

BUILDING APPLICATIONS TECU[®] COPPER DESIGNS

[GB]



Surfaces and systems

Surfaces

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KME manufactures copper products for roofs and facades under the brand-name TECU®.

In classic copper red, pre-oxidised brown or pre-patinated green, this brand-name copper is true to its nature: easy to process and highly durable. Its natural surfaces increase the variety of ways it can be combined with other building materials. These possibilities, together with many different TECU® systems, offer modern architects many opportunities to create interesting solutions for unique designs.



OBJECT
Galway/Mayo Institute of Technology,
Galway, Ireland

ARCHITECTS
Murray O'Laoire Architects, Cork

CONSTRUCTOR
Let it Rain Roofing Ltd., Galway



→ SURFACES

TECU® Classic

Sheets and strips in their classic, bright-rolled form are the basis of the TECU® product range. The material has the aesthetic qualities of the bright copper surface which later develops a dark brown oxide layer on exposure to the atmosphere. On inclined surfaces, the protective layer continues to develop over time, eventually yielding copper's familiar green patina, accenting buildings for many decades thereafter.

OBJECT

Pop stage Mezz, Breda, Netherlands

ARCHITECTS

(EEA) Erick van Egeraat associated architects, Rotterdam

CONSTRUCTOR

SV Metaaldak Specialist BV, Beek en Donk / Brouwers Zink BV, Maasmechelen

OBJECT

Dutch National Heritage Museum, Arnheim, Netherlands

ARCHITECT

Mecanoo architecten b.v., Delft

CONSTRUCTOR

C.J. Ockeloen VOF, Amsterdam

OBJECT

Offices and industrial building in Koblach, Austria

ARCHITECT

AIX Architects, Feldkirch

CONSTRUCTOR

Peter GesMBH + CoKG, Koblach

OBJECT

Officers' quarters of the Royal Marines of the Netherlands, Den Helder

ARCHITECT

Arne van Herk, Van Herk & de Kleijn Architecten b.v., Amsterdam

CONSTRUCTOR

Ridder Metalen Dak- en Wandsystemen BV, Hoorn





OBJECT

Production and office building in Baar,
Switzerland

ARCHITECTS

Burkart, Bauabteilung Baar;
Barkow Leibinger Architekten, Berlin

CONSTRUCTOR

Gebr. Baur AG, Baar

OBJECT

Forum, Amsterdam

ARCHITECT

Atelier PRO, The Hague

CONSTRUCTOR

C.J. Ockeloen VOF, Amsterdam

OBJECT

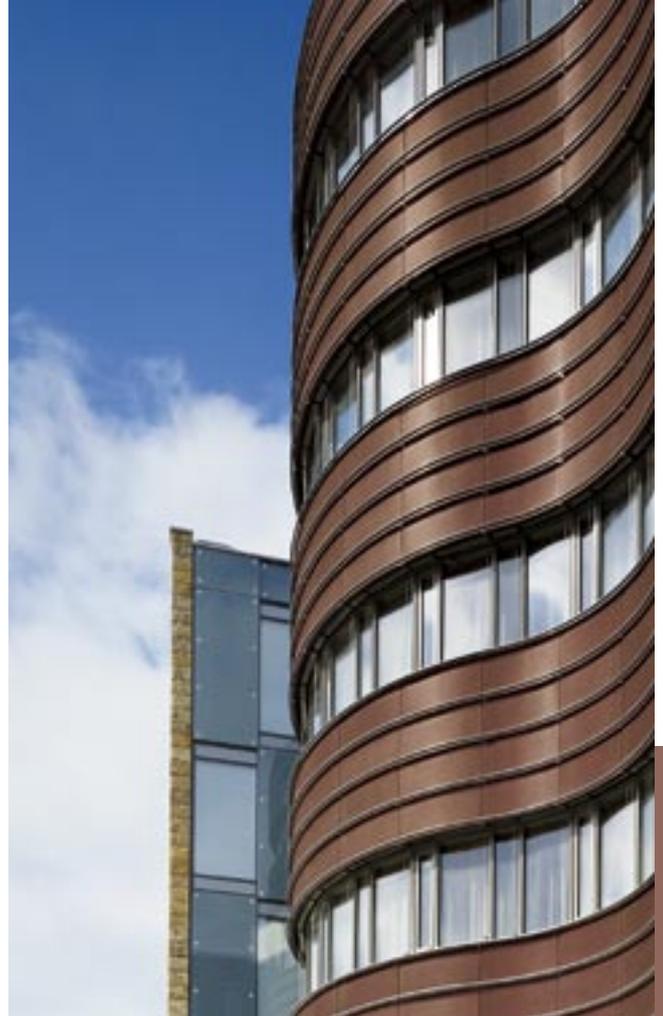
Ferryman's House Fænø Gods,
Middelfart, Denmark

ARCHITECTS

Schmidt, Hammer & Lassen A/S, Aarhus

CONSTRUCTOR

Eddie Clement A/S, Ejby



04

05

TECU® Oxid

To create this surface, copper sheets and strips are pre-oxidised on both sides in a patented process specially developed by KME. The bright copper phase is bridged so that the effect of the dark brown oxidised layer is achieved as the cladding is laid. The colouring is not artificial; it is produced from the copper itself and continues to develop when exposed to the weather.





TECU® Patina

In a specially developed industrial process, copper sheets are patinated green on one side. The resulting oxide layer is produced from the copper itself, in the same patina formation process that occurs naturally when copper is exposed to weathering for a long period of time. This is not an artificial colouring process or coating; TECU® Patina lends roofs and facades the aesthetic appearance of copper's typical patina green right from the start.

OBJECT

Office and shop building "KAI 13",
Düsseldorf

ARCHITECTS

Döring, Dahmen, Joeressen Architekten,
Düsseldorf

CONSTRUCTOR

Zitzen GmbH, Mönchengladbach

PREFABRICATION

Fricke GmbH & Co. KG, Greven

OBJECT

Centro Stampa Quotidiani,
Brescia, Italy

ARCHITECTS

TECNE, Brescia

CONSTRUCTOR

Santinato, Erbusco

OBJECT

Private Apartment, Netherlands

ARCHITECTS

Charles Slot Bureau Ruimtelijke Vormgeving,
Bergen

CONSTRUCTOR

PBK Technische Installaties BV, Alkmaar

OBJECT

Villa ArenA (Restaurant),
Amsterdam

ARCHITECTS

Virgile & Stone Associates Ltd.,
London,

in cooperation with

Bentham Crowel Architecten,
Amsterdam

CONSTRUCTOR

Leebo bouwsystemen BV, Drunen



TECU® Zinn

The matt grey, warm colour tone harmonises especially well with many other materials. Specially treated copper strips are tinned on both sides, creating a surface that continues to develop over time when exposed to weathering. TECU® Zinn unites two excellent materials in one extremely durable product that has a very unique aesthetic appearance. It offers new possibilities for many different applications.

08

09

OBJECT

Administrative building of WeberHaus,
Rheinau/Linxs, Germany

ARCHITECT

Dipl.-Ing. Günter Hermann,
Stuttgart

CONSTRUCTOR

Wittenauer GmbH, Sasbach

OBJECT

St. Maria der Engelen, Rotterdam

ARCHITECTS

Mecanoo architecten b.v., Delft

CONSTRUCTOR

Leidekkersbedrijf Jobse BV,
Middelburg

OBJECT

VCNON Traffic control center, Wolfheze,
Netherlands

ARCHITECTS

De Architecten Cie, Amsterdam

CONSTRUCTOR

Verkoelen Dakbedekkingen BV, Beegden

OBJECT

Private residence, Herrliberg, Switzerland

ARCHITECT

R. Baenziger, Zürich

CONSTRUCTOR

Hersperger, Meilen (Façades);
Studer AG, Volketswil (Plumbing)







TECU® Brass

OBJECT:

Chiesa di S. Giacomo, Laives (BZ), Italy

ARCHITECTS:

Höller & Klotzner Architetti, Merano (BZ)

CONSTRUCTOR:

Lavorazioni Metalli Renon SNC, Collalbo (BZ)

Copper alloys for facades.

TECU® Brass

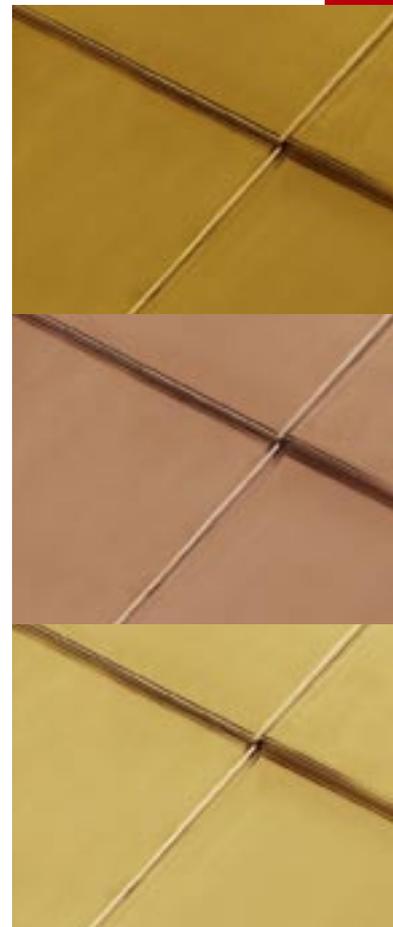
TECU® Brass is a specially developed copper and zinc alloy. Weathering changes the original reddish golden colour of the surface in a very lively manner, with each façade developing its own unique characteristics. After the initial matting, the surface takes on a greenish brown tone, which slowly turns greyish brown before evolving into a dark brown-anthracite colour. On sloping surfaces, a uniquely individual patina layer typical of classical copper surfaces develops.

TECU® Bronze

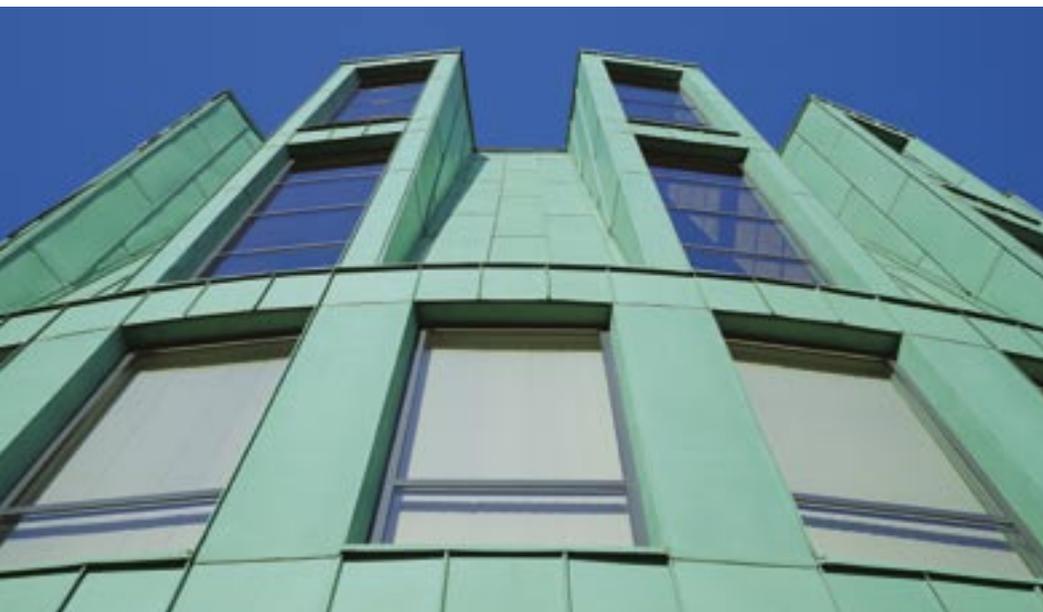
TECU® Bronze is a copper and tin alloy. The original warm reddish brown colour of the surface goes through characteristic changes when exposed to normal weathering. The surface typically develops a brownish red oxidation layer, whilst the material turns brownish green. This then gradually evolves into a dark brown-anthracite colour. On sloping surfaces, a uniquely individual patina layer, though in the case of TECU® Bronze, the oxidation process takes considerably longer than in the case of classical copper surfaces.

TECU® Gold

TECU® Gold is an alloy of copper and aluminium. When exposed to the influences of the weather, the original golden yellow tone develops its own special characteristics. After initial matting, a matt, bright yellow tone evolves which gradually changes into a soft golden colour. Hardly any further colouring through patination occurs on façade surfaces.



TECU® Brass
TECU® Bronze
TECU® Gold



OBJECT
Boscotondo, Helmond, Netherlands

ARCHITECTS
Adolfo Natalini Architetti, Florence;
Architectenburo C. Schrauwen, Amsterdam

CONSTRUCTOR
Crombach Dakafwerking BV, Wittem

12

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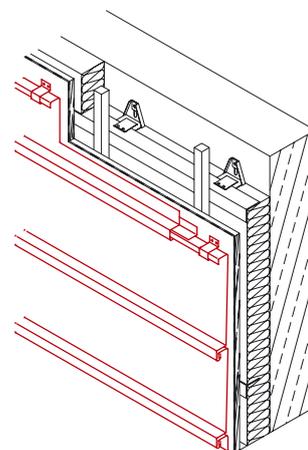
➔ SYSTEMS

TECU® sheets and strips for seamed and batten roll cladding

Angle standing seam and batten roll cladding are the classical constructions used in copper roof and facade designs. TECU® products for these types of cladding are available in sheets and strips.

The growing use of rolled copper in plumbing and roofing, higher product quality expectations and the development of new, more demanding techniques for metalworking mean that copper has to meet much higher expectations today than in the past.

TECU® sheets and strips for plumbing and roofing are produced in accordance with EN 1172 and KME's own strict quality control guidelines. Material tolerances for dimensions and properties are well within or even tighter than standard limits and further processing by hand is considerably easier.



• Angle seam, ventilated
in horizontal strip cladding

OBJECT

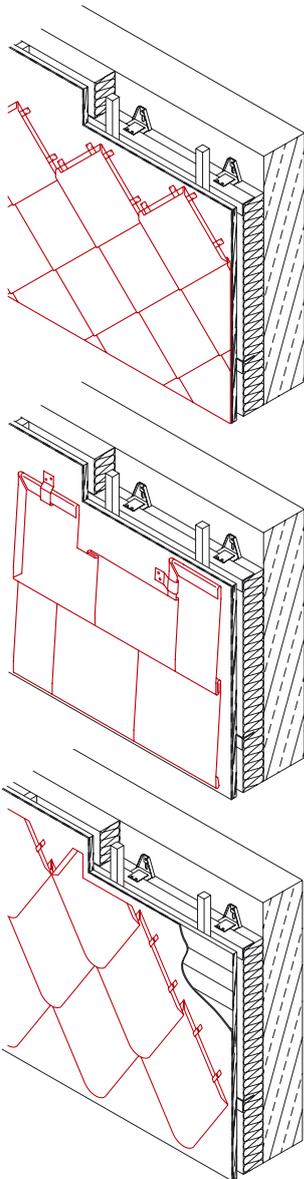
Administrative building of WeberHaus,
Rheinau/Linxs, Germany

ARCHITECT

Dipl.-Ing. Günter Hermann, Stuttgart

CONSTRUCTOR

Wittenauer GmbH, Sasbach



- TECU® System Shingles
in diamond cladding
- TECU® System Shingles
in right-angled cladding
- TECU® System Rhomboids



TECU® System Shingles TECU® System Rhomboids

Besides their special aesthetic qualities, TECU® System Shingles and TECU® System Rhomboids offer decisive economic advantages in façade design: cladding elements are laid simply by hanging them and interlocking them with each other.

The shingles and rhomboids have a 180° border on all sides. The border of the top and left-hand sides is folded forwards while the bottom and right hand sides have a downstand. The individual elements are laid from left to right. All folds and notches are automatically pre-processed in the factory. At the edges, all the usual processing techniques such as bevelling, folding and bending can be used. This ensures that the corners of buildings and connections to other constructional elements such as windows and doors are completely weatherproof.

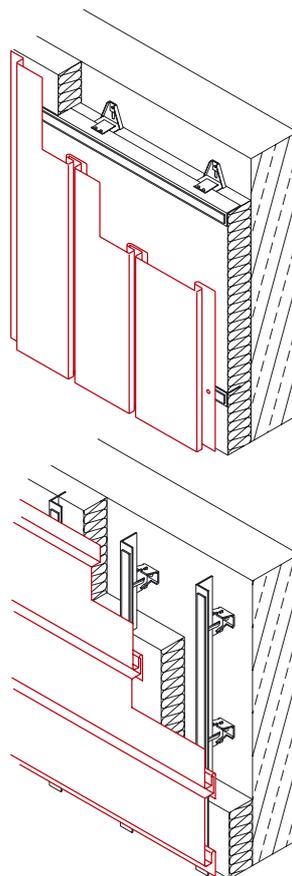
TECU® Panels

TECU® Panels are two-sided cladding elements, with or without an end base, depending on the construction. Individual lengths are as long as 4.000 mm with a standard width of up to approx. 500 mm. Assembly at the building site is performed according to the tongue and groove principle or by overlapping.

The panels can be assembled in various directions – vertically, horizontally or diagonally. There are three basic forms, depending on the design:

- Slot-in panels laid vertically
as a level surface facade cladding
- Slot-in panels laid horizontally
as a level surface facade cladding
- Special panels with visible or concealed fixings,
laid in various ways, with a level surface or overlapped.

- TECU® Panels vertical
- TECU® Panels horizontal



OBJECT

Gana Art Gallery, Seoul

ARCHITECT

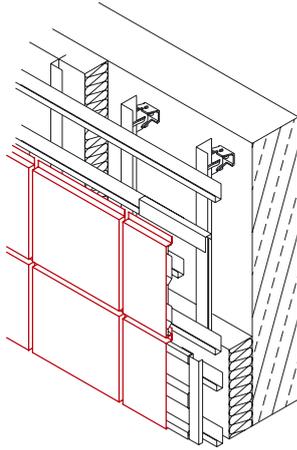
Wilmutte, Paris

Tertra Architecture, Seoul

CONSTRUCTOR

New Korea Trad Corp., Seoul

-
- TECU® Cassettes
in square format



TECU® Cassettes

TECU® Cassettes are a cladding element with folded edges on all sides available in a range of geometrical proportions from 1:1 to 1:4. They are exclusively pre-profiled to the customer's specifications and/or according to suggestions made by the architect.

Cassette cladding allows a great deal of flexibility concerning formats, the layout of joints and fixing principles. Folded edges on every side allow even larger sheet metal parts to lie even with the cladding surface.

Fixing is usually achieved by riveting, screwing, using angle brackets or using bolt hooks to fix the cassettes directly to the substrate.

OBJECT
Bank Crédite Maritime,
Sète, France

ARCHITECT
Christophe Clair, Sète

CONSTRUCTOR
S.O.P 34, Saint Georges-d'Orques



**OBJECT**

InnovationsCampus, Wolfsburg AG,
Wolfsburg, Germany

ARCHITECTS

O.M. Architekten BDA, Braunschweig

CONSTRUCTOR

Bisping GmbH & Co., Münster

OBJECT

IIHF – International Ice Hockey Federation,
Zurich (TECU® Net)

ARCHITECTS

Tilla Theus und Partner AG, Zurich

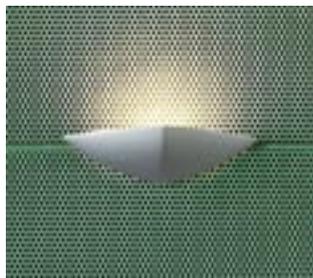
CONSTRUCTOR

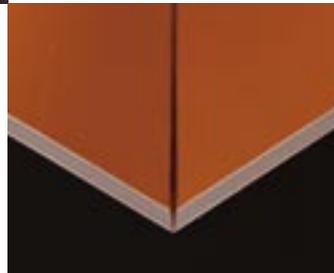
Scherrer Söhne AG, Zurich

TECU® Net

Perforated copper plates and perforated copper mesh elements can be used in many different applications and offer new innovative design possibilities. They can be used as freestanding elements in cladding constructions, or for applications in multi-storey car park cladding, ventilation cassettes, solar protection elements or parapet cladding. In roofing, they are excellent for use in ventilated ridges. With such simple application, perforated plates and perforated mesh elements are often a cost-effective alternative to other materials. They are also used for insect mesh, gutter guards and ventilation elements. TECU® Net is an ideal complement to the TECU® System technology.

The wide variety of applications is also supported by the many different processing possibilities: Like any type of flat material, TECU® Net can be welded, soldered, rounded, seamed, edged and latched. It is a level plane material manufactured within narrow tolerances that is very easy to handle and extremely unlikely to cause injuries during handling.





TECU® Bond

A composite material with a bright rolled copper surface and many other significant advantages: large area, smooth, distortion-resistant, with optimised weight, low thermal expansion, excellent sound insulation and high mechanical resistance to wind loads, impact, blows and pressure. With TECU® Bond you can design facades and interior surfaces in copper easily, quickly and economically. The material structure is simple but efficient: 0.5 mm thick TECU® Classic sheets are bonded to both sides of the polyethylene core under high pressure – an extremely durable and resistant material bond. The result is an ideal facade material that is easy to work with and to install. The initial preparation of the product is carried out in the workshop; the sheets are then cut to size on the building site and installed in no time at all. The sheets are delivered with a protective foil on both copper surfaces, which is removed only after they are installed in place. In this way, TECU® Bond provides elegant, low-cost solutions for applications such as ventilated, curtain-type facades, fascia cladding, parapet cladding, tunnel cladding, roofing and interior design.





TECU® Rainwater Systems

TECU® roofing and cladding systems can be supplemented by rainwater system components from Fricke GmbH & Co. KG of Greven, Germany.

Their product range includes

- eaves gutters
half-round (lengths of 3–6 m)
- eaves gutters
box section (lengths of 2 or 3 m)
- gutter brackets
- downpipes
- rainwater pipe bracket
- standpipe
- accessories.



PROJECT CONSULTING

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The service

TECU® products from KME are made to meet the demands placed on them by all kinds of different constructions. Many of their recognized, quality features are a result of close communication with expert customers in the building industry.

TECU® stands for a combination of high quality and complete service. As the world's leading processor and refiner of copper and copper alloy products, KME provides its technical advisory service to developers, architects, clients and roofers throughout Europe and beyond.

Information and consultation provided by Project Consulting ensure skilful use of materials and make the realisation of perfect solutions possible with TECU® products, even for aesthetically demanding applications. The professional's manual "TECU® - Planning, Designing and Processing", now available in four languages, also serves as a proven source of information. All 4 languages of the manual will soon be available on a multimedia CD-ROM with an Internet update feature. Both the manual and CD-ROM may be ordered directly from Project Consulting. They are available separately at a price of EUR 24.00 each or as a set for EUR 36.00.



The training courses

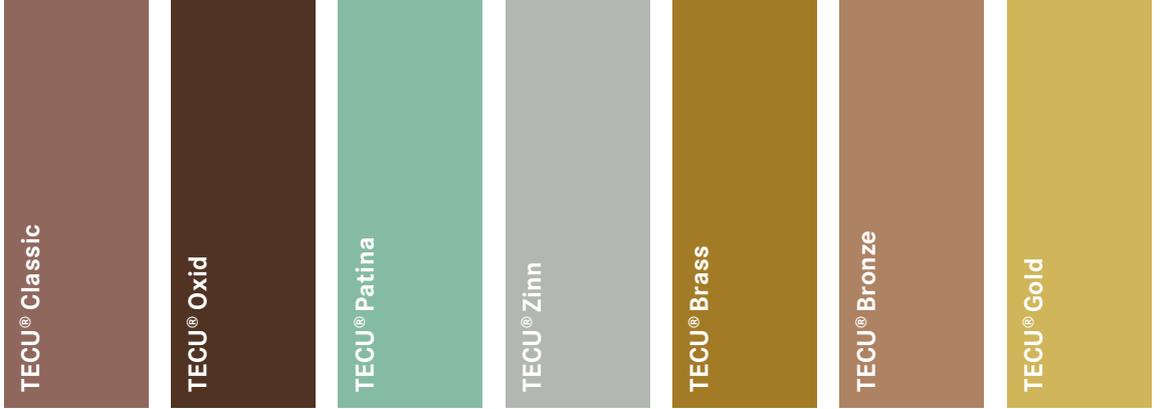
The aesthetic and economic superiority of TECU® products is fully exploited when the material is used in a qualified manner in accordance with technical requirements.

The KM Europa Metal AG Training Center for building products in Osnabrück holds multi-level professional seminars in which theoretical and practical processing techniques are taught at various levels of difficulty. Students apply their skills in practical work on models. Training events take place in the new KME Forum in Osnabrück, which is fully equipped with all modern training facilities, and offers a highly practice-oriented setting for an enriched learning experience.

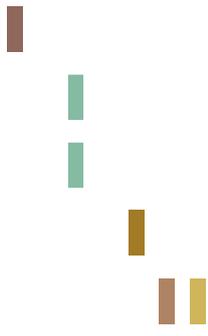
Courses are offered throughout Europe in collaboration with trade organisations and associations. This service is part of TECU® quality offered by KME.

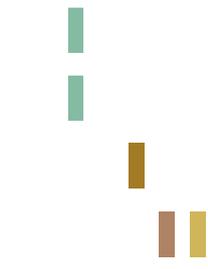
Tel. + 49 (0) 5 41/321-2000, Fax + 49 (0) 5 41/321-21 11

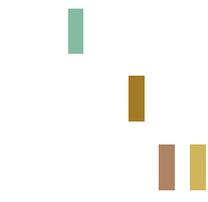


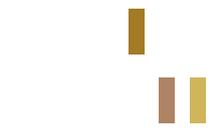


Sizes and Availability

- 

TECU® Sheets – Thickness: 0.6/0.7/1.0/1.5/2.0 · Formats: 1000 x 2000, 1000 x 3000, 1250 x 2500
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TECU® Sheets – Thickness: 0.7 · Formats: 600 x 2000/3000, 670 x 2000/3000, 1000 x 2000/3000
- 

TECU® Sheets – Thickness: 1.0 · Format: 1000 x 3000 (thicker sheets available on request)
- 

TECU® Sheets – Thickness: 0.7/1.0 · Formats: 670 x 2000/3000, 1000 x 2000/3000
- 

TECU® Sheets – Thickness: 0.7/1.0 · Formats: 670 x 2000/3000

- 

TECU® Strips – Thickness: 0.6/0.7 · Widths: 200/250/333/400/500/600/670/800/1000/1220/1250
- 

TECU® Strips – Thickness: 0.6/0.7 · Widths: 600/670

- 

TECU® System Shingles²⁾ – Rectangular and square
- 

TECU® System Rhomboids²⁾ – Sharp or round corners¹⁾ · Sharp format: 518 x 830 · Round format: 518 x 758
- 

TECU® Panels²⁾ – Lengths up to 4000 (*TECU® Patina max. 3000*) · Widths up to 400
- 

TECU® Cassettes²⁾ – Custom manufacturing
- 

TECU® Profiled Sheets – Corrugated and trapezoidal profiles · Various lengths and widths available on request
- 

TECU® Net (*stretch levelled*) – Thickness: 0.7/1.0 · Format: 1000 x 2000
- 

TECU® Net (*stretched*) – Thickness: 1.2 · Width: 1000 · Special lengths available on request
- 

TECU® Net (*perforated*) – Various lengths and widths available on request
- 

TECU® Bond – Thicknesses: Nominal thickness 4.0 (standard); copper front/reverse side 0.5 · Format: 1000 x 3000

1) Not available in TECU® Brass as rounded design.

2) Manufacture and sale: Fricke GmbH & Co. KG, Greven, Germany

Other dimensions and availability available on request.

Further Information: Project Consulting, Tel. + 49 (0) 5 41/3 21 - 2000

All measurements in mm.

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