

Patented steel facade system

mth concertto

by Metehe Oy Finland





Metehe Oy

**Innovative
steel sheet solutions for various
areas of construction work.
Direct sales from the factory to the
customers.**

Metehe Oy is a company established in 1998 offering flexible methods of further processing steel sheets. Our services are targeted **directly to the needs of consumers and industries utilising steel sheet products** and our products are sold **directly to the customers from the factory**. Our operations are designed to utilise coated steel sheet products for various areas of construction work. In 2007, exports accounted for over 70 % of our turnover.



**Comprehensive range of products
for both facades and roofs.**

Thanks to our modern and powerful machinery, we are able to manufacture a comprehensive range of roof and wall profiles, facade systems, and related products. We also supply raw materials and components, such as coils, strips and sheets to sectors of industry using steel sheet products. In Finland, our products can be picked up from the factory or delivered directly to the construction site – it's the customer's choice.

Our facilities are easy to reach, as they are located close to Highway 6 in the Lampikangas industrial area in Joutseno. The high quality of our operation is guaranteed by the skilled personnel, modern machinery, heavy investments in product development and training, and co-operation with universities and the Technical Research Centre of Finland (VTT).

We offer high-quality products very flexibly to our customers. We are a customer-oriented and reliable supplier, whose personnel put their many years of experience and expertise in the field to work for our customers. We continuously develop our operations in order to improve the quality of our products in all phases, from manufacture to delivery to the end user.



Metehe Oy was awarded the regional prize of the association of South Karelian enterprises in 2005.

Thanks to MTH Concertto, the facade system developed and patented by Metehe, the company received honourable mention from the President of the Republic in the nationwide INNOFINLAND 2005 Contest.

Metehe Oy was also awarded first prize in the category for the South Karelia region in the same contest. In addition, the MTH Concertto system received an honourable mention in the Plootu Fennica competition for Finland's best sheet metal innovations in 2006.



mth concertto

Patented steel
facade system.

Metehe Oy has developed and patented the new MTH Concertto steel sheet facade system, which combines the best qualities of cassettes and profiled sheets. MTH Concertto product sheets contain several embossed panels in the same sheet in the form of squares or rectangles. The new system opens a new use for high-quality bespoke steel sheets as a coating material for inside and outside surfaces and ceilings of buildings.

Patents have been granted for the product and the production method in Finland, Europe, Russia and United States, and a design right has been granted for the EU region.



New innovations and effectivity for facades.

The new production method, which has been widely patented and protected by design right, enables variable and vivid division of panels. The panel widths in different product versions are fixed, and the panel length can be freely chosen between limit values.

The MTH Concertto system provides significant improvements in construction design and assembly time as well as in the visual outcome. Typical applications for the products are public, commercial, and industrial buildings and halls. The product is ideal for new buildings and renovation projects, and it enables construction of high-quality facades, allowing flexible combination of materials and forms.

The number of cut edges in the product has been minimised, and there are no straight horizontal surfaces that could collect dirt. In addition, the compact and continuous structure provides excellent soundproofing. The MTH Concertto products are perfectly suited to both flat and curved facades. The products can be fastened to steel studding or a wooden frame. The products are designed, dimensioned, and produced individually for each project.

A separate MTH Concertto -material package for designers and builders is available by request. The package includes, for example, design and installation instructions, GDL-objects with user instructions and standard colour samples.





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The MTH Concertto products are designed, dimensioned, and manufactured project-specifically by utilising the modular lines of the building. The sheets are always dimensioned between centre points of the mounting slots in the sheet or centre points of the extension joint edges. The delivery process begins with making the necessary plans for the project. This includes taking into account the raw materials, product types, lengths of sheets and panels, installation direction, and corner structures. As necessary, the delivery may contain battens for, e.g., doors or windows and joints, according to the dimensions of the target structure. The product is implemented in the ArchiCAD software application with separate GDL objects to facilitate design.

The effective width for MTH Concertto facade sheets is 1200 mm. Their effective length can be freely chosen between 300 and 3200 mm.

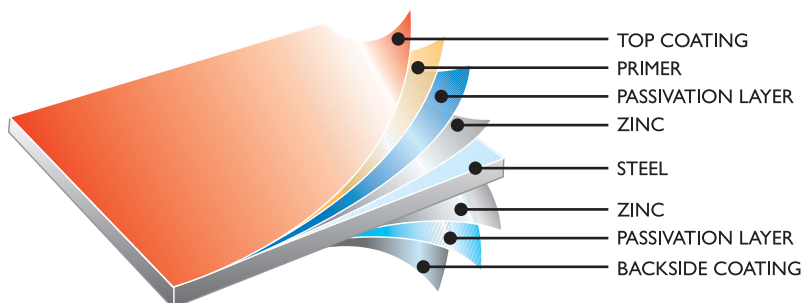
The available panel widths are 1 x 1200 mm, 2 x 600 mm, 3 x 400 mm, and 4 x 300 mm. The length of the panels in one sheet is always the same. The panel length can be chosen steplessly between 300 and 1200 mm.

The steel sheet thickness, as well as thermal expansion and wind load, must be taken into account in determining the panel size. The maximum panel lengths on our product pages are based on a wind load of 23 metres per second for a building height of 20 metres. The influence of the thermal expansion and wind loads are to be checked individually for each project with the help of figures calculated on the basis of some wind loads and building heights specified in Euro-code I.

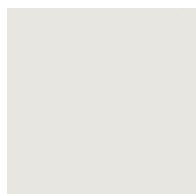
Use: Outer and inner surfaces and ceilings of buildings
Material: Hot-dip galvanised steel sheet with PVDF coating (with protective film) or paint, material thickness 1.00 mm
Colour selection: Wide selection of standard colours, also special colours.

COATING

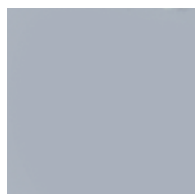
PVDF 35 my (PVF2) is a coating for demanding interior and exterior use, with a term of guarantee of 15 years. The coating retains its colours very well and is easy to clean. It also has excellent UV radiation resistance properties. The coating is ideal for demanding external claddings of buildings, roofs, and different element structures.



Standard Colours



Colour 20
White



Colour 21
Light grey



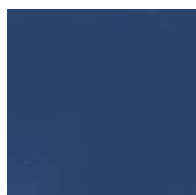
Colour 22
Grey



Colour 23
Dark grey



Colour 30
Light brown



Colour 35
Blue



Colour 40
Silver



Colour 41
Dark silver

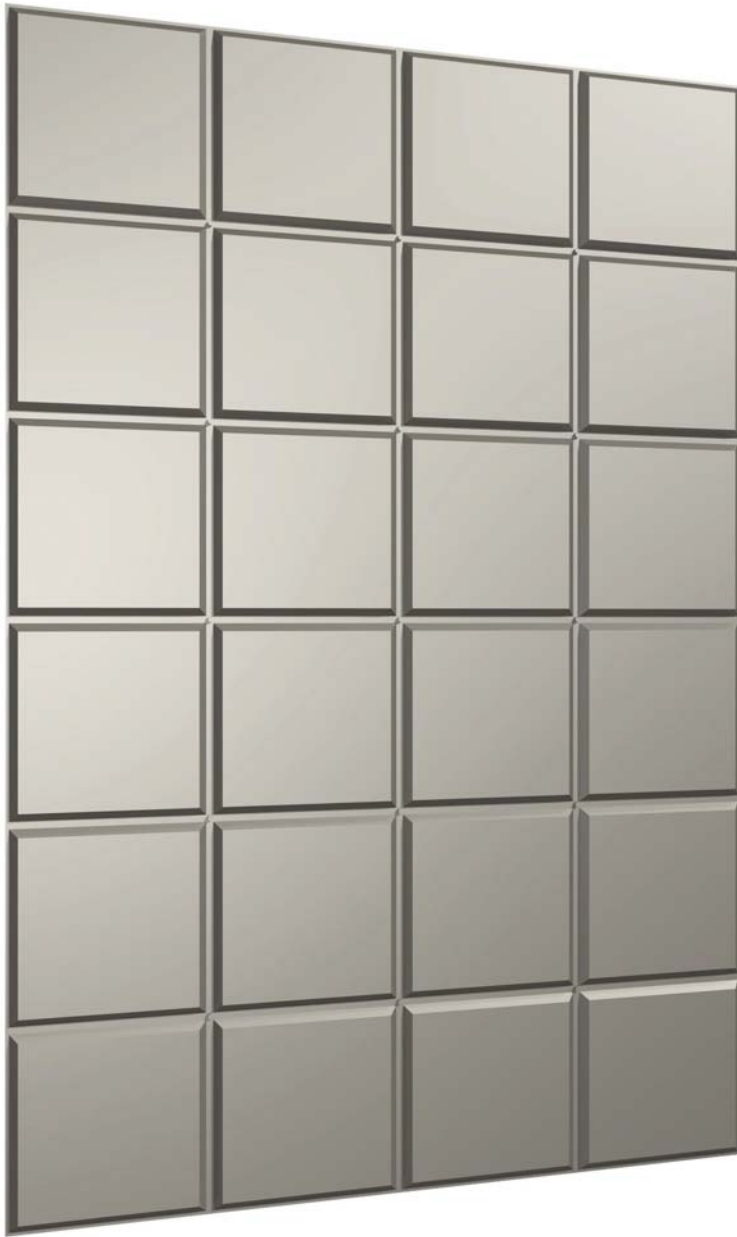


Colour 42
Gold



Colour 44
Metallic blue

mth concertto 3333A



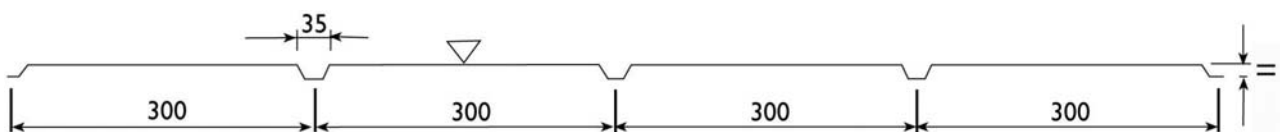
mth concertto 3333A
panel length 300 mm



mth concertto 3333A
panel length 600 mm

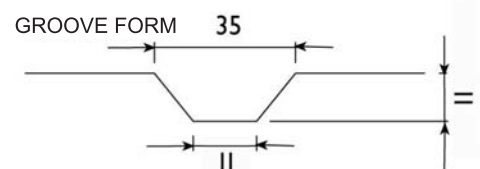


mth concertto 3333A
panel length 900 mm

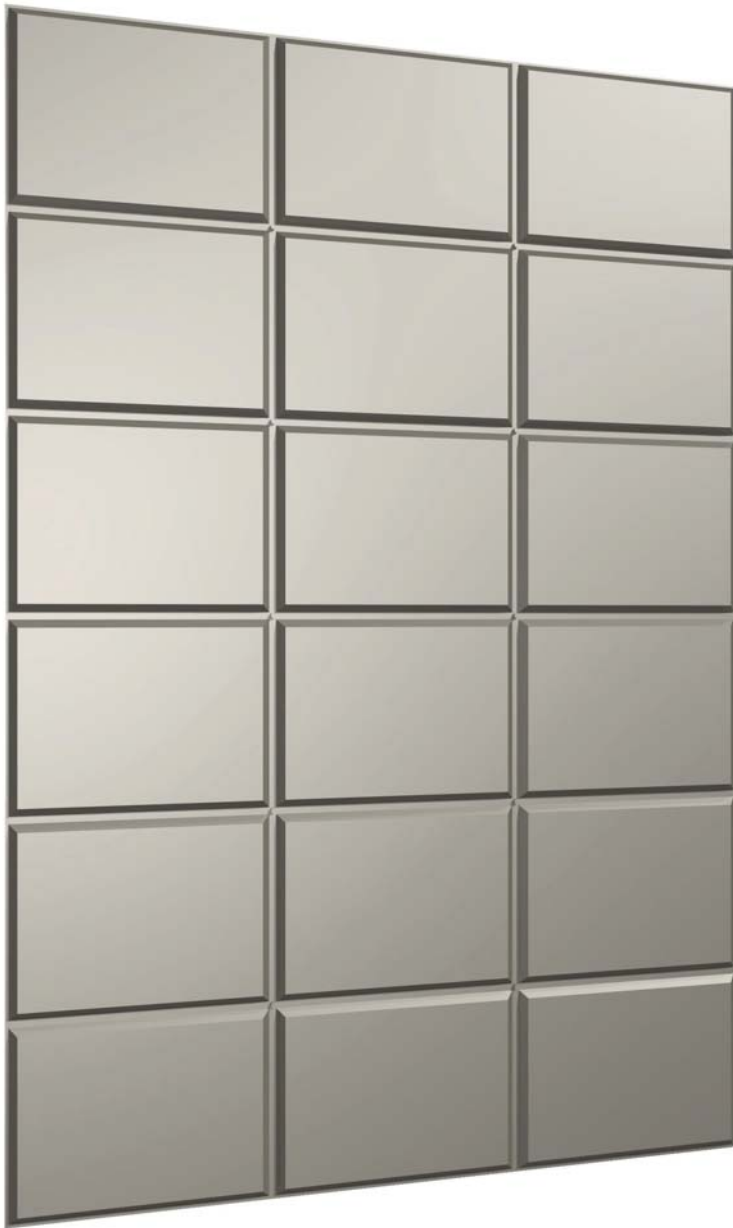


mth concertto 3333A

- Sheet's effective width 1200 mm
- Sheet's maximum length 3200 mm
- Panel width 4 x 300 mm
- Panel length 300 – 1200 mm



mth concerto 444A



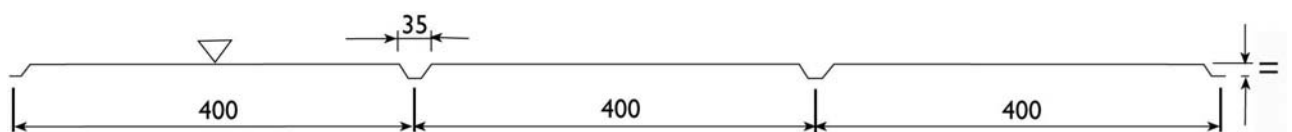
mth concerto 444A
panel length 300 mm



mth concerto 444A
panel length 600 mm

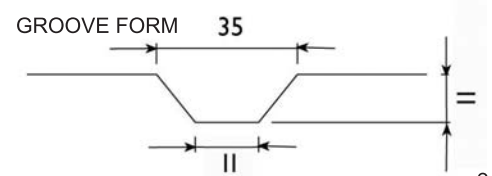


mth concerto 444A
panel length 900 mm



mth concerto 444A

- Sheet's effective width 1200 mm
- Sheet's maximum length 3200 mm
- Panel width 3 x 400 mm
- Panel length 300 - 1200 mm



mth concertto 66A



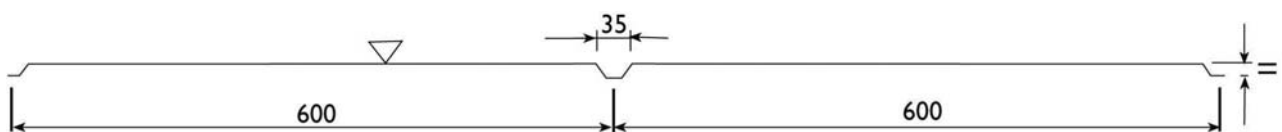
mth concertto 66A
panel length 300 mm



mth concertto 66A
panel length 600 mm

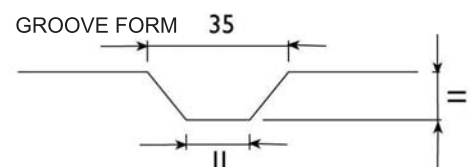


mth concertto 66A
panel length 900 mm



mth concertto 66A

- Sheet's effective width 1200 mm
- Sheet's maximum length 3200 mm
- Panel width 2 x 600 mm
- Panel length 300 – 1200 mm



mth concertto 12A



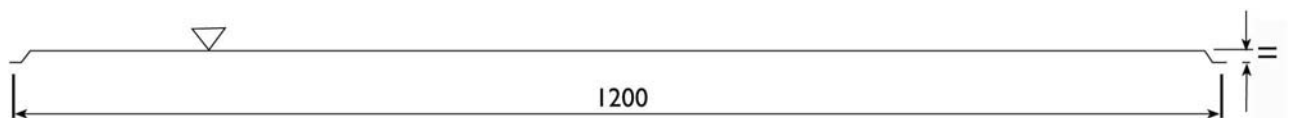
mth concertto 12A
panel length 300 mm



mth concertto 12A
panel length 450 mm

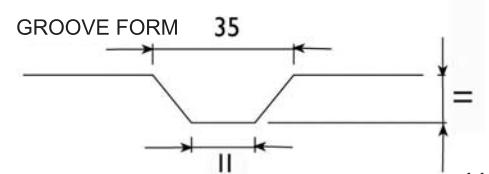


mth concertto 12A
panel length 600 mm

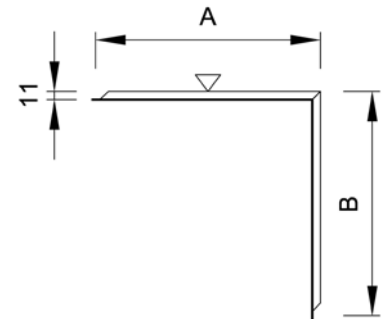


mth concertto 12A

- Sheet's effective width 1200 mm
- Sheet's maximum length 3200 mm
- Panel width 1 x 1200 mm
- Panel length 300 – 600 mm



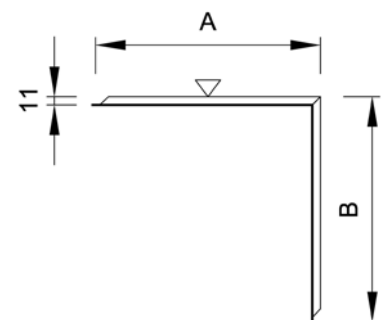
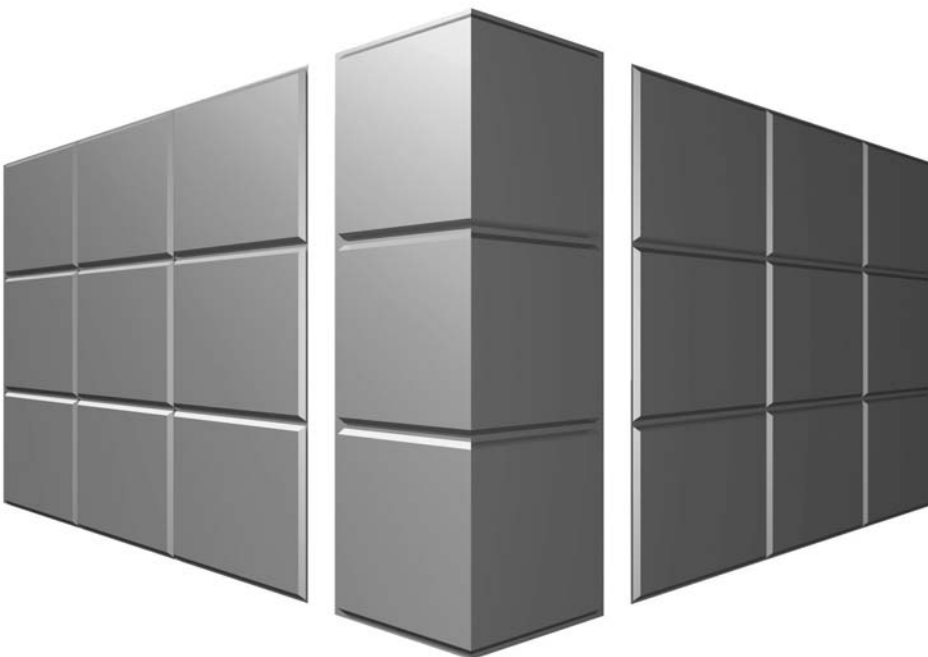
mth concertto corner 3333A



mth concertto corner 3333A

- Effective corner height 1200 mm
- Effective side length (A and B) 150-600 mm
- Panel height 4 x 300 mm

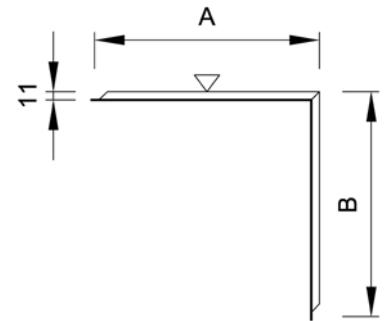
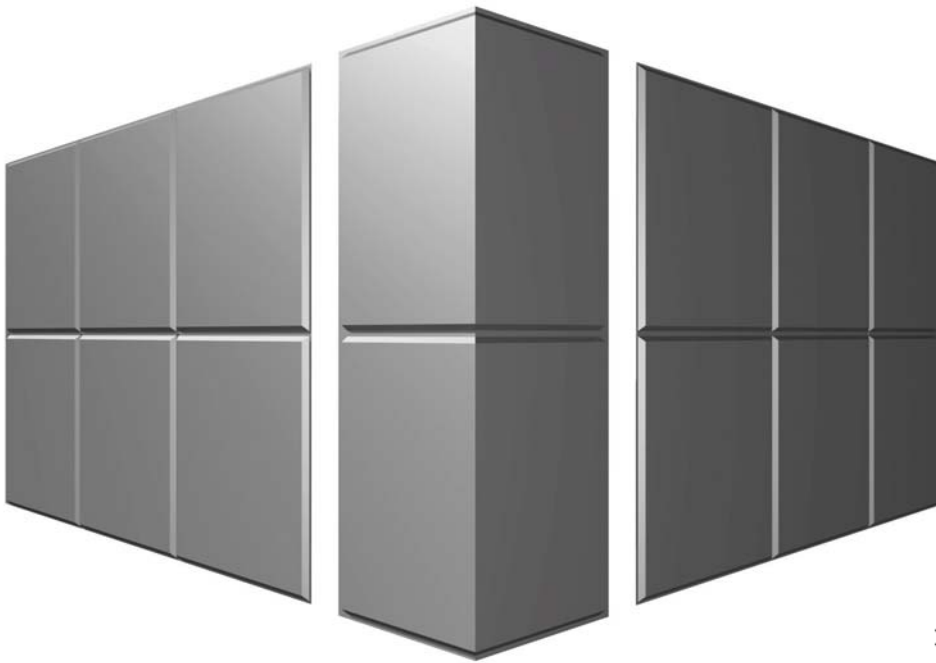
mth concertto corner 444A



mth concertto corner 444A

- Effective corner height 1200 mm
- Effective side length (A and B) 150-600 mm
- Panel height 3 x 400 mm

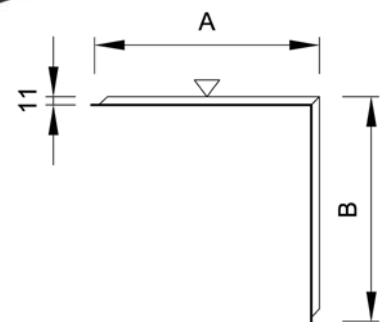
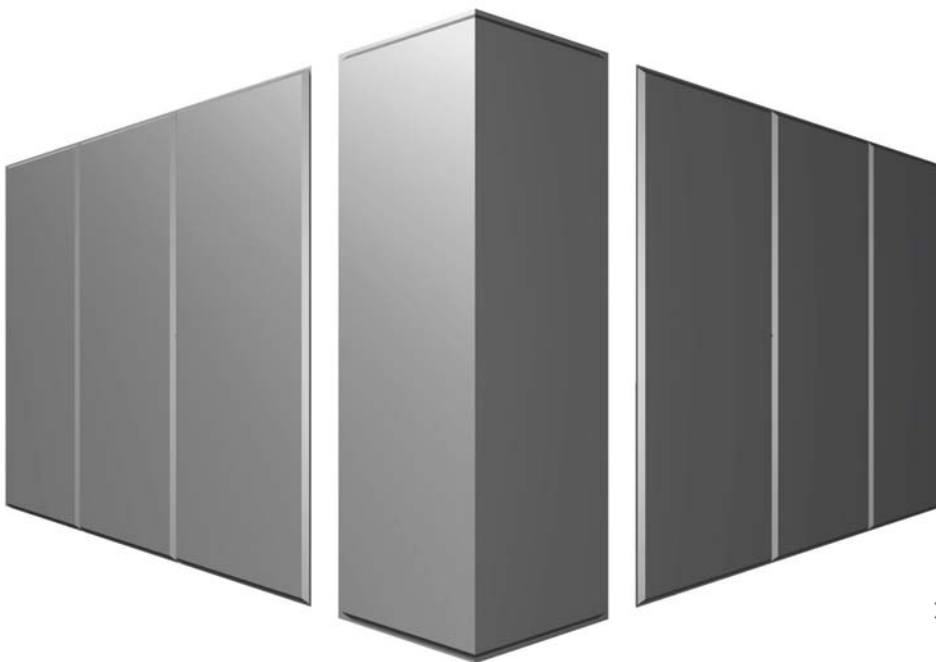
mth concertto corner 66A



mth concertto corner 66A

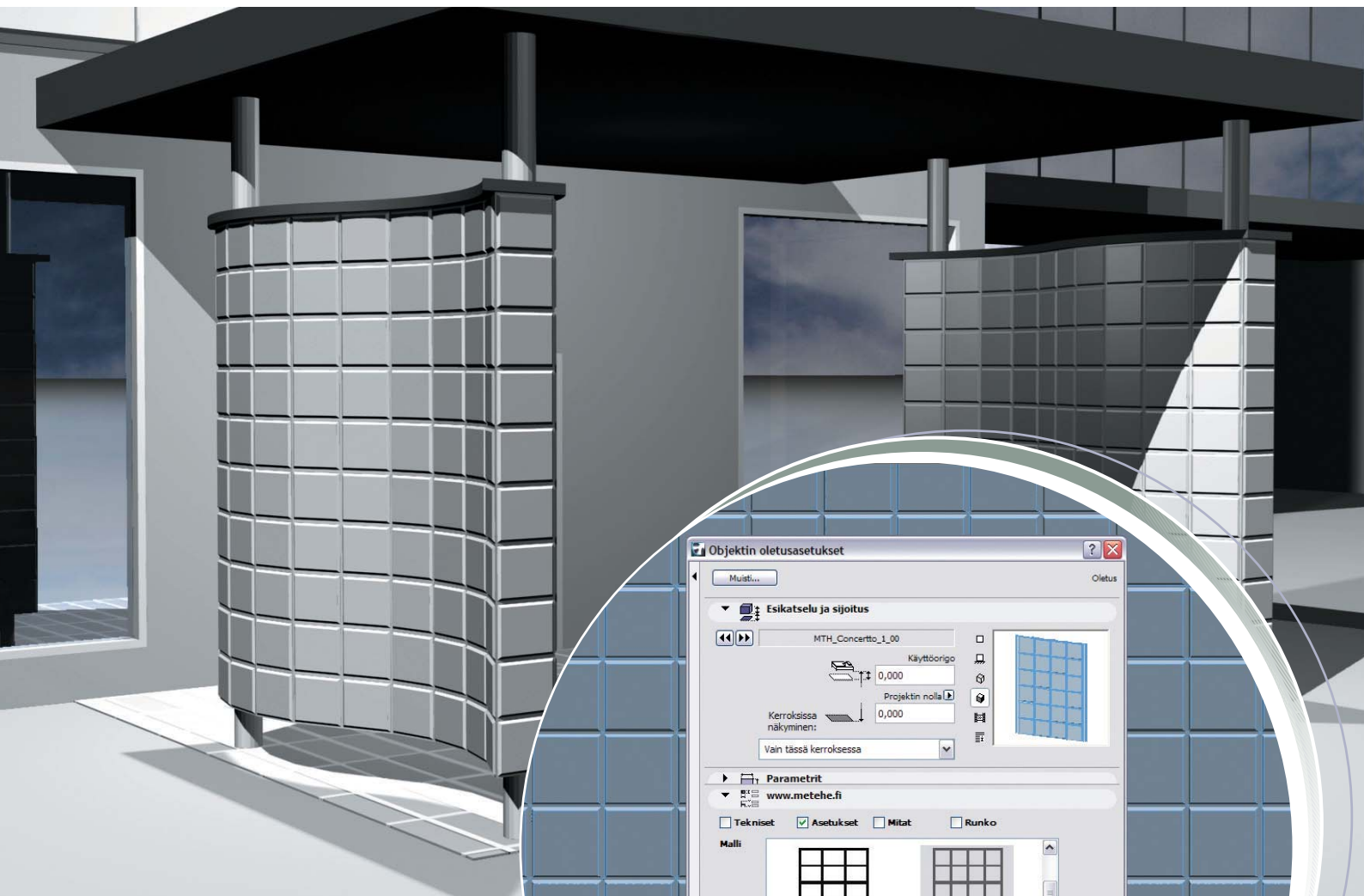
- Effective corner height 1200 mm
- Effective side length (A and B) 150-600 mm
- Panel height 2 x 600 mm

mth concertto corner 12A



mth concertto corner 12A

- Effective corner height 1200 mm
- Effective side length (A and B) 150-600 mm
- Panel height 1 x 1200 mm



mth concertto

The GDL objects of the MTH Concertto facade system can be loaded from our Web site at www.concertto.com and the RT-CAD image database of the Building Information Group, at www.rakennustieto.fi/rt-cad.

A GDL (Geometric Description Language) object is a design tool used to present the product in 3D format in the design software. The designer can use the GDL objects with the ArchiCAD software package, but the objects are compatible with several other international design applications as well. A GDL object, whose appearance is very similar to that of the actual product, helps the designer in making visualisations. Also, product and quantity calculations can be added to the object. The MTH Concertto facade system has been converted into GDL objects in co-operation with Building Information Ltd. The objects function as design tools. To facilitate design work, they are coded with automated functions for dimensioning and design of the structure and skeleton. The designer can be creative and compile the facade from different MTH Concertto product alternatives, also comparing model and colour options.

INNOSUOMI 2005

The national INNOFINLAND contest of the President of the Republic is arranged each year with the purpose of promoting productisation and commercialisation of new inventions, encouraging the entrepreneurial spirit, and awarding innovative entrepreneurship. Thanks to MTH Concertto, the facade system developed and patented by Metehe Oy, the company received honourable mention in the 2005 contest. Metehe Oy was also awarded first prize in the regional category for South Karelia in the same contest.

Reasons cited for the honourable mention: The facade system developed by Metehe Oy, Joutseno, is a new way of implementing facade structures with steel sheets. Installing the facade elements as entire sheets makes the work faster. In addition, there are no joints in the edges of the patterns, which could weaken the sealing properties of the facade structure. Developing the MTH Concertto product and manufacturing method is a good example of target-oriented research and development work by small and medium-sized enterprises.

PLOOTU FENNICA 2006

Plootu Fennica is a design competition for sheet metal products. The entries are judged according to the extent to which they use thin sheet in the product or part of the product in terms of innovative properties, structure, manufacturing technique, or design. The MTH Concertto facade system was awarded an honourable mention in Plootu Fennica - Sheet Metal Product of the Year 2006 competition.

Reasons given for the honourable mention: The MTH Concertto facade system offers a new and innovative building method for facades of new and renovation construction, which expands the methods of use. The efficient use of the material and high speed of the end installation give the product a competitive edge over the alternative solutions.



**INNOSUOMI 2005
KUNNIAMAININTA**



PLOOTU FENNICA

Vuoden Ohutlevytuote 2006



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by Metehe Oy Finland

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