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# Residential building with EQUITONE: Facades with identity

"In order to create affordable housing, the topic Baukultur should be our constant companion."

Federal Minister of Construction Dr. Barbara Hendricks

Economical and energy efficient. Homely and beautiful. Sustainable and environmentally friendly. The list of attributes that residential buildings have to unite today could be expanded. The planning and realization of such projects is a major challenge for housing associations, cooperatives, architects and implementing partners. We are looking for solutions that are ecological and economical, without neglecting aesthetics and representativeness; Solutions that ensure a perfect appearance, even under heavy use.

The brochure "EQUITONE in Housing" presents 17 attractive architectural concepts for residential buildings with fiber cement facades - including projects of individual assemblies, municipal and non-profit housing associations and contemporary residential towers that meet the Plus Energy House standard and are exemplary for the whole of Europe.

Especially in residential construction, serial construction and prefabrication, it helps accelerate construction processes, guarantees high quality and reduces costs. With its rearventilated façade,

Eternit GmbH Germany offers a façade system that permits a high degree of individualization and standardization and creates high-quality residential buildings in a Baukultur way.

A valuable source of information and work aid for architects and planners is the company's own architecture magazine A + D Architect ur + Detail, which presents international buildings - including many residential buildings - with fiber cement twice a year.

EQUITONE façade panels have excellent physical properties and are available in large formats up to 3.10 x 1.25 meters. In particular, in housing construction, the graffiti-safe as well as scratch- and impact resistant fiber cement boards. Also, this universal material is not flammable (A2-s1, d0 after DIN EN 13501-1), absolutely dimensionally and weather resistant and very durable. This is also confirmed by the Federal Ministry of Transport, Building and Urban Development: In the table "Service life of components for life cycle analysis" facade panels made of fiber cement - with an average lifetime of more than 50 years - assigned to the highest level.









Project: Mehrfamilienhaus Simply 11, Vienna (AT)

Builder: ÖSW - Austrian settlement

Non-profit housing stock company

 $Architect: \ \ Delugan Meissl Associated Architects, Vienna$ 

(AT) Photo: Hertha Hurnaus

Product: Facade panel EQUITONE [textura]

### Material









50%Binders + 10%Fillers



6%Water



2 %Reinforcing fibers



The material fiber cement

dyed to sanded and profiled to opaque coated.

versatility of the material.



## Anchorage ground Insulation Rear ventilation Facade panel

Construction principle of VHF

#### The suspended rear-ventilated façade with fiber cement

The principle of the ventilated curtain façade (VHF), one of the safest façade systems, ensures permanent protection of the building. Unlike thermal insulation systems, there is a constructive separation of the functions of thermal insulation and weather protection for the ventilated rear facade. The circulation of air in the ventilation room safely dissipates building moisture and prevents mold formation in the interior. Insulation and wall construction remain permanently dry. Any desired insulation thickness can be selected. U-values are easily reached, which characterize plus-energy houses and exceed the specifications of the current Energy Saving Ordinance (EnEV).

Since its invention, fiber cement has been rediscovered time and again in architectural design and reinterpreted by creative ideas and attractive material combinations. The thin and at the same time very stable material has proven

Air, water, cement, cellulose and synthetic fibers give fiber cement its unmistakable authentic character. The different processing techniques of the surfaces result in individual and expressive façade textures - from through-

Under the brand name EQUITONE, Eternit GmbH Germany and the Etex Group worldwide combine all large-format facade panels made of fiber cement. The name symbolizes the natural authenticity of the material and the

itself for more than 100 years as lining for facades and roofs as well as for interior work.

In addition to simple maintenance, the façade system also impresses with its good fire protection and soundproofing properties. The VHF system produces particularly long-lasting facades that retain their high-quality look, for example, through special graffiti protection. At the end of their long lifecycle, ventilated curtain wall panels ensure easy dismantling and return of their constituents to the material cycle.

## Praedium



Striking outlines and an elegant coloring determine the exterior of the new residential tower building "Praedium" in the Frankfurt Europaviertel. The 66-meter-high residential tower offers 242 upscale apartments and an exclusive view of the Frankfurt skyline. Bright EQUITONE [textura] façade panels give the building a friendly character and support the positive long-range effect of the tower. Insulation, substructure and EQUITONE façade panels are non-combustible in the system (A2-s1, d0 according to DIN EN 13501-1) tested and classified. The strict requirements of the Hessian High-Rise Directive (H-HHR) could be implemented in compliance with the standards.

Project: Praedium, Frankfurt a. M.

Builder: Nassauische Heimstätte, Wohnungs- und

Entwicklungsgesellschaft mbH

Architect: Dietz-Joppien Architect en AG, Frankfurta.

M. Photo: Peter Fast

Product: Facade panel EQUITONE [textura]









9



The Aktiv-Stadthaus, currently the largest plus energy efficient house in Europe, is about 150 meters long and ten meters deep. 74 rental units are supplied by solar power, which the hybrid building itself produces with photovoltaic modules on the top and on the south façade itself. The north façade is characterized by cream-colored EQUITONE fiber cement boards, which record the height and rhythm of the windows and balconies in their joint design. Here as well as on the ceiling soffits, fine lines and shades in the polished surface of the façade give the façade a lively appearance.

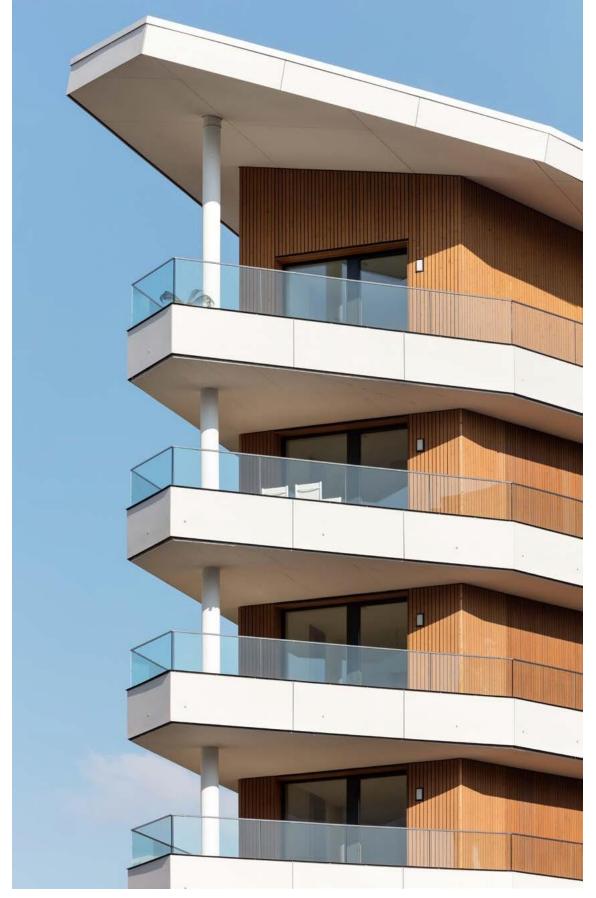
Project: Aktiv-Stadthaus, Frankfurta. M.
Builder: ABGFRANKFURTHOLDING
Architect HHS Planer+Architect en AG, Kassel

Photo: Constantin Meyer

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Product: Facade panel EQUITONE [tectiva]





## Counselling Ingolstadt

## Stella two







The construction of the "charitable housing association Ingolstadt" includes 17 residential units, a residential wing with six apartments for disabled people. While the striking staircases, arcades and balconies made of exposed concrete stand out prominently from the building, the building's core with a ventilated façade made of white, large-format EQUITONE façade panels stands out clearly.

oject: Wohnungen und Wohngruppe der Lebenshilfe Ingolstadt uilder : Gemeinnützige Wohnungsbaugesellschaft (GWG) Ingolstadt

Architect: BLAUWERK Architect en, München

Photo: Florian Schreiber

Product: Facade panel EQUITONE [textura]







The elegant Viennese residential bar STELLA ZWEI convinces with its varied facade play. Through-dyed and black-glazed, EQUITONE fiber cement panels wrap around the irregularly arranged, bright loggias.

Project: Apartmenthaus STELLA ZWEI, Wien (AT)

Builder: IC Projectentwicklung GmbH

Architect: Zechner&ZechnerZT, Wien (AT)

Photo: Thilo Härdtlein

Product: Facade panel EQUITONE [natura] und EQUITONE [pictura]

## Interview with the housing industry



From the ugly duckling to the beautiful swan: Poetic and impressive is the result of the general refurbishment and extension of a residential building in Pforzheim by Freivogel Architect en. The Ludwigsburg office transformed an aging housing estate from 1970 into an elegant and well-proportioned monolith, which impresses not only visually, but also with its sophisticated and innovative energy concept.

An added loggia zone, which sets design accents with anthracite-colored EQUITONE panels, offers the residents diverse qualities. The construction project also convinced the judges of the DGNB Award "Sustainable Building" and the jury of the German Architecture Award 2015, which awarded the project an award.

Project: Aufstockung und Generalsanierung

Wohnhochhaus Pforzheim

Builder: Pforzheimer Bau und Grund GmbH

Architect: Freivogel Mayer Architect en

GmbH

Ludwigsburg : Dietmar Strauß

Product: Facade paneln EQUITONE [textura]





#### **Lothar Hein** Head of Technology Pforzheimer Bau und Grund GmbH

Why has the Pforzheim-based Bau und Grund just realized such a demanding energy renovation in this project?

Hein: Since 1998, we have been continuously refurbishing our inventory, and it is always our ambition to be at the forefront and to make the buildings as energy-efficient as possible. The residential high-rise building at the station is already our third pilot project together with dena. Normally, after the purchase of buildings, a longer period of time passes before we proceed to the renovation. Although we bought the object only in 2009, we quickly seized the opportunity to realize a "lighthouse project". This was especially due to the central location, high presence in the city and the good accessibility, which makes the project well to visit.

#### Where were the special challenges in the rebuilding??

**Hein:**Technically particularly challenging was the increase, which was accompanied by the demolition of the upper inventory. Also in dealing with the long-term tenants, we had a

lot in advance to convince. Since the conversion was carried out in an inhabited state, we informed the tenants in advance very intensively. Almost all users stayed in their apartments during the renovation work. Only the top two units made an exception, as the roof was removed and replaced.

#### What are the reactions of the tenants today?

Hein: In retrospect, our tenants are now very satisfied, as they experience themselves daily, how much more comfort the renovation has brought. Noise protection through the good new windows, the new cooling and heating as well as the private loggias with the EQUITONE panels are the most important elements here. And that also corresponds to our conviction: in an energetic refurbishment the renter is always the winner.



## Residential and commercial building Berlin





Twelve condominiums with flexible floor plans offer the residents of the Libauer Straße in Berlin-Friedrichshain the greatest possible freedom of design. The elegant building with its highly insulated fiber cement facade exceeds the requirements of the KfW 70 energy-saving requirements.

Project: Wohn- und Geschäftshaus Berlin

Builder: Li.BAU.14 GmbH

Architect : Welter+WelterArchitect enBDA, Berlin Photo: Stefan Lucks

Product: Fassade panel EQUITONE [natura] und EQUITONE [natura] PRO

## Campus Westend

Order free sample here!



Seven buildings and seven open spaces create an interplay of visual relationships and a permeable atmosphere on the campus. While the pedestals in red-ocher-colored exposed concrete elements create a link to the surrounding Poelzig buildings, the attached residential buildings with a light lining made of fiber cement with varying joints document the autonomy of the ensemble.

 $\label{project:project:model} Project: \qquad \text{Studierendenwohnheime Campus Westend, Frankfurt a. M.}$ 

 $Builder: \quad Builder\ engemeinschaft\ Bauverein\ Katholische\ Studentenheime\ e.\ V.$ 

 $und \, Evange lische \, Kirche \, in \, Hessen \, und \, Nassau$ 

Architect: Karl+Probst, München
Photo: Stefan Marquardt

Product: Facade panel EQUITONE [natura]





## Wagnis 3



The five residential buildings of the co-operative housing estate venture 3, with 100 partly subsidized, partly freely financed housing units, offer variously developed apartments of various sizes, cuts and typologies. In addition to the bright facade, the arcades, terraces and passageways to the courtyards were decorated with EQUITONE facade panels in bold colors. The project was u.a. with the prize "The best real estate in Munich 2008 - young, beautiful and still available", with the honorary prize of the city of Munich 2010 and the Cooperative Prize Housing 2011 awarded.

Project: Genossenschaftliche Wohnanlage wagnis 3, München Riem

Builder: Wohnbaugenossenschaft wagnis eG

Architect: bogevischs buero Architect en &

stadtplaner GmbH, München

Photo: bogevischs buero, Julia Knop,

Jens Masmann

Product: Facade panel EQUITONE [pictura]







## Interview with the housing industry

In order to maintain the urban and neighborhood quality of existing settlements, housing is needed that is generational, flexible and affordable. Not least for these reasons, the jury of the Deutscher Städtebaupreis awarded the new building project Tarzan & Jane in Bremen-Huchting with an acknowledgment. The "unusual living" project convinces with a relaxed housing concept, which was able to gain living space and revalue open spaces. For the facade, the planners opted for a combination of fiber cement and pigmented plaster.

Project: Tarzan & Jane, Bremen
Builder: GEWOBA Bremen

Architect : Spengler Wiescholek Architect en, Hamburg

Photo: Christian Haase

Product: Facade panel EQUITONE [pictura]





Martin Paßlack, Management New construction and urban development GEWOBA

While refurbishment and refurbishment is being carried out elsewhere, GEWOBA is pushing ahead with the "unusual living" project in Bremen. Why?

Paßlack: Like elsewhere, Bremen is currently unable to meet the need for housing. Although new housing was built in recent years in not inconsiderable quantities, these are predominantly in the upper price segment. In particular, in rental housing construction with rents in the low to medium range until 2014, hardly any housing construction has been realized. As a majority-owned municipal housing company, GEWOBA sees itself as taking on responsibility for the construction of rental apartments in the aforementioned price segment.

Stadt - Viertel - Quartier, on the basis of this strategy, GEWOBA plans and realizes its housing construction in Bremen. The products of the ideas competition "unusual living" are in terms of size rather small building blocks, which turn with their barrier-free large and small apartments and other offers (social offers, residential groups) specifically to the neighboring tenants.

"Tarzan & Jane" by architects Spengler Wiescholek was awarded the 2016 German Urban Design Award. What makes the project so special??

Paßlack: Perfectly fitting city modules for living in the neighborhood: That was the task for the participants of the first idea competition "unusual living". Ms. Spengler later described her houses as a "qualified new citizen". It is true that the serial homes that GEWOBA builds have never been - as serial building is often understood in the current public debate - meant to be a production of "sets". Rather, it should supplement existing quarters of the 50s and 60s meaningfully and serially with offer and architecture. In the appearance not boring, but not devaluing the existing stock.

The jury of the Deutscher Städtebaupreis 2016 honored this mental approach and gave the project a recognition. Especially for the successful architectural update of the homogenous urban structure of the settlement from the 1960s with its typical existing buildings for this period. The jury praised the project: It shows as an example, how the relaxed settlements of this time can be upgraded with cost-effective, high-quality housing.

The façade of the two structures is characterized by a combination of a ventilated rear system with fiber cement and pigmented plaster. How did this decision come about?

Paßlack: Even during the competition, the idea of assigning different materials to the two structures was developed by the Spengler Wiescholek office. Every cube thus has its own individual appearance; the appearance in the existing quarter with its rather uniform design is thereby loosened up, and the new building fits in excitingly with the street scene. "Tarzan" with the plaster façade is the part that stands out because of its different colors depending on the location, while "Jane" in the white EQUITONE lining is more restrained. Both facades each carry the color of the other in smaller details (like the balcony balustrades) and so the different pair become one again. Several materials were considered in the planning for the cladding of the façade of "Jane", the choice finally being decided by a consideration of the costs and the sustainability on a curtain ventilated façade made of fiber cement. From other projects such. For example, the largest urban redevelopment West Project Osterholz-Tenever, the material has proven itself lining in the area of ground-floor facades.

## Students'home Münster

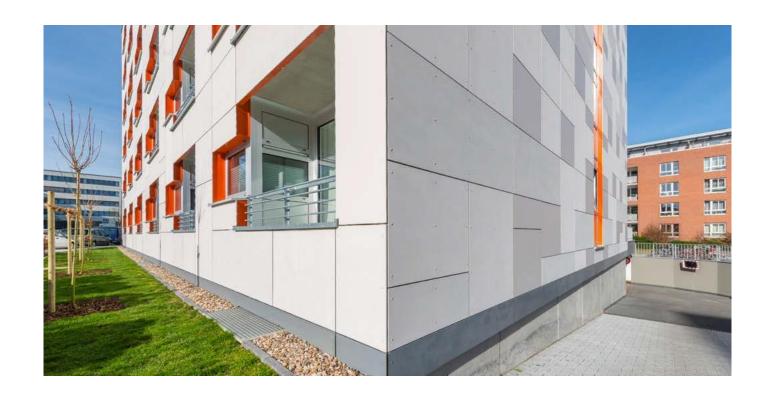
Approximately 55,000 students to around 300,000 inhabitants - Münster is a student city. The new dormitory in Corrensstraße 54 offers 128 residential units with a total living space of 3,360 m². The building conforms to the KfW-70 standard and was clad with a curtain-ventilated façade made of various EQUITONE façade panels. In particular, the windowless gable, except for the staircase, lives from the design with different surfaces: while the matt EQUITONE [tectiva] panels have a finely ground texture, the smooth surface of the EQUITONE [pictura] shimmers in the sunlight. Color highlights set the orange jambs.

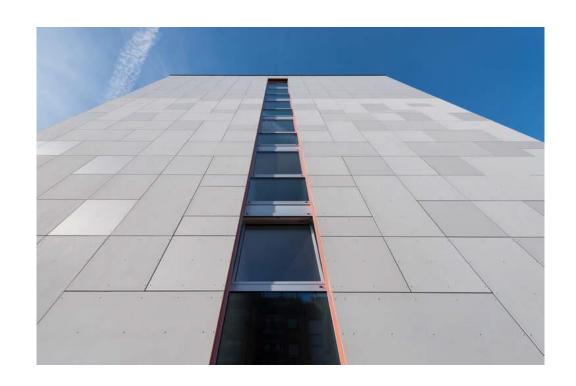
Project: Students hostel, Münster
Builder: VESGmbH&Co.KG
Architect: John Architect en,
Münster Photo: Oliver Baucks

Product: Facade panel EQUITONE [tectiva] und

EQUITONE [pictura]







## Multiple Family House Pankow

## Residential Building Seegasse







Floor-to-ceiling windows, EQUITONE façade panels and larch wood determine the façade design of the modern assembly project in Berlin Pankow. The five-storey multi-family house is designed from the first floor in ecological timber construction and offers living space up to 190 square meters.

Project: Multiple family house Berlin-Pankow
Builder: Builder engemeinschaft 3xGrün
Architect: IfuH,InstitutfürurbanenHolzbau

mit

atelier pk, roedig.schop Architect en, rozynski-sturm Architect en

Photo: Stefan Müller

Product: Facade panel EQUITONE [tectiva]







The provincial capital of Klagenfurt responded to the prevailing lack of housing in 2013 with a major building project: out of a total of 208 planned residential units, Seegasse created a facility with 50 new apartments. The façades of the plant are characterized by a combination of light plaster and beige façade panels made of fiber cement.

Project: Wohnhausanlage Seegasse, Klagenfurt (AT)

Builder: Kärntnerland Gemeinnützige Wohnbaugenossenschaft

Architect: Omansiek & Omansiek Architect ur

Photo: Nina Hader

Product: Facade panel EQUITONE [natura]

## Interview with the Planner





On Stuttgart's Killesberghöhe, in the immediate vicinity of the Weißenhofsiedlung, twelve families of builders jointly fulfilled the dream of multi-generational living: the two differently sized buildings are clad in large EQUITONE façade panels, thus acting as a homogeneous unit. Their elegant play of color and texture unfolds a particularly natural effect.

Project: Wohnbau BF 30, Stuttgart

Builder: BaugruppeBF30

Architect: Bottega+EhrhardtArchitect en,
Stuttgart Photo: Conné vand'Grachten

Product: Facade panel EQUITONE [tectiva]



#### Giorgio Bottega und Henning Ehrhardt, Bottega + Ehrhardt Architect en

They started and moderated the assembly at the Stuttgarter Killesberg. What were the challenges?

Bottega: While the model of the assembly has already been established in other cities such as Berlin, Freiburg or Tübingen, we had to compete extensively in Stuttgart and were selected from a list of criteria among many applicants as one of three sub-groups for the exclusive new city quarter on Killesberg. It was then helpful in the assembly process that the design-savvy residents knew our architectural handwriting and did not want to carry their individualism outward.

The project was awarded a recognition at the German Facade Award for VHF. Why did you choose this facade system??

**Ehrhardt:** For a long time now, we have also relied on ventilated facades for residential buildings. The longevity and sustainability,



the resilient skin and the low operating costs convince us of this system. The residential buildings BF 30 were planned as efficiency house 40, whereby the VHF with the mineral insulation according to the energetic concept was counted.

Several of your projects have been realized with fiber cement facade. From your point of view, what makes the material so suitable for use in housing construction?

**Bottega:** Our buildings at Killesberg do not require any aggravated detailing or accentuation and therefore seem to go without saying. To achieve the desired monolithic effect, they are uniformly clothed with fiber cement panels. The gray-tinted Tectiva panels with a fine surface finish support the sculptural design and, as a matter of course, fit into the adjacent park landscape.



## East Side Lofts



#### Great contrasts and yet a unity. Old and new architecture enter a direct dialogue with one another at the residential and commmercial building East Side Lofts in Frankfurt. The sculpturally folded facade made of EQUITONE fiber cement boards in two different shades of gray characterizes the new building and accomodates the generous ceiling heights of the neoclassical neighboring buildings.

Project: East Side Lofts, Frankfurt a. M.

Builder: DOMIZIL Immobilien- und Facility Management GmbH Architect: 1100 Architect en Riehm+Piscuskas BDA, Frankfurt a. M.

Jean-Luc Valentin

Product: Facade panel EQUITONE [natura] PRO

## Apartment building Temse

The apartment building in Temse, Belgium combines unity and diversity. The floor plans of the ten-storey residential building on the River Scheldt are designed in such a way that a view of the water is possible for all residents: the apartments are built around a central access core, each with a loggia over the corner. The clear structure is wrapped in cream-white facade panels made of fiber cement, which are laid along the floor to ceiling windows in the vertical, and between the floors in the

Project: Apartmenthaus, Temse (BE) Builder: NV Nieuw Temse, Brüssel

horizontal direction.

Architect: Bontinck Architecture and Engineering CVBA, Gent (BE)Bontinck Architecture and Engineering / Koen Van Damme

Product: Facade panel EQUITONE [tectiva]









## Wohnen am Anger

### Condominium Hollerstauden





Seven buildings and seven open spaces create an interplay of visual relationships and a permeable atmosphere on the campus. While the pedestals in red-ocher-colored exposed concrete elements create a link to the surrounding Poelzig buildings, the attached residential buildings with a light, light lining made of fiber cement with varying joints document the autonomy of the ensemble.

Project: Wohnanlage Hollerstauden St. Gundekar-Werk, Ingolstadt

 $Builder: \hspace{0.5cm} St. \hspace{0.1cm} Gundekar\text{-}Werk, \hspace{0.1cm} Eich st \"{a}tt \hspace{0.1cm} Wohnungs\text{-} \hspace{0.1cm} und \hspace{0.1cm} St \"{a}dtebaugesellschaft \hspace{0.1cm} mbH, \hspace{0.1cm} Werk, \hspace{0.1cm} Wer$ 

Schwabach

Architect: bogevischs buero Architect en & stadtplaner GmbH,

München Photo: Stefan Marquardt
Product: Facade panel EQUITONE [natura]





The housing association STADT UND LAND and roedig prove that low-cost public housing and a sophisticated design are not mutually exclusive. schop Architect en with the new construction project "Wohnen am Anger" in Berlin-Adlershof. 62 interspersed housing units with open ground plans and private and communal gardens offer plenty of space for individual living. Thanks to the high degree of prefabrication, the timber hybrid construction, consisting of concrete bulkheads and a highly insulated shell made of prefabricated timber frame construction elements, was cost-effective and time-saving. A sustained investment was made in a high-quality ventilated facade (VHF) with EQUITONE fiber cement boards, which, in contrast to facades with ETICS, is particularly durable and low-maintenance.

Project: Wohnen am Anger, Berlin-Adlershof

Builder: Wohnungsbaugesellschaft STADT UND LAND Berlin

Architect: roedig.schopArchitect en,Berlin

Photo: Stefan Müller

Product: Facade panel EQUITONE [natura]





Project: Kindertagesstätte Aubing, München
Builder: Landeshauptstadt München, Referat für

Bildung und Sport | Baureferat Hochbau

Architect: Zwischenräume Architecten und

Stadtplaner GmbH, München

Photo: Ralph Walczyk Wienefoet
Product: Facade panels EQUITONE

[natura]







The artistic potential of the façade was elicited by artist Silvia Wienefoet, who lives in Munich, and the EQUITONE [natura] Facade panels are provided with a filigree organic pattern, which was worked in by relief milling and invites you to touch it.

#### **Products**

#### **EQUITONE** [linea]

EQUITONE [linea] is the throughdyed fiber cement board with a profiled surface.

In direct light, the facade looks almost even, sharply contoured in oblique sun.

#### **EEQUITONE** [tectiva]

EQUITONE [tectiva] is the through-dyed fiber cement board with a ground surface.

Fine color nuances give the Facade panels their characteristic appearance.

#### **EQUITONE** [materia]

EQUITONE [materia] is the dyed fiber cement board with uncoated surface. Due to the mechanical processing of the facade panels, their surface is noticeably rough and velvety.



Available in 2 colors.

Available in 26 colors. Individual project colors are possible on request and price-neutral from 200 square meters.

## EQUI

EQUITONE [natura] is the dyed fiber cement board with the characteristic structure of fiber cement for an architecture in natural materiality. As EQUITONE [natura] PRO also available with graffiti protection.

**EQUITONE** [natura]

#### **EQUITONE** [pictura]

EQUITONE [pictura] is the fiber cement panel for colored façade design with graffiti protection and a smooth, matt and color opaque coating.

#### Living authenticity · Individual look



Available in 8 colors.

Unlimited color variety · Permanent graffiti protection

Available in 20 colors.

Individual project colors are possible on request and price-neutral from 200 square meters.

#### **EQUITONE** [textura]

EQUITONE [textura] is the fiber cement panel for façade design with particularly strong colors and a granular surface structure - also usable as balcony slab or system roof.

#### Natural beauty · Characteristic shades



Available in 2 colors.



Available in 20 colors. Individual project colors are possible on request and price-neutral from 200 square meters.



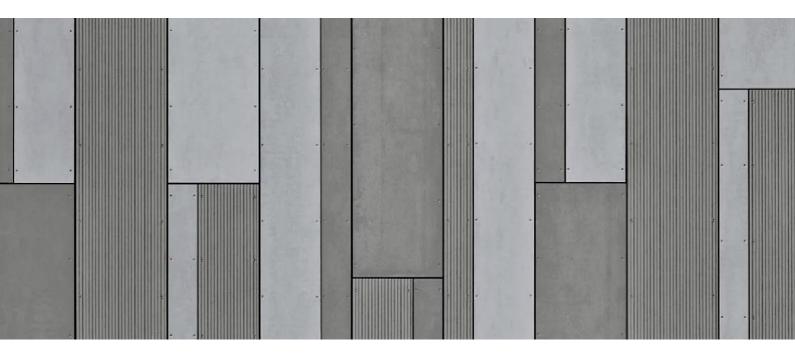
Sample order and detailed information: www.eternit.de/musterbestellung/equitone

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