 black 432632-30 black 432633-30 ore-brown 432643-30 ore-brown 459083-30 ore-brown 432634-30 stone-grey 459082-30 stone-grey 432976-30 ore-brown 432977-30 stone-grey 432978-30 jurassic-white 432635-30 jurassic-white 432645-30 jurassic-white 459084-30 jurassic-white

Articles with undercut drill-hole – panel thickness: 10.5 mm – weight per unit area: 23 kg/m² Standard formats: (grid size / work size*)

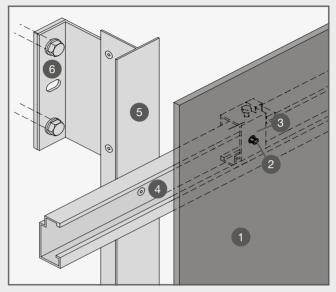
30.5 x 60.5 cm/ 297 x 597 mm 432974-32 anthracite 432975-32 black 432976-32 ore-brown 432977-32 stone-grey	60.5 x 60.5 cm/ 597 x 597 mm 432631-32 anthracite 432632-32 black 432633-32 ore-brown 432634-32 stone-grey	45.5 x 45.5 cm/ 447 x 447 mm 432641-32 anthracite 432642-32 black 432643-32 ore-brown 432644-32 stone-grey	45.5 x 90.5 cm/ 447 x 897 mm 459080-32 anthracite 459081-32 black 459083-32 ore-brown 459082-32 stone-grey
432978-32 jurassic-white	432635-32 jurassic-white	432645-32 jurassic-white	459084-32 jurassic-white
•	,	· ·	· ·

^{*} rectified

Porcelain stoneware facade panels with invisible fastening with undercut anchor

System description

On the reverse side of the porcelain stoneware panels, undercut anchors (anchor bolts) are inserted in specially drilled undercut drill-holes as fastening points. At least four fastening points per panel are required. The substructure parts (clasps) are fixed in the anchors by means of stainless steel screws M6, and the porcelain stoneware panels are hung in the substructure. Between the clasps and the ceramics, elastic intermediate layers have to be installed. At all fastening systems (basic substructures), constructional measures must be provided which durably prevent a lateral movement of the panels. The fastening means, the substructure and the execution must be in conformity with the specifications and conditions stipulated in the European Technical Approval. Keil undercut anchor KH for porcelain stoneware – facade panels, European Technical Approval ETA-03/0055.

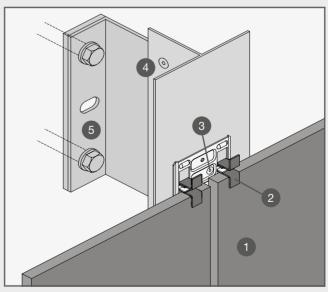


Porcelain stoneware with undercut anchor fastening

Porcelain stoneware facade panels with visible clamp fastening

System description

The porcelain stoneware facade panels are fixed on the substructure by means of the stainless steel clamps K10. The colour of the clamp lips is matched to the panel design. To prevent clattering and constraining forces in the case of alternating wind loads, the facade panels are installed on the substructure in a nonrigid way by means of foamed pieces.



Porcelain stoneware with clamp fastening K10

- Porcelain stoneware facade panel with undercut drill-hole
- 2 Anchor bolt
- 3 Clasp with adjusting screw (basic substructure)
- Horizontal bearing profile for clasp fastening (basic substructure)
- 5 Vertical bearing profile (basic substructure)
- 6 Wall bracket (basic substructure)

Essential system advantages

- No visible fastening means
- Fastening is possible with clasps or bearing profile
- The low panel weight of 23 kg/m² facilitates transport and handling and also permits the use in case of a statically demanding building structure
- Laying of the panels with straight joints or in bonds
- Formats of up to 45.5 x 90.5 cm
- Excellent look of the facade thanks to a particularly uniform joint structure

- 1 Porcelain stoneware facade panel
- 2 Twin-clamp K10, article 570
- 3 Stainless steel blind rivet, article 675 (alternatively, fastening with A2 stainless steel screw, article 676, is possible)
- 4 Vertical bearing profile (basic substructure)
- 5 Wall bracket (basic substructure)

- Rapid and proven panel installation with well thought-out system components
- The low panel weight of 23 kg/m² facilitates transport and handling and also permits the use in case of a statically demanding building structure
- Suitable for use both on metal and wooden constructions
- Great design scope thanks to a wide variety of formats up to the size of $45.5 \times 90.5 \text{ cm}$

Porcelain stoneware facade panels with clamp K10



Article 570 Twin-clamp K10

20 kg / 1,000 pieces 4 x 3.3 mm Ø Weight: Perforation: painted black Base plate:

painted similar to panel colour Lips: Material:



Edge-clamp K10

20 kg / 1,000 pieces 4 x 3.3 mm Ø Weight: Perforation: painted black Base plate:

painted similar to panel colour Lips: Material:



Edge-clamp K10, left

20 kg / 1,000 pieces 4 x 3.3 mm Ø Weight: Perforation: painted black Base plate:

painted black painted similar to panel colour 1.4571 Lips:

Material:



Article 675

Stainless steel blind rivet, black

Weight: 1.05 kg / box Nom. dimen.: 3.2 x 9.5 mm Box contents: 500 pieces



Article 347 Foamed piece* Weight:

0.85 kg / roll Nom. dimen.: 20 x 30 x 8 mm Roll: 652 pieces / roll

self-adhesive



Article 506 Joint tape, black

0.5 kg / roll Nom. dimen.: 40 mm wide, 50 m self-adhesive, weather-resistant



Edge-clamp K10, right

Weight: 20 kg / 1,000 pieces
Perforation: 4 x 3.3 mm Ø
Base plate: painted black

Lips: painted similar to panel colour

Material: 1.4571



Article 574 Single-clamp K10

Weight: 20 kg / 1,000 piecesPerforation: $4 \times 3.3 \text{ mm } \emptyset$ Base plate: painted black

Lips: painted similar to panel colour

Material: 1.457



Article 676

A2 stainless steel screw, black
Weight: 0.9 kg / box
Nom. dimen.: 3.5 x 9.5 mm
Box contents: 1,000 pieces

Porcelain stoneware facade panels with undercut anchor





Article 670

Undercut anchor with screw

Drilling depth: 7.0 mm

Screw: M 6 x 10

Packaging: 500 pieces / packaging unit 2.82 kg / packaging unit

Anchor bolt incl. hexagon head screw with locking ratchet

made of stainless steel A4

Important: The use of silicone caoutchoucs must be absolutely avoided, because silicone fluids segregate and effect sticky surfaces on which dirt adheres. Therefore, please only use the system components mentioned (foamed pieces, EDPM rubber profile, neoprene rubber washer) and pointing, bonding and sealing materials recommended by us. We will be pleased to inform you in detail. The usual final cleaning after completion of the construction works is still required.

^{*}Alternatively, the soft support of the panels is also possible with PUR or MS polymer bonding materials.



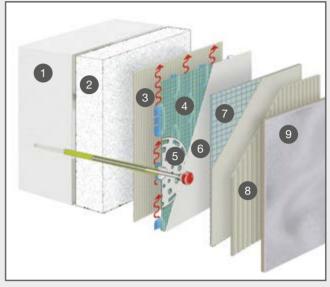


CeraVent® complete system - ventilation and separation

System description

The CeraVent® cladding carrier mat serves as ventilation and separation layer between wall and covering. The system can be used both on newly installed heat insulation layers for preventing damage and on existing damaged bases for renovation.

With the CeraVent® system, a self-contained covering shell is created which is stably carried by the appropriate dowel system. The cladding carrier mat is separated from the base. Cracks and strains in the base are neutralized. By the 10 mm thick air layer between base and CeraVent® mat, diffusion humidity is prevented due to the steam-tight ceramic covering: the ventilated cladding carrier mat carries away humidity behind the tile covering. Efflorescences and chipping of the covering caused by frost as a result of accumulating humidity are effectively prevented.



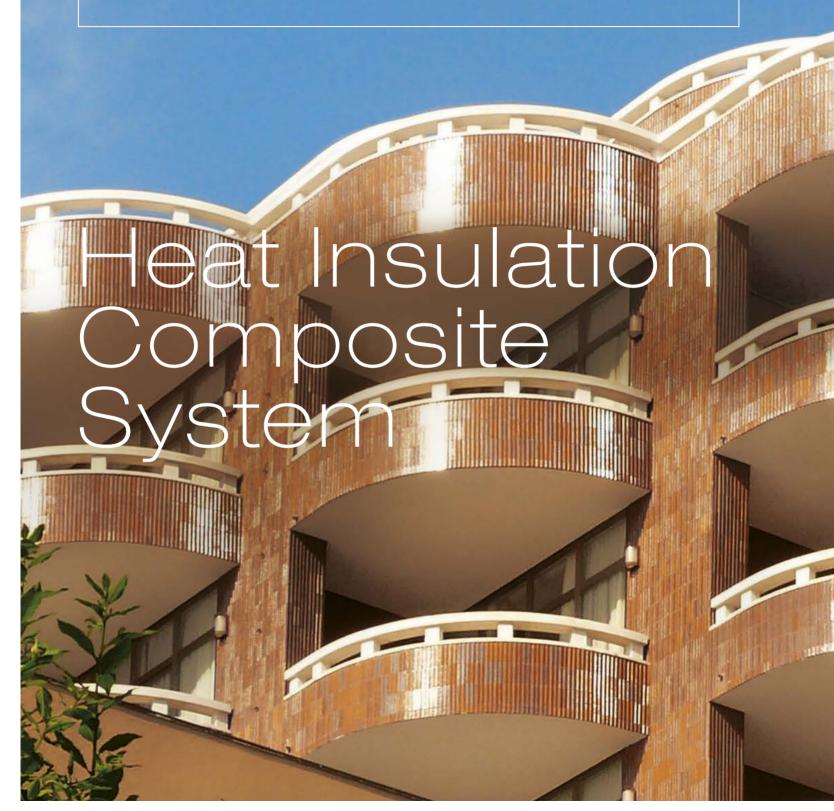
The CeraVent® complete system

- The carrier system is separated from the base, critical transverse strains are neutralized
- Humidity can be carried away in the ventilation space
- Panels up to the format of 60 x 60 cm can be used
- Low layer thickness of approx. 25 to 30 mm
- Also suitable for use on heat insulation 190 mm
- For building heights of up to 20 / 22 m
- General approval of the supervisory authority by "Deutsches Institut für Bautechnik", Berlin: no. Z-33.2-1102
- 1 Stable wall structure (brickwork / concrete)
- 2 Heat insulation
- 3 "PCI Fassadenkleber" for installation fixing
- 4 CeraVent® cladding carrier mat
- 6 CeraVent® dowel set consisting of screwed insert, screw, dowel plate and cap
- 6 Filling mortar: "PCI Fassadenspachtel"
- Reinforcing layer made of "PCI Fassadenspachtel" plus CeraVent® reinforcement fabric
- 8 Fixing mortar: "PCI Fassadenkleber"
- 9 Ceramic tiles / panels of AGROB BUCHTAL Series Chroma II / KerAion



Sophisticated technique.

Heat insulation composite systems help to considerably reduce the energy costs and are also successfully used at the renovation of old buildings. Ceramic coverings present themselves as an ideal terminal layer on outside walls. They can be laid without any problems, protect the facade against atmospheric influences and open up varied aesthetic design possibilities in addition.

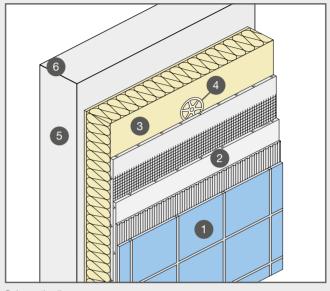




Heat insulation composite system with ceramic surface covering

System description

The heat insulation composite system consists of insulating boards, which are fixed on the wall by plugs and bonding mortar or only with bonding mortar. On these boards, a rendering with integrated textile glass reinforcement mesh is applied, on which a ceramic covering is fixed by bonding. The joints must occupy a surface of at least 6 % per m². The laying of this system has to be based on the respective general approval of the construction supervisory authority. A test certificate is available for the application of ceramics on a heat insulation composite system.



Schematic diagram

Colour and series examples

Great design variety

The most diverse series of AGROB BUCHTAL can be used for the design of the ceramic surface covering of the heat insulation composite system. They permit an immense number of colour and format combinations. We will be pleased to provide detailed information about the series shown here as well as other series suitable for use upon request.

Series Strip Tiles



Series Goldline



Important: The use of silicone caoutchoucs must be absolutely avoided, because silicone fluids segregate and effect sticky surfaces on which dirt adheres. Therefore, please only use the system components mentioned (foamed pieces, EDPM rubber profile, neoprene rubber washer) and pointing, bonding and sealing materials recommended by us. We will be pleased to inform you in detail. The usual final cleaning after completion of the construction works is still required.

- 1 Ceramic covering material
- 2 Bonding mortar with reinforcement mesh
- 3 Insulating board
- 4 Fixing by plugs
- 5 Wall

- Varied possibilities of application for new buildings and renovations
- Execution with the series Chroma II is possible, which offers great design variety with 45 colours matched to each other and is particularly easy to clean thanks to the HT coating
- Execution with the robust and durable split tile series Strip Tiles and Goldline with warm autumn shades and vivid play of colour is possible
- The covering material is light- and colour-fast as well as resistant to UV light



Test Certificates/Test Reports

Our products are permanently controlled in acknowledged material testing institutions in Germany and abroad. Copies of the certificates and approvals mentioned below are available on request.

Ceramics

- Works' test certificates according to DIN EN 14411
- Test certificate according to DIN EN 14411: Prüflabor Keramik & Stein

KeraTwin® Fastening systems

- Test report for KT clamp: CRP Berlin, no. VR 1517, MPA Stuttgart, no. 9004689000-C/D
- Test report for system K18: MPA Stuttgart, no. 9004689000-G
- Test report for system K20: IFBT Leipzig, no. 11-030, 11-031, 11-032, 11-033
- CWCT-test K18: Taylor Woodrow, no. N950/08/14073, N950/08/14074
- CWCT-test K20: Wintech, no. D-09/2264, D-09/2339
- AIR-INS inc., no. AS-00365-A; no. AS-00365-B
- Istituto Giordano, no. 285883
- Approval: Z-33.1-1175

BBA Agrément Certificate 13-4980 Avis Technique 02/12-1496

CeraVent®

- Approval Z-33.2-1102Test report: CRP, Berlin, S326/06.5

KerAion Approvals

- Avis Technique 02/09-1347
- Z-33.1-21 - Z-33.1-27
- Z-10.8-286

Test reports

- MPA Stuttgart, no. 23-10032-S-900
- MPA Stuttgart, no. 23-10032-Kla-900
- MPA Stuttgart, no. 23-15151-2
- MPA Stuttgart, no. 23-15151-1
- MPA Stuttgart, no. 23-15151-1E - MPA Stuttgart, no. 23-15151-1F

Impact

- CWCT-tests
- Avis Technique
- MPA Stuttgart, no. 9004689000-F

Earthquake

- KeraTwin® K18: BETC-QC1-2008-83D (A), (B), (C), (D), (E), (F), (G), (H), (I), (J), Avis Technique 02/12-1496
- (J), AVIS Technique 02/12-1430 KeraTwin® K20: BETC-QC1-2009-298D, (A), (B), (C), (D), (E), (F) KerAion: BETC-QC1-2004-501D, BETC-QC1-2004-502D, BETC-QC1-2004-505D, BETC-QC1-2008-83D (F), Avis Technique 2/09-1347

Immission values

- Certificaat: NL BSB no. IKB 1441/06
- Test report: TCKI, no. 06/999bk.EvO

Construction Techniques and Construction Physics: Design Loads

General

Forces and loads acting on the facade, which result from the own weight, atmospheric and climatic influences, must be taken into account at the construction to ensure stability. The regulations in force of the respective country have to be complied with (e.g. DIN 18516-1 in Germany).

Own Weight

DIN 18516 Part 1 · Design Loads

If the characteristic own weight of a building material can not be taken from DIN 1055 Part 1, its own weight - taking into account a possible absorption of humidity - must be proved by a test certificate of an official material testing institute. The own weight also has to be taken into consideration at the dimensioning of the fastening, the substructure and its anchorage. The calculated weight (see page 95) of the facade panel is indicated in the respective approval decisions. The material properties of the ceramics are proved by test certificates.

Wind Load

The absorption of the wind loads must be proved for all parts of the outside wall cladding. Forces of different strength resulting from the wind load act on the outside wall cladding. Both wind suction and wind pressure loads occur. The wind design loads are specified in the regulations in force of the respective country.

Snow and Ice Loads

Snow and ice loads have to be taken into consideration in the case of special climatic conditions as well as in the case of a possible deposition at or on the cladding. In general, these additional loads only occur at inclined facade areas. Depending on the respective angle of inclination, it has to be examined to what extent snow and wind loads are expected to occur simultaneously.

Special Loads

Special loads, e.g. from neon signs, devices for the protection against the sun or scaffold anchors, must be carried by the wall independent of the outside wall cladding or have to be taken into account at the stability check.

Technical values and characteristics of facade ceramics

KeraTwin®

- Extruded ceramic panels, Precision, DIN EN 14411, group All
- K18: 18 mm K18: 32 kg/m² K20: 20 mm - Thickness: K20: 32 kg/m² - Weight:
- Breaking strength: K18 / K20: ≥ 3300 N (according DIN EN ISO 10545-4)
- Low water absorption (3% < E ≤ 6%)
- Frostproof
- Light- and colour-fast, resistant to UV light
- Resistant to aggressive environmental effectsBuilding material class A1, non-combustible

Dimensional tolerances:

K18 / K20:

Length (up to 135 cm): +/- 1 mm Height (up to 50 cm): +/- 2 mm Straightness of edges: +/- 1.5 mm Thickness: +/- 1 mm Surface flatness: +/- 0.4 % +/- 0.3 % Rectangularity:

KerAion

- Extruded ceramic panels, Precision, DIN EN 14411, group Al,
- Thickness 8 mm

60 x 90, 90 x 90 cm:

- Weight 18 kg/m² (Quadro: 18.5 kg/m²) - Flexural/tensile strength ≥ 30 N/mm²
- Low water absorption (E ≤ 3%)
- Frostproof
- Light- and colour-fast, resistant to UV light
- Resistant to aggressive environmental effects
- Building material class A1, non-combustible

Dimensional tolerances (rectified):

Length and width 60 x 60 cm:

+/- 0.5 mm Straightness of edges +/- 0.5 mm Thickness +/- 0.5 mm

Surface flatness/curvature +/- 2 mm at the edges

Rectangularity Length and width +/- 0.5 mm

Straightness of edges +/- 0.5 mm Thickness +/- 0.5 mm Surface flatness/curvature +/- 3 mm at the edges

Rectangularity +/- 1.8 mm 90 x 120, 120 x 120 cm: Length and width +/- 0.5 mm

Straightness of edges +/- 0.5 mm Thickness +/- 0.5 mm

Surface flatness/curvature +/- 3 mm at the edges Rectangularity +/- 2 mm

Ceramics for heat insulation composite system and CeraVent®

- Extruded ceramic panels, Precision, DIN EN 14411, group Al_b (CeraVent®)
- Extruded ceramic panels, Precision, DIN EN 14411, group Alla - Extruded ceramic panels, Precision, DIN EN 14411, group BI,
- (CeraVent®) - Weight 11 - 25 kg/m² (depending on thickness and size)
- Frostproof
- Light- and colour-fast, resistant to UV light
- Resistant to aggressive environmental effects
- Building material class A1, non-combustible

Porcelain stoneware

- Dry-pressed ceramic tiles, DIN EN 14411, group BI
- Thickness 10.5 mm
- Weight 23 kg/m²
- Flexural/tensile strength ≥ 40 N/mm²
- Low water absorption (E ≤ 0.5%)
- Frostproof
- Light- and colour-fast, resistant to UV light
- Resistant to aggressive environmental effects
 Building material class A1, non-combustible

Dimensional tolerances (rectified):

+/- 0.5 mm Length and width: +/- 0.5 mm Straightness of edges: Thickness: +/- 0.5 mm Surface flatness/curvature: +/- 2.0 mm

at the edges

+/- 1.2 mm Rectangularity:



Non-combustible building material class A1



Frostproof



Resistant to acids and alkalis



Light-and colour-fast resistant to UV light



Antibacterial, odour-eliminating, easy to clean

Standards and Regulations for Facade Claddings with Ceramic Panels

Invitation to bid

Book of standard works for building Works area 038, curtain-type, rear-ventilated facades VOB C ATV General rules for DIN 18299 construction works of any type VOB C ATV DIN 18351 Curtaintype, rear-ventilated facades

Construction

DIN 18515-1, part 1: Tiles fixed with mortar; principles of design and application

DIN 18516-1, part 1: Cladding for external walls, rear-ventilated, requirements, principles of testing DIN 4113-1, part 1:

Aluminium constructions under predominantly static loading - Static analysis

and structural design

DIN 1052, Design of timber structures - General rules and rules for buildings

DIN 68800-2, Wood preservation – Preventive constructional measures in buildings

DIN 68800-3, Wood preservation – Preventive protection of wood with wood preservatives

FVHF-Focus® Damage-free building with curtain-type, rear-ventilated facades

Design loads

DIN 1055-4, Action on structures - Part 4: Wind loads

Tolerances

DIN 18202, Tolerances in building construction; buildings

Ceramic tiles

DIN EN 14411, Ceramic tiles - Definitions, classification, characteristics and marking:

Extruded ceramic tiles according to Appendix A (normative) and Appendix B (normative) Part II of the List of Technical Building Regulations, application rules for building products and modular systems ... and harmonized standards according to the directive on building products: 5.6, Ceramic tiles and panels, and annex 5/6

List of Building Regulations C, special issue no. 34, 2007-08: 2.1: Facade elements for outside wall claddings

Protection against lightning

DIN EN 62305-3; part 3: Physical damage to structures and life hazard DIN EN 62305-4; part 4: Electrical and electronic systems within structures FVHF-Focus® Highly effective protection of buildings against lightning

Fire protection

DIN 4102-1, Fire behaviour of building materials and building components - Part 1: Building materials; definitions, requirements and tests DIN 4102-2, Fire behaviour of building materials and building components - Part 2: Building components; definitions, requirements and tests DIN 4102-4, Fire behaviour of building materials and building components - Part 4: Synopsis and application of classified building materials, components and special components, and amendment A1 DIN EN 13501-1, Fire classification of construction products and building elements - Part 1: Classification using test data from fire reaction to fire tests List of Building Regulations B, special issue no. 34, 2007-08, 1.9.3: Ceramic tiles and panels. Annex 01

Thermal protection and protection against moisture

Regulation for energy saving in buildings and building systems (EnEV) DIN 4108-1, Thermal protection in buildings; sizes and units DIN 4108-2, Thermal protection and energy economy in buildings; minimum requirements to thermal insulation

and energy economy in buildings; protection against moisture subject to climate conditions; requirements, calculation methods and directions for design and construction DIN 4108-4. Thermal insulation and energy economy in buildings; hvgrothermal design values DIN 4108-7, Thermal insulation and eneray economy in buildings: air tightness of buildings, requirements, recommendations and examples for planning and performance DIN 4108, supplement 1 Thermal protection in buildings; lists of contents, index DIN 4108, supplement 2 Thermal protection and energy economy in buildings - thermal bridges - examples for planning and perfor-DIN EN 13187, Thermal performance of buildings; qualitative detection of thermal irregularities in building envelopes - infrared method Directive, Determination of the thermal influences of thermal bridges in the case of curtain-type, rear-ventilated facades FVHF-Focus®, Protection of outside walls with curtain-type, rear-ventilated facades against thaw water and rain

DIN 4108-3, Thermal protection

Insulation

DIN EN 13162, Thermal insulation products for buildings - Factory made mineral wool (MW) products - Specification WAB T3 WI.[P]FVHF-Focus® Mineral thermal insulation with added value Directive, Determination of the thermal influences of thermal bridges in the case of curtain-type, rear-ventilated facades

Sound insulation

DIN 4109, Sound insulation in buildings; requirements and verification Supplement 1, Sound insulation in buildings; examples for execution and calculation methods Supplement 2, Sound insulation in buildings; guidelines for planning and execution; proposals for increased sound insulation, recommendations for sound insulation in personal living and working areas FVHF-Focus® The sound insulation

Erection of scaffolding

DIN 4420-1, part 1:
Service scaffolds - Performance requirements, general design, structural design
DIN 4420-2, part 2:
Ladder scaffolds; safety requirements
DIN 4420-3, part 3:
Selected types of scaffolding constructions and their basic versions
DIN 18451, Scaffolding works VOB Part C. edition 2006

Certificates of suitability

Non-regulated construction products or building elements require a certificate of suitability according to the building regulations of the country concerned. For plugs and facade building elements, as a rule, a general approval of the construction supervisory authority is required as far as they are no construction products (building elements) specified in list C of the "List of building regulations" VOB (Contract procedures for building works). VOB Part B, General conditions of contract for the execution of building works DIN 1961, VOB Part C, General technical specifications for building works (ATV), roof covering and roof sealing works. DIN 18338, only for the use of small-size cladding elements with test certificate according to DIN 18516-1, Annex C (normative). VOB Part C, General technical specifications for building works (ATV), tiling works -DIN 18352, only for the laying of outside wall claddings fixed with mortar (see DIN 18515-1)

Subject to technical modifications. We are exclusively operating on the basis of our General Terms and Conditions (status 01/2012).



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