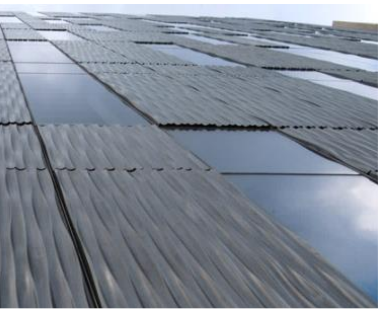





ACTIVE COMPOSITE TECHNOLOGIES





Case Studies

September 2018

Protea building - South Africa - Johannesburg

ACTIVE COMPOSITE TECHNOLOGIES

Advantages:

- ✓ Excellent imitation of zinc
- ✓ Panels with a complex shape

Project: Protea Place

Project date: 2010

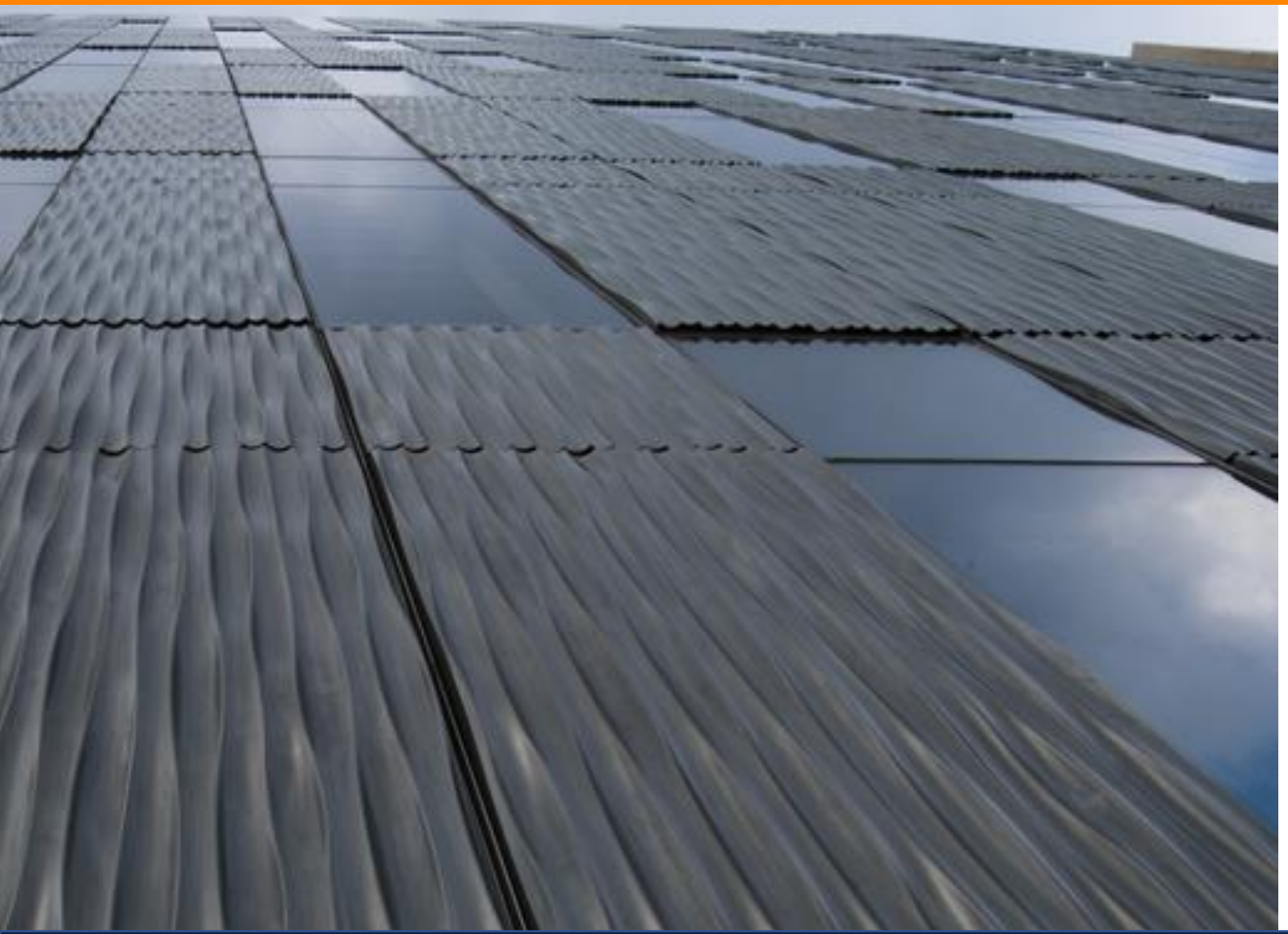
Where: Protea building - South-Africa - Johannesburg

Designed by: Paragon Architects

How it's made:
Zinc powder has been added to the A1 in the first layer, to create a solid and smooth surface. After the first layer for reinforcement, several layers with glass fibre / chopped fibres were laminated. After demoulding the panels were sanded to get the zinc on the surface. To protect the zinc surface 3 layers of sealer were applied.

Protea building - South Africa - Johannesburg

ACTIVE COMPOSITE TECHNOLOGIES



Protea building - South Africa - Johannesburg

Use a silicone or epoxy mould. The max. panel size is: 3800 x 1000 mm.

Use a release agent and apply this by brush. After applying wipe out with a cloth.

Mix the materials for the gelcoat layer: 50 parts zinc : 100 parts A1 (pbw).

Apply the first layer, this is called the gelcoat layer.

Wait until layer start to cure.

Apply the 1st laminate layer: A1 with 2 layers of A1 Triaxial fibre.

Apply the core layer; A1 met chopped fibers. The core layer has a total thickness of 3 mm.

Apply the 2nd layer: A1 with 2 layers of A1 triaxial fibre.

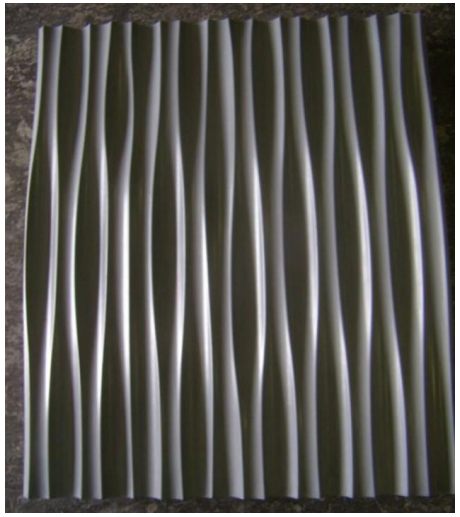
Protea building - South Africa - Johannesburg

ACTIVE COMPOSITE TECHNOLOGIES

A frame is used to position the mounting brackets on the finished laminate.

The stainless steel brackets were embedded with A1 with chopped glass fibres.

3 layers of A1 Triaxial fibre is laminated on the brackets to get a strong connection.



Frontside of the panel.

Backside of the panel.

3 layers of A1 Triaxial fibre is laminated

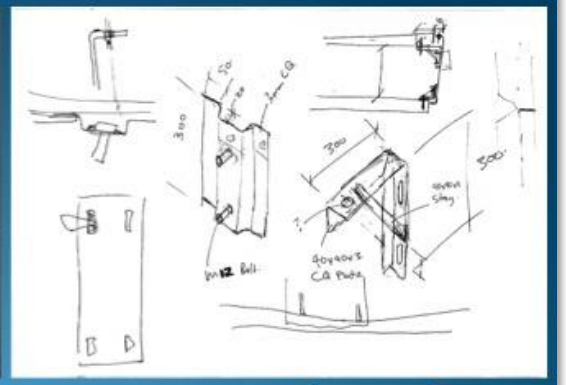
- ✓ The cladding system had to create movement and mood at different times of the day.
- ✓ A1 with zinc gelcoat with a wave type design was chosen.
- ✓ This was achieved by adding 80% zinc filler and slightly polished, then sealed with A1 sealer.

Protea building - South Africa - Johannesburg

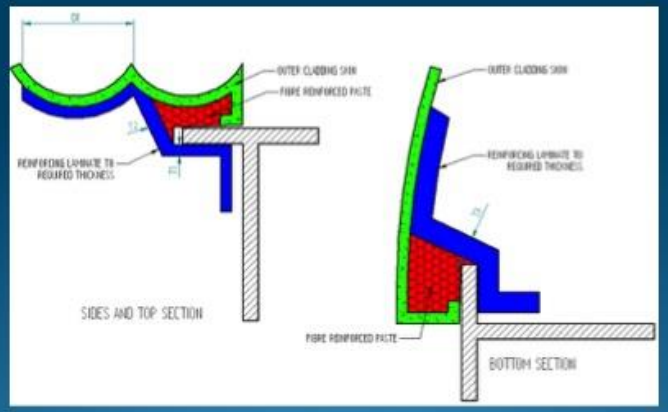
ACTIVE COMPOSITE TECHNOLOGIES

Information provided

Drawings:	PDF layout and sketches
Materials:	Samples and M1 data sheet
Loading:	Wind loads only (SABS 0160: 1989)
Boundary conditions:	Sketches



Results



Label	Required thickness	Actual thickness	Safety factor
T1	0.26mm	5.16mm	20
T2	0.01mm	5.16mm	516
T3	3.5mm	9mm	2.57

Fly-over Amersfoort in concrete look

ACTIVE COMPOSITE TECHNOLOGIES

Advantages:

- ✓ Light weight
- ✓ Easy installation
- ✓ Natural concrete look

Project date: 2015

Where: The Netherlands - Amersfoort

Designed by: Van Boekel and Be Concrete

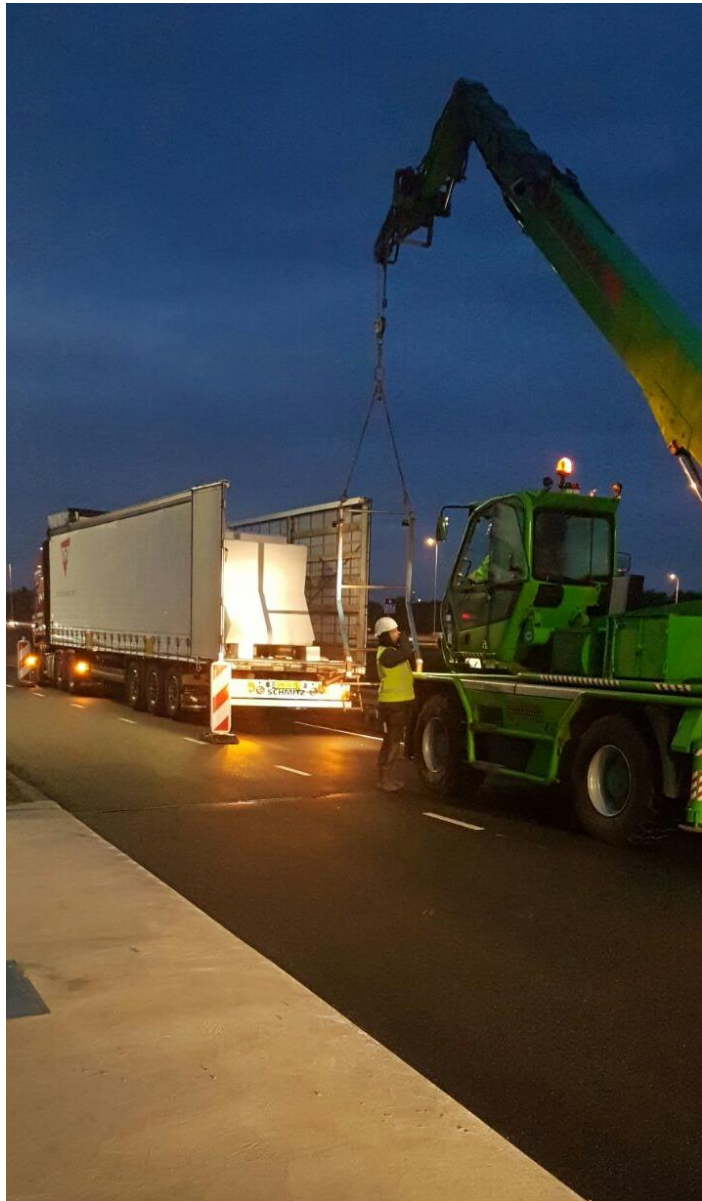
How it's made:
The side panels are made of A1 with an aluminum structure. The weight is now 150 kg per panel, which if in concrete would be a tenfold.

Fly-over Amersfoort in concrete look

ACTIVE COMPOSITE TECHNOLOGIES

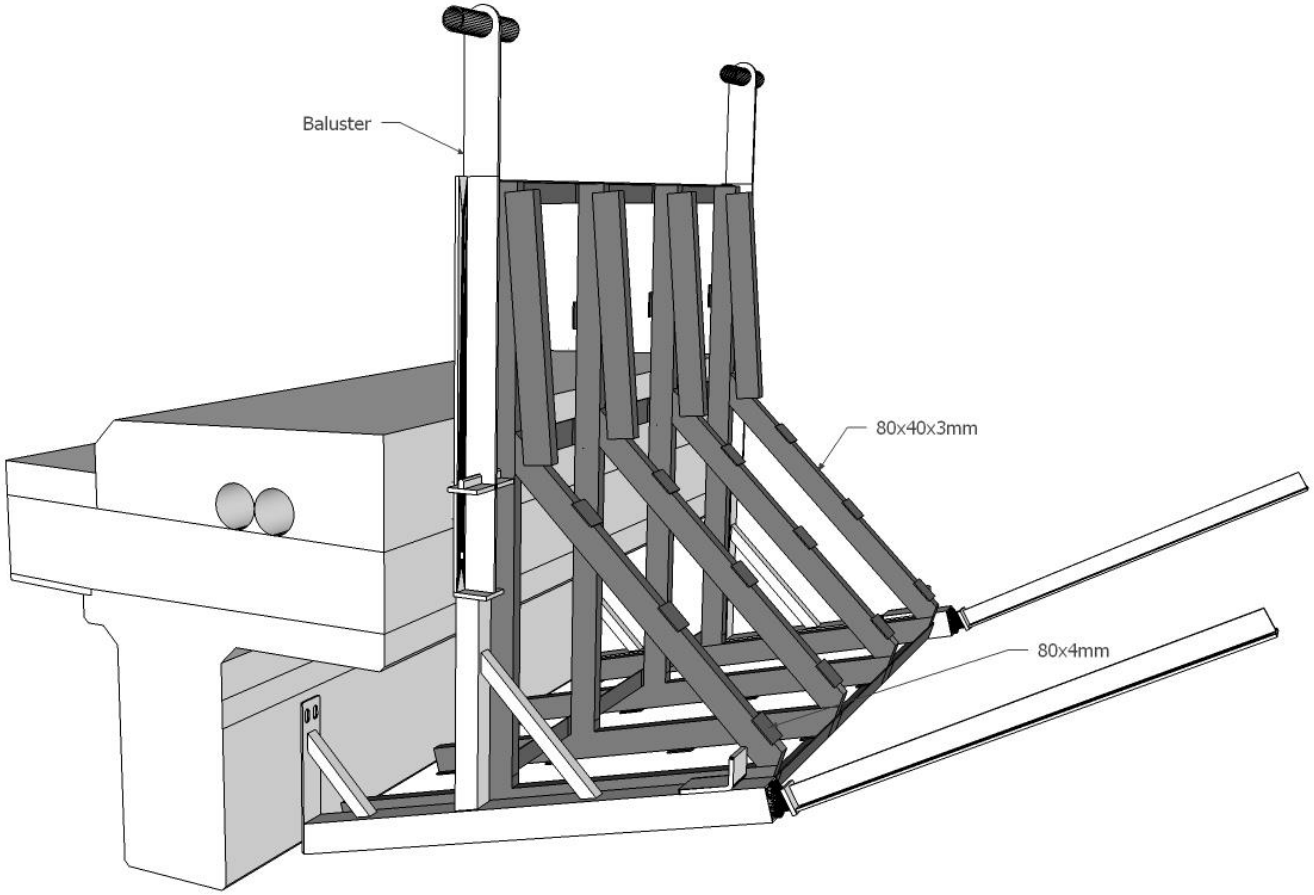
Advantages:

- ✓ Light weight
- ✓ Easy installation
- ✓ Natural concrete look



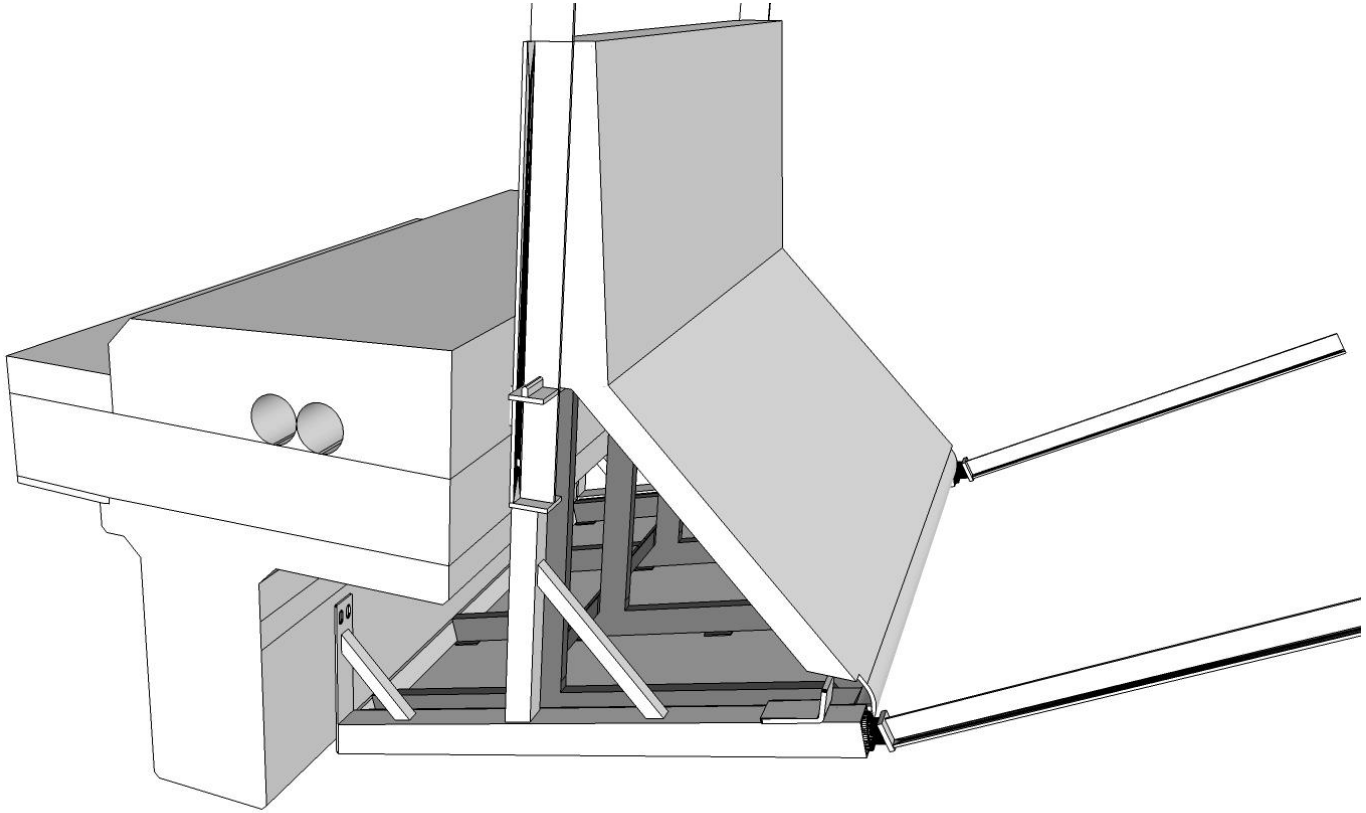
Fly-over Amersfoort in concrete look

ACTIVE COMPOSITE TECHNOLOGIES



Fly-over Amersfoort in concrete look

ACTIVE COMPOSITE TECHNOLOGIES



Olympic Hotel - Amsterdam

Project date: 2018

Where: The Netherlands - Amsterdam

Designed by: Poly Products

How it's made:
A1 was mixed with sand and applied in a mould using brush, roller and spraying. Several layers of A1 Triaxial fibre were used to reinforce the panels.

Olympic Hotel - Amsterdam

ACTIVE COMPOSITE TECHNOLOGIES

Advantages:

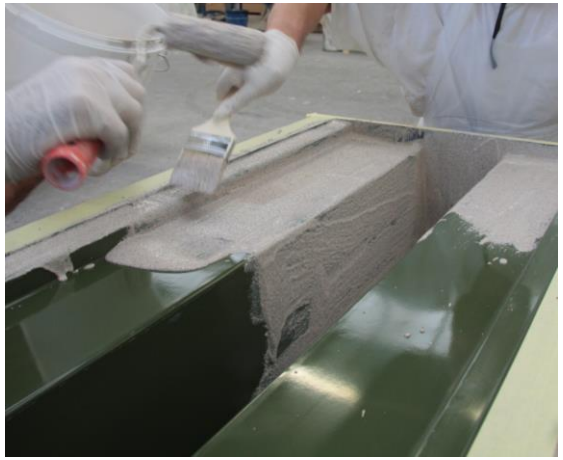
- ✓ Freedom of form
- ✓ Light weight
- ✓ Natural feel and look
- ✓ Fire resistance

Olympic Hotel - Amsterdam

A polyester mould with a release agent.

Cutting different sizes of A1 Triaxial fibre.

Weighing and mixing A1 Liquid, A1 Powder, Thix A and sand for the top layer.



Applying A1 with brush and roller.

L-shaped panels are sprayed with A1.

Applying several layers of A1 with Triaxial fibre.

Olympic Hotel - Amsterdam

Within 2 hours the panel is demoulded for futher curring.

On the inside panels are being reinforced with aluminium.

After complete curing, the panels are lightly sand blasted.

Several layers of A1 sealer are applied to protect against weather influences.

Advantages:

- ✓ Freedom of form
- ✓ Light weight
- ✓ Natural feel and look
- ✓ Fire resistance

Tax office - Doetinchem - The Netherlands

ACTIVE COMPOSITE TECHNOLOGIES

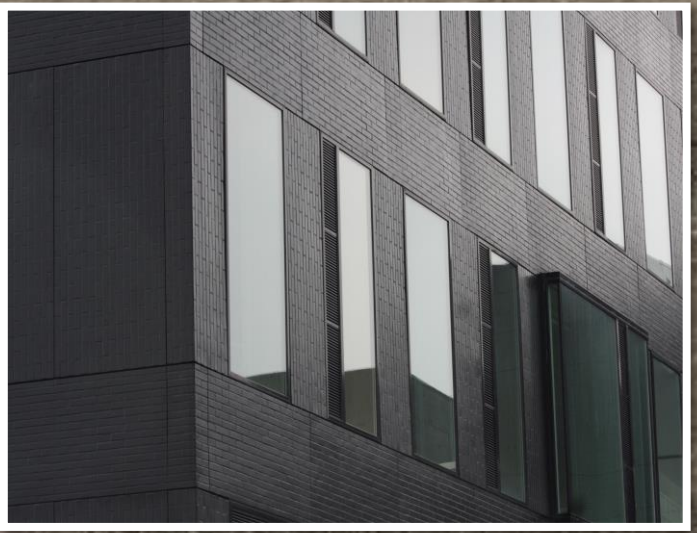
Project: Tax office

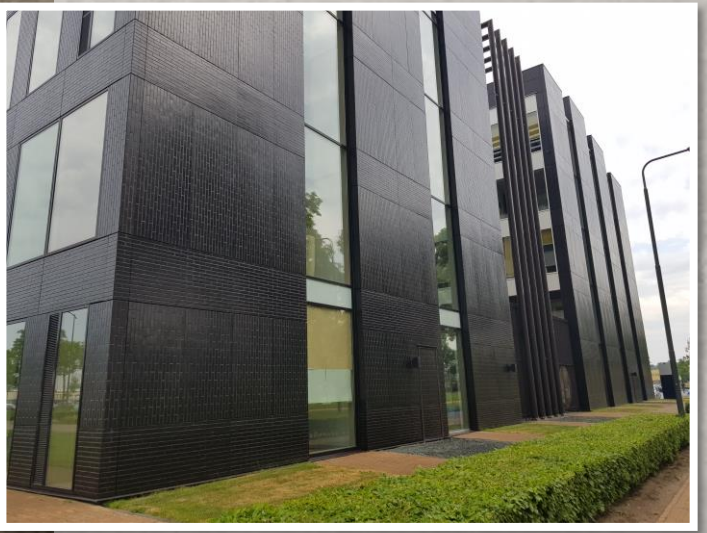
Project date: 2014

Where: The Netherlands - Doetinchem

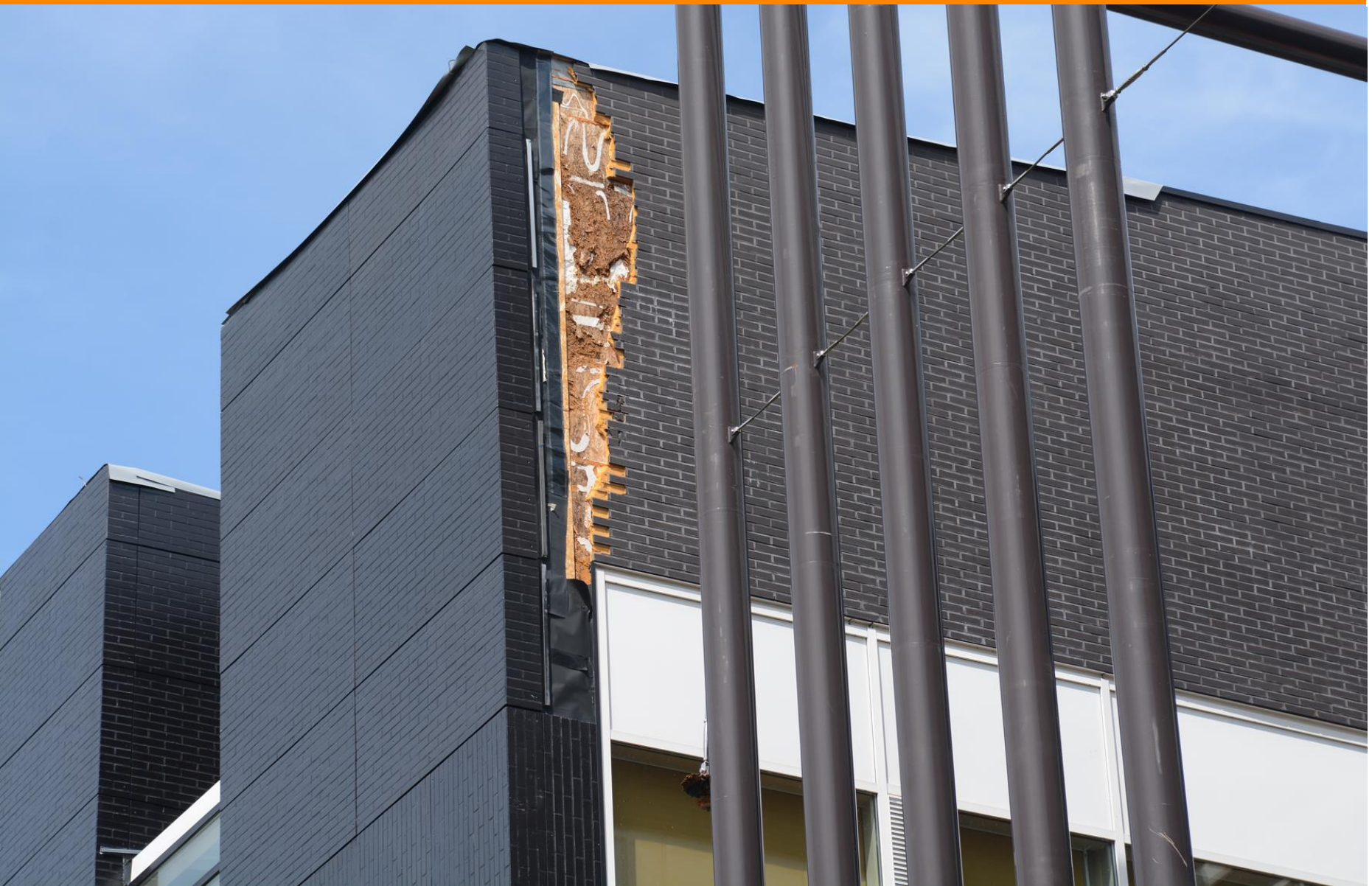
Designed by: Lensvelt/Ekosiet

How it's made:
From the original façade a mould was extracted which was used for the production of A1 panels.





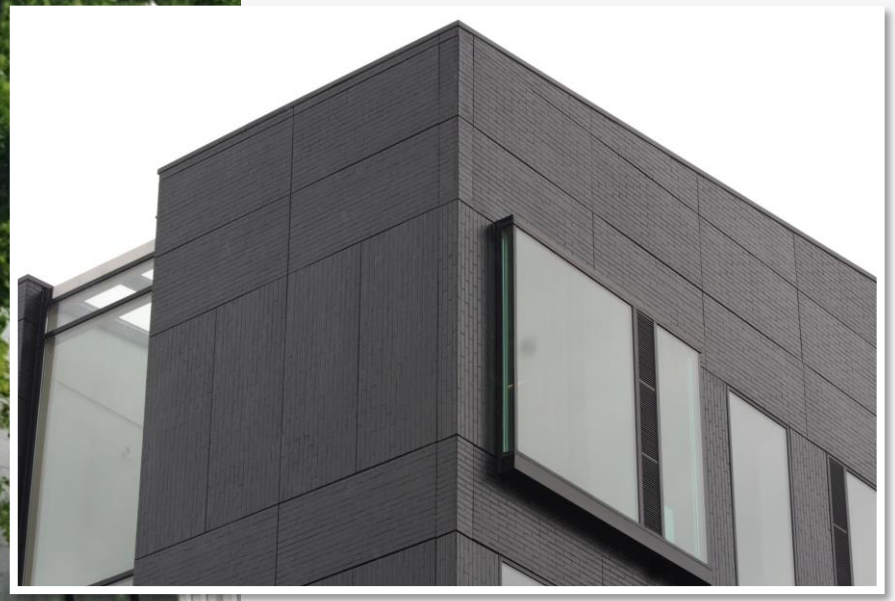
Tax office - Doetinchem - The Netherlands



Tax office - Doetinchem - The Netherlands

Tax office - Doetinchem - The Netherlands

ACTIVE COMPOSITE TECHNOLOGIES



Advantages:

- ✓ A1 could reproduce the original façade
- ✓ Light weight
- ✓ Fire resistance

Ceiling office Mahler - Amsterdam

ACTIVE COMPOSITE TECHNOLOGIES

Advantages:

✓ Freedom of form
✓ Fire resistant

Project date: 2009

Where: The Netherlands - Amsterdam

Designed by:
Architect: Erick van Egeraat
Production: Poly Products

How it's made:
The ceiling is made of A1.
Total surface area of 800 m2, none of the elements is the same.

Video:
https://www.youtube.com/watch?v=foZvF3nCwjg

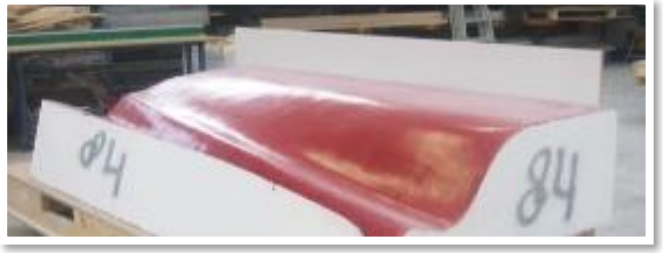
Ceiling office Mahler - Amsterdam

ACTIVE COMPOSITE TECHNOLOGIES

Advantages:

- ✓ Freedom of form
- ✓ Fire resistant

Ceiling office Mahler - Amsterdam



Panels in wood structure - Rotterdam

ACTIVE COMPOSITE TECHNOLOGIES

Project date: 2011

Where: The Netherlands – Rotterdam - Ahoy (indoor event center)

Produced by: Kool Polyester

How it's made:
A1 reinforced with A1 Triaxial fibre, finished with a red/orange coating. Because of the fire retardant properties A1 was chosen, to replicate the fine wood structure of an original wooden panel.

Advantages:

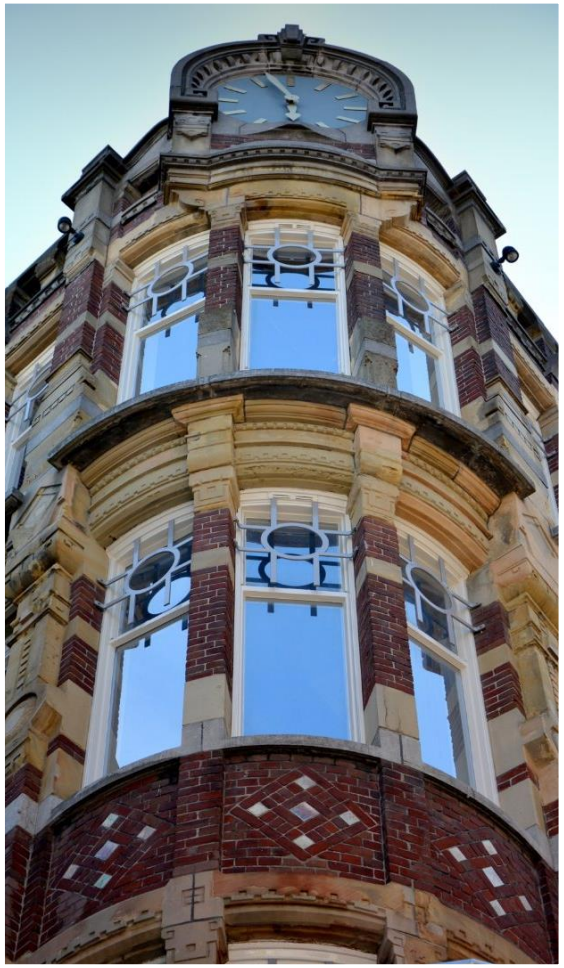
- ✓ Replication of wood structure
- ✓ Fire resistance

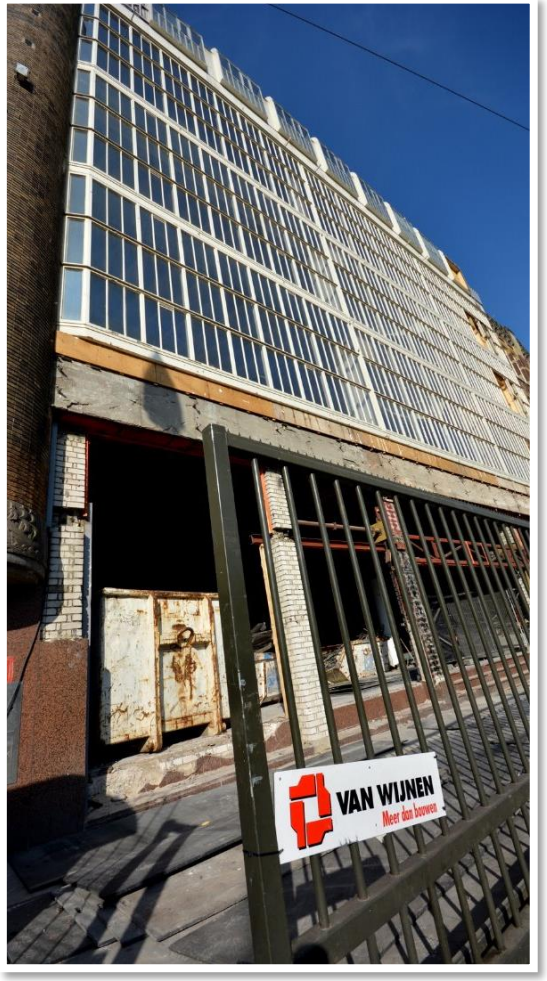
Panels in wood structure - Rotterdam

ACTIVE COMPOSITE TECHNOLOGIES

V&D building Kalverstraat - Amsterdam

ACTIVE COMPOSITE TECHNOLOGIES





Project date: 2018

Where: The Netherlands – Amsterdam

Produced by: Nedcam / Be Concrete

Advantages:

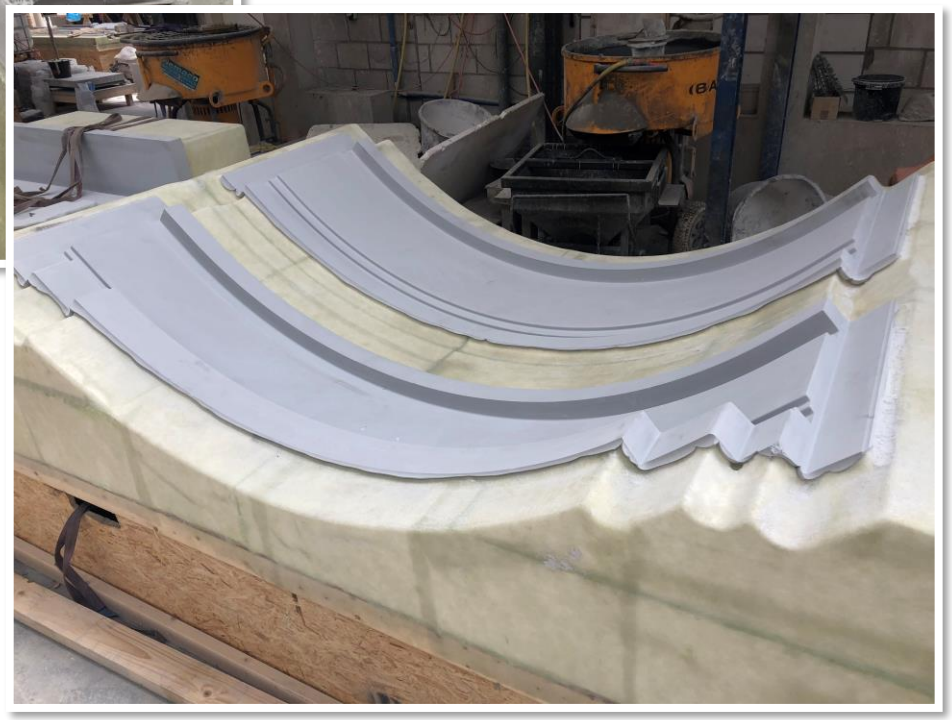
- ✓ Freedom of form
- ✓ Fire resistant
- ✓ Natural feel and look
- ✓ Light weight

V&D building Kalverstraat - Amsterdam

ACTIVE COMPOSITE TECHNOLOGIES

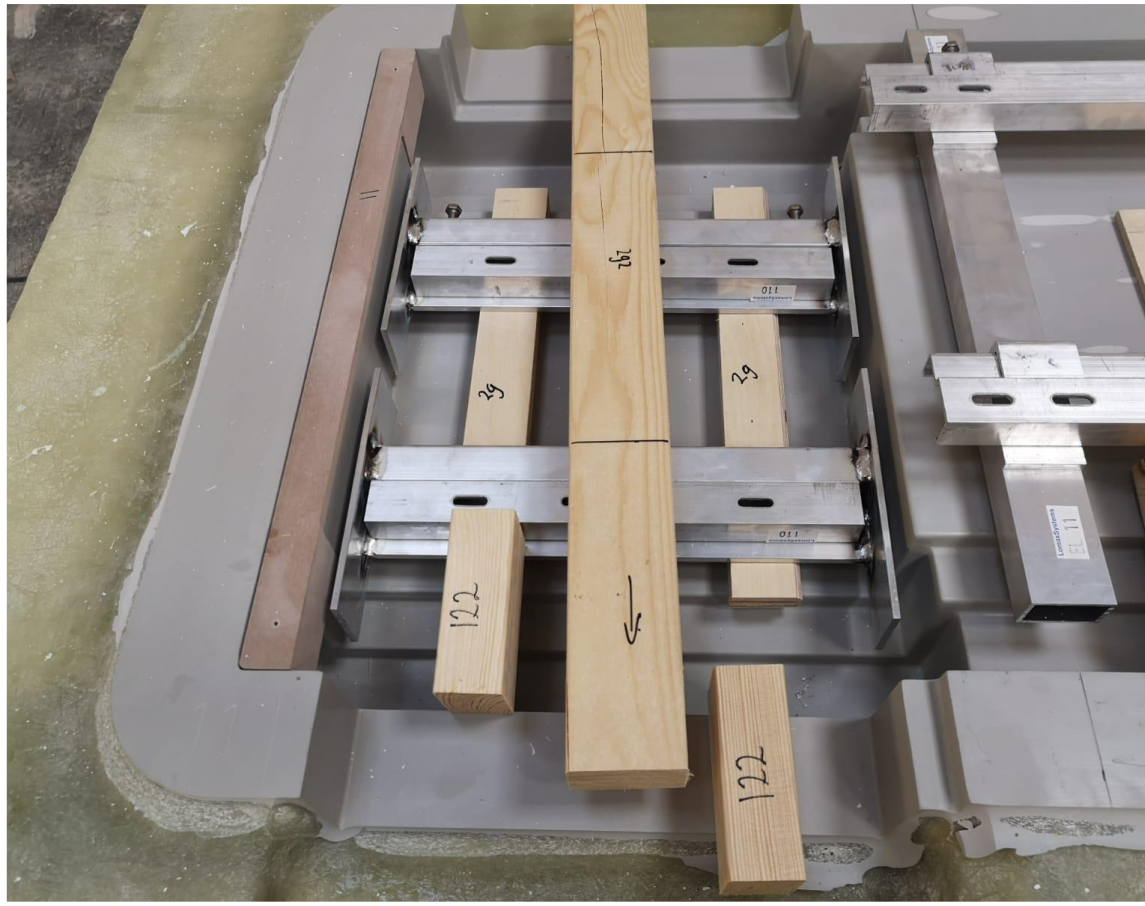
V&D building Kalverstraat - Amsterdam

ACTIVE COMPOSITE TECHNOLOGIES



V&D building Kalverstraat - Amsterdam

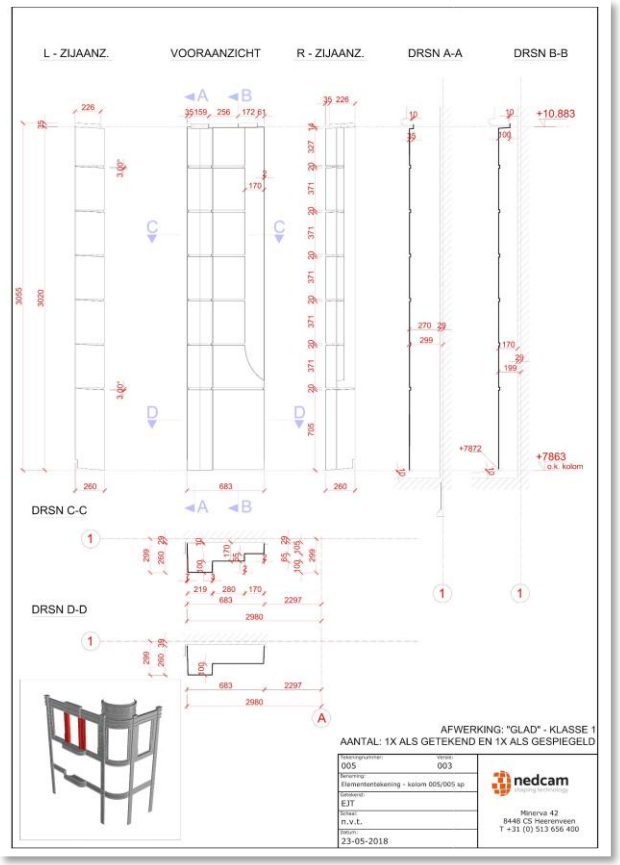
ACTIVE COMPOSITE TECHNOLOGIES



V&D building Kalverstraat - Amsterdam

ACTIVE COMPOSITE TECHNOLOGIES

V&D building Kalverstraat - Amsterdam



Restauration sculpture ‘Deugden’ - Amsterdam

ACTIVE COMPOSITE TECHNOLOGIES

Questions??

Contact us: mani.amtau@gmail.com