



Presentation *introduction to GevelAdvies*

Sake van der Wal, MSc & ir. Zoen Fan Choi

Nice to meet you all!



Façade Consulting & Engineering

<https://geveladvies.nl/>

Introduction:

Sake van der Wal, MSc

&

ir. Zoen Fan Choi



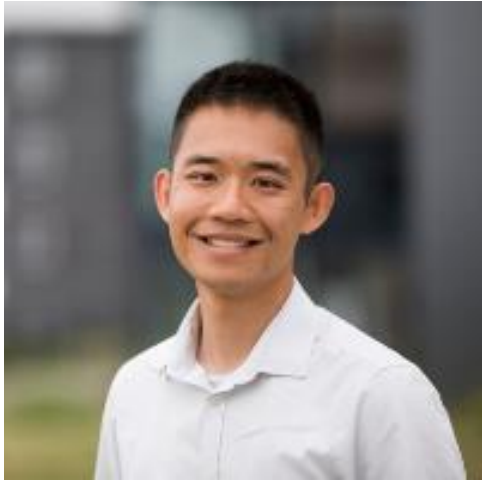
Sake van der Wal, MSc:

Studied at University in Groningen,
Renewable Energy Sciences
Graduated in year 2020

Start at GevelAdvies 2020.

Role in GevelAdvies

- Sustainability
- ISO 14001 - Environmental management
- ISO 9001 - Quality management
- NEN-EN norms
- Quality guidelines



ir, Zoen Fan Choi:

Studied at University in TU Delft,
Master Building technology
Graduated in year 2015

Start at GevelAdvies 2019

Role in GevelAdvies

- Façade advisor to external companies
 - Solving issues related to the façade
 - Assist in program of requirements
 - Inspections and maintenance plan
- Technical advisor in big projects;
 - ASML, Tripolis, Rai Hotel, Zalmhaventoren...

In short, what we do?

GevelAdvies Ingenieursbureau *is assisting daily to create more sustainable buildings and environment.*

Our customers:

We are doing this by offering high-quality service to real estate holdings, housing associations, VvE's (owners associations), façade manufacturers and constructors.

What we want to achieve:

Based on sustainable partnerships and investments of these parties, we want to increase the comfort in the building and prolong the lifespan, functionality of the façade and windows.

- 4 Façade specialists
- 1 Quality consultant
- 1 Sustainability consultant
- 1 Façade constructor
- 1 Installation specialist
- 1 Engineer
- 1 Test Operator
- 1 Back Office



Practical advice
Solution-oriented
Sustainable development
of companies



Our expertises

Destructive inspection, *disassemble a façade to its core to find the cause of the problem.*

Consult on façade engineering, *structural calculations, thermal/insulation research, making sure the façade is according the building regulations.*

Testing, *Windload-, air permeability- and watertest in the laboratory and on the building site*

Consult on fire safety and burglary proof, *Giving advise how certain construction need to be designed and tested*

Façade inspections, *Inspection of the façade on defects which leads to problems in the future.*

And more.....

Example of Destructive inspection



Example of regular inspection



The regent Eindhoven



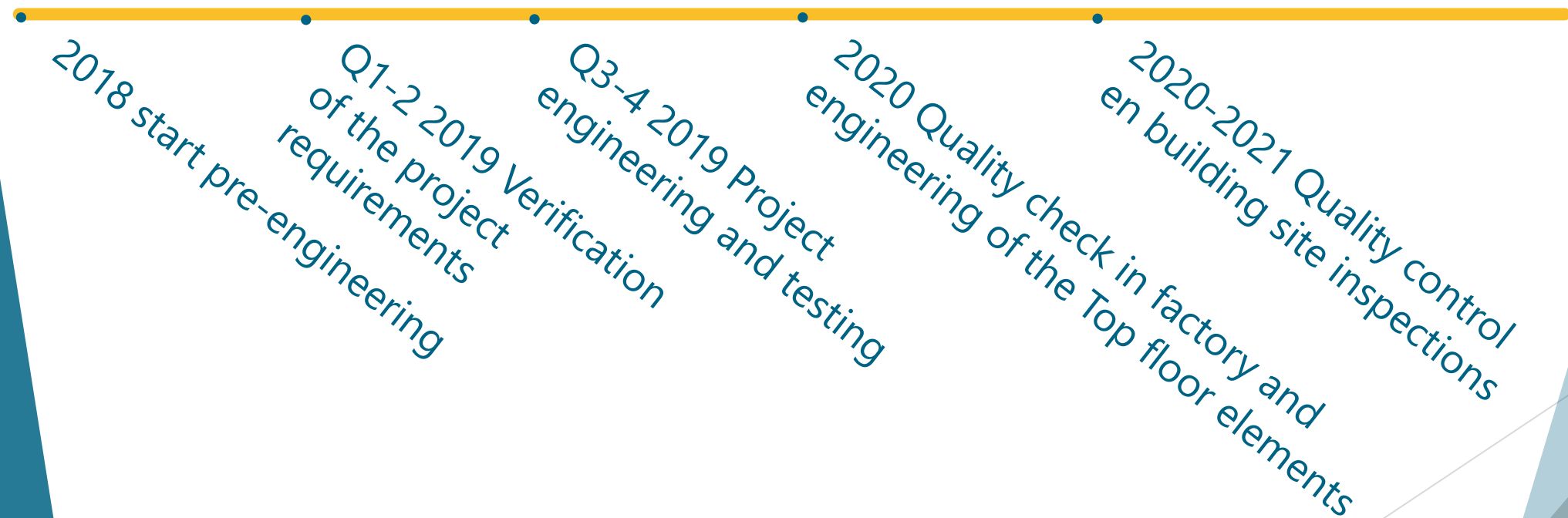
1. Project facts
2. Our involvement in the project
3. Technical requirements
4. Devices used by GevelAdvies
5. Questions?

PROJECT FACTS

- Location: Rotterdam near the river Maas
- Highest tower in the Benelux 215 meter
- Finished begin 2022
- Facade by Rollocate
 - ✓ Curtain wall Floor 0-5
 - ✓ Windows Floor 6-52
 - ✓ Top unitized system
- till 750 Pa tested on air infiltration and water penetration



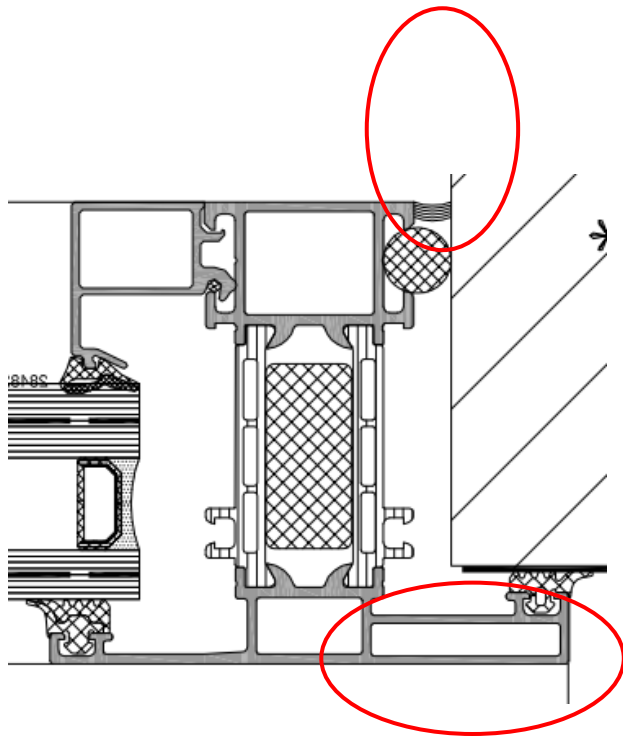
Our involvement



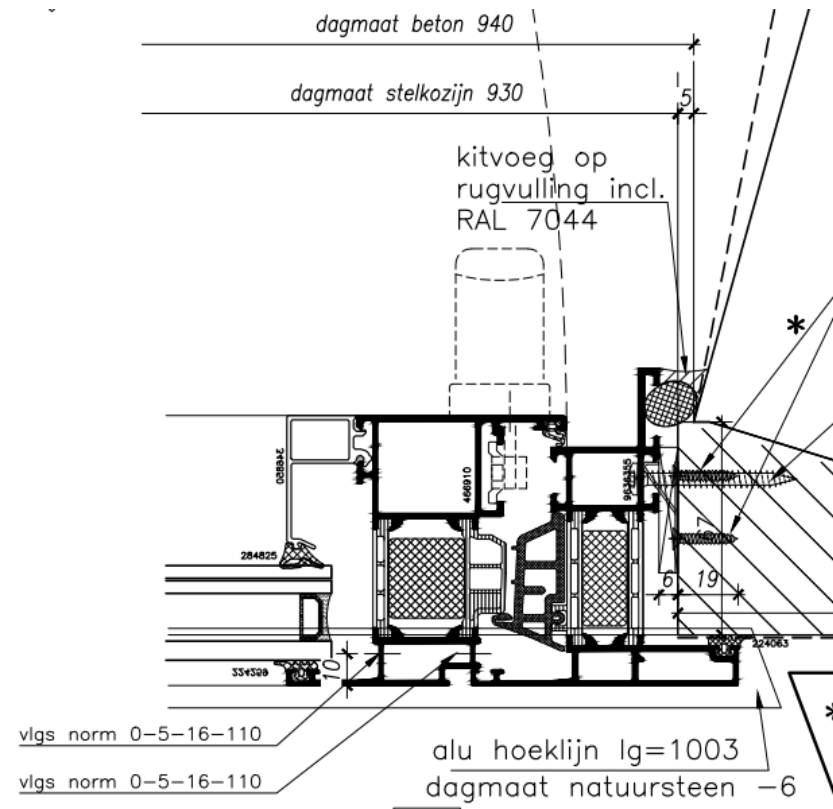


Role of GevelAdvies (Pre-engineering)

- Logistics
- till 750 Pa (classification test) tested on air infiltration and water penetration
- Windforce between 7 to 9
- Check structural calculations
- Thermal requirements (EPC)
- Quality control
- Firesafety requirements
- Acoustics

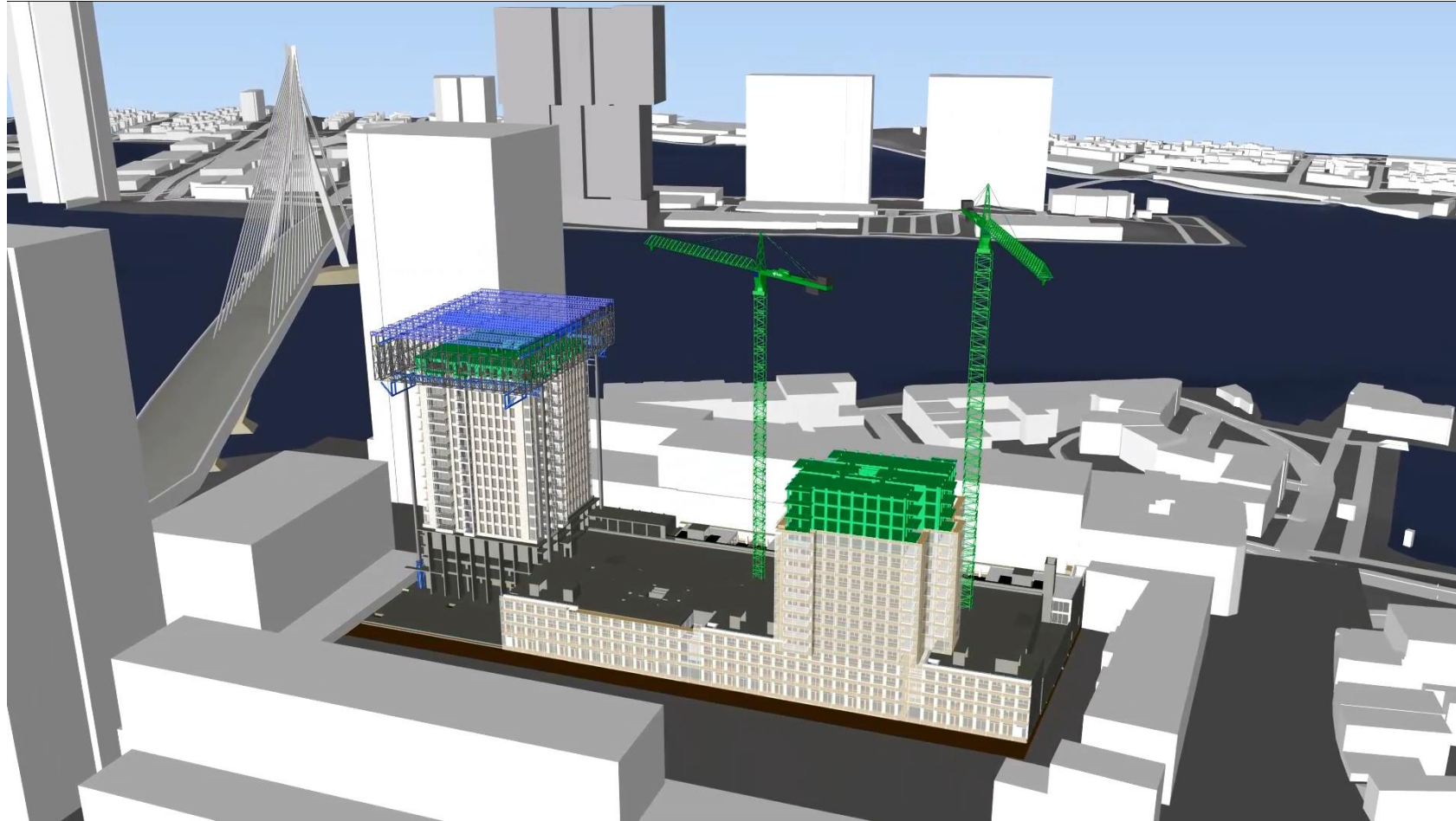


Concept drawing



Final design

Logistics buildingsite



De Zalmhaven 4D simulatie, Made by AMVEST, BAM
<https://tinyurl.com/yhb3c39d>

Building in concrete factory

- 1 façade element at Byldis

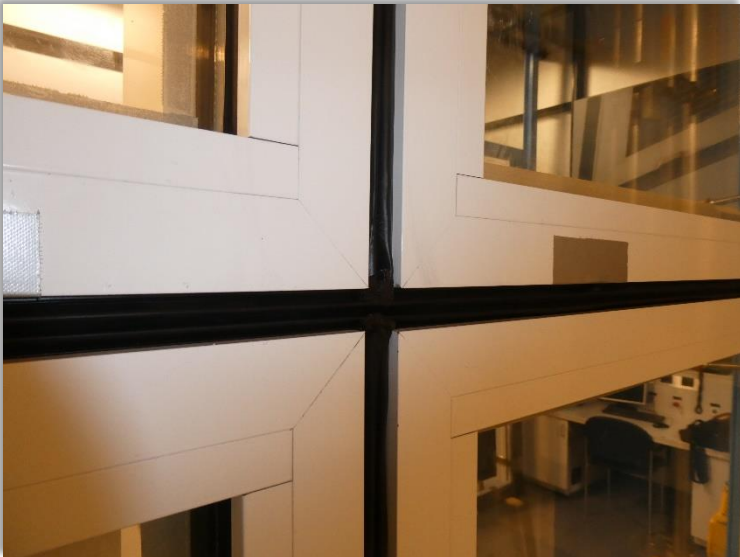




Building in Hoisting Shed

Testing Factory & onsite

- Air infiltration and water penetration till 750 Pa.

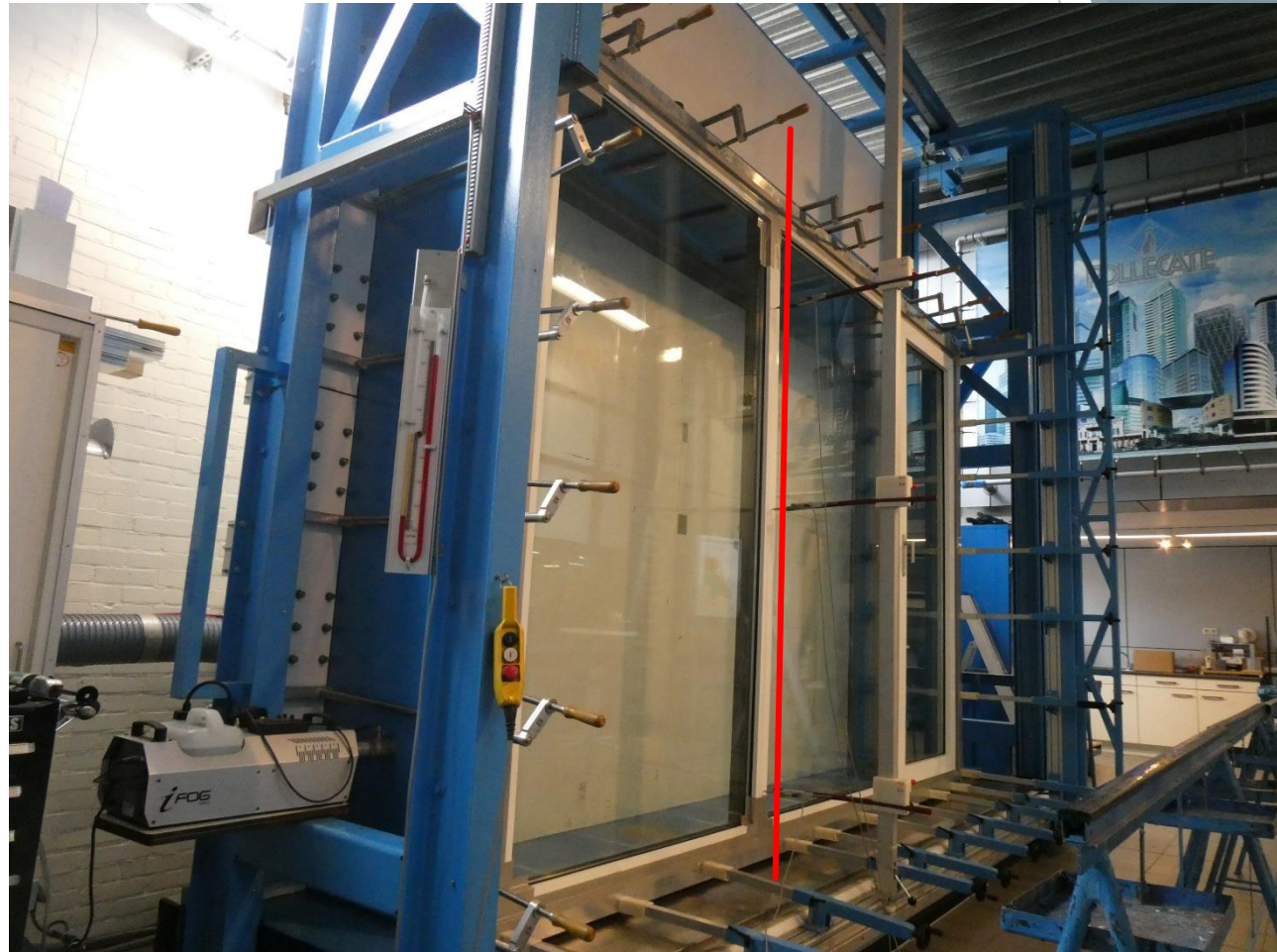


Video of a watertest



Testing Factory & onsite

- Windload testing



Video of a windloadtest



Testing Factory & onsite

- Air infiltration and water penetration till 750 Pa.



Water inside



Structural calculations

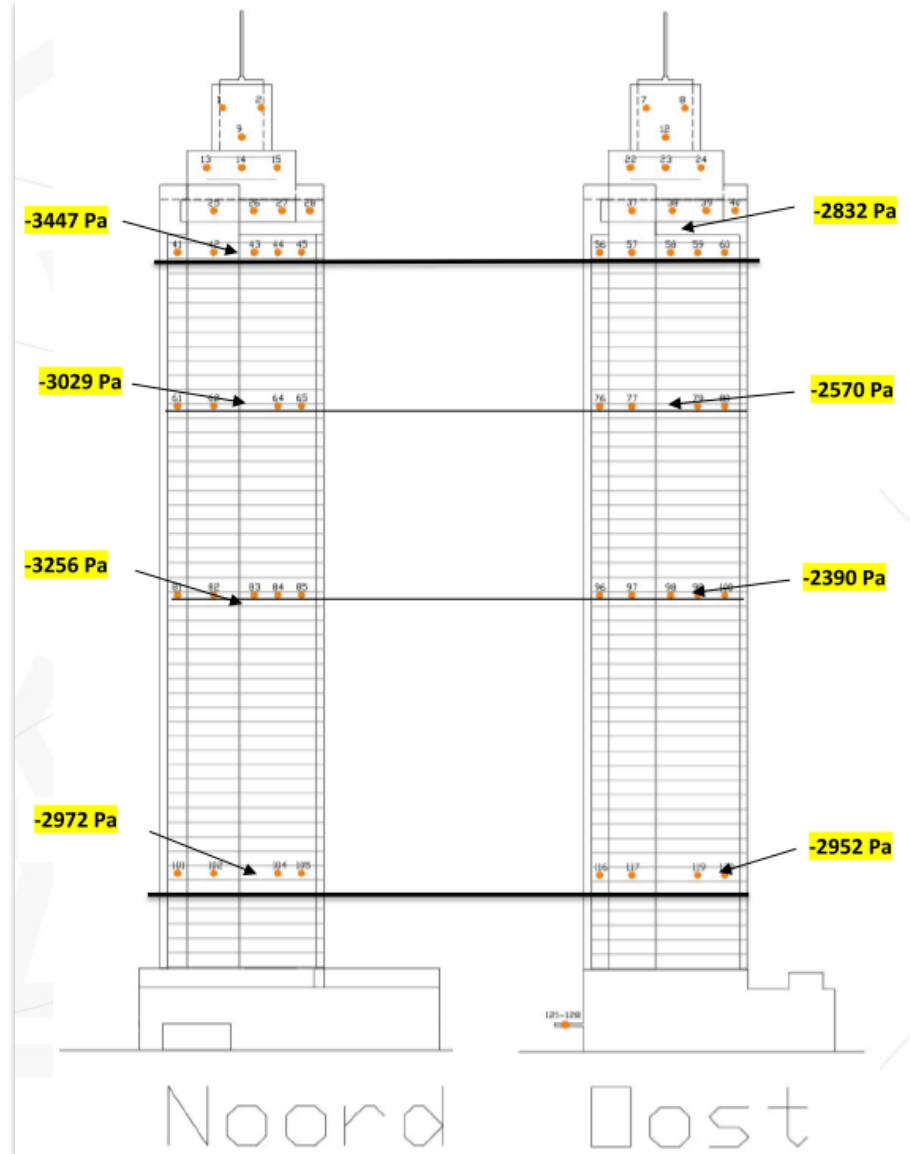
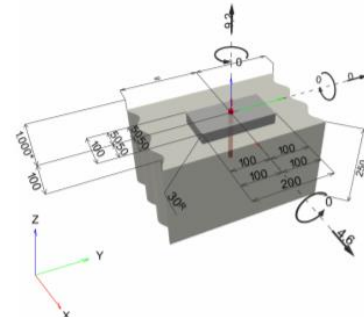
- Windtunneltest

1 Invoergegevens

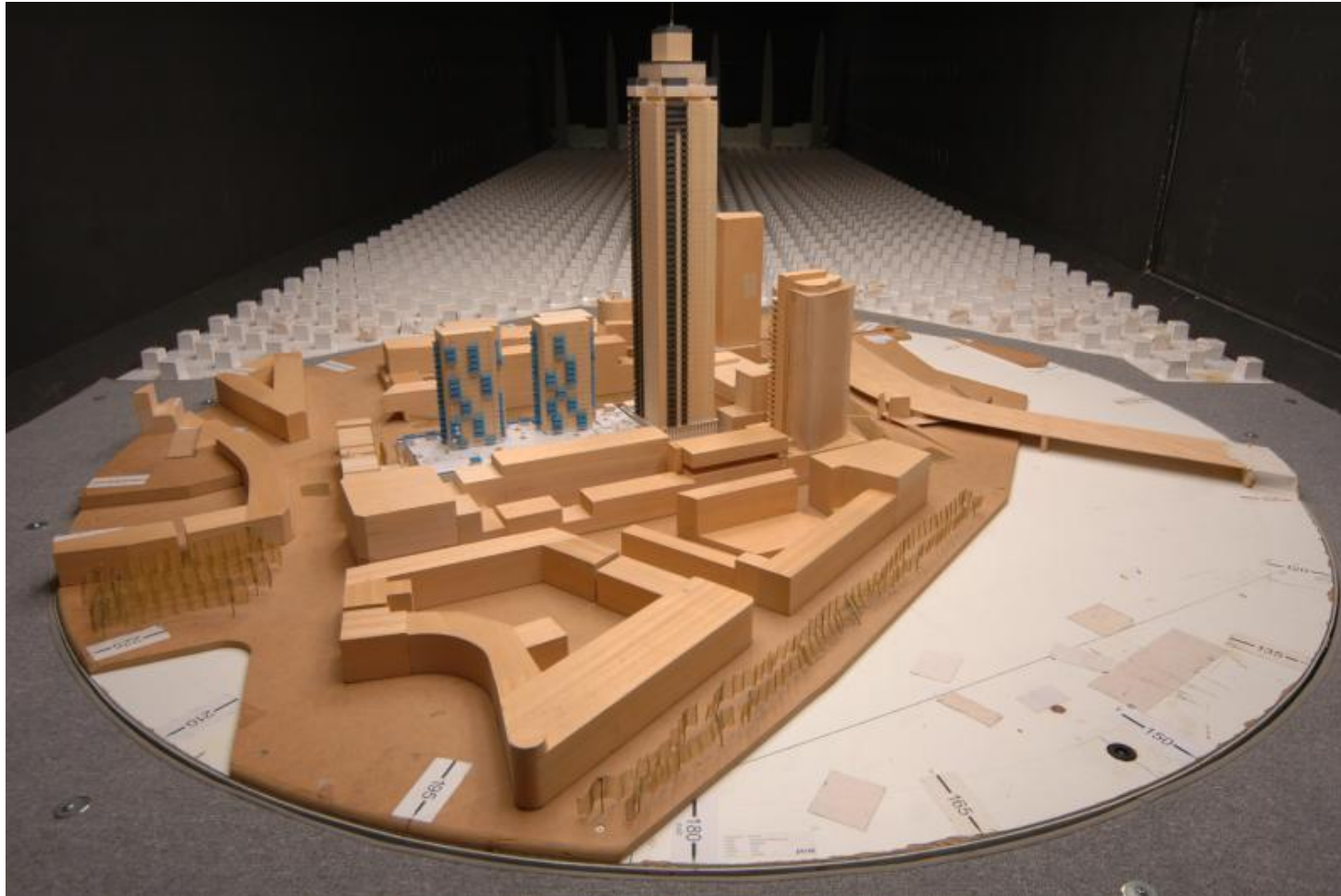
Ankertype en -afmeting: HVU2 + HAS-U 8.8 M12_heft
Retourperiode (levensduur in jaren): 50
Artikelnummer: 2237086 HAS-U 8.8 M12x180 (insert) / 2164507 HVU2 M12x110 (capsule)
Effectieve verankeringsdiepte: $h_{ef,act} = 110,0 \text{ mm}$, $h_{nom} = 110,0 \text{ mm}$
Materiaal: 8.8
Goedkeuring nr.: ETA-16/0515
Uitgegeven t Geldig: 13-11-2019 | -
Aantoning: rekenmethode ETAG methode voor lijnmarkers; EOTA TR 029
Afstandsmontage: $a_s = 0,0 \text{ mm}$ (geen afstandsmontage); $t = 30,0 \text{ mm}$
Voetplaat¹⁾: $l_x \times l_y \times t = 100,0 \text{ mm} \times 200,0 \text{ mm} \times 30,0 \text{ mm}$; (Aanbevolen voetplaatdikte: niet berekend)
Staalprofiel: geen profiel
Ondergrond: gescheurd beton, $C_{25/30}$, $f_{ct,red} = 30,00 \text{ N/mm}^2$; $h = 250,0 \text{ mm}$, Temp. kortslang: $40/24 \text{ }^\circ\text{C}$
Plaatsings: hamergeboord gat, plaatsingsconditie: droog
Wapening: Geen wapening of wapening met staafafstand $\geq 150 \text{ mm}$ (elke \emptyset) of ≥ 100 ($\emptyset \leq 10 \text{ mm}$)
geen rechte randwapening

¹⁾ - De ankerberekening wordt gebaseerd op de aanname van een rigide voetplaat.

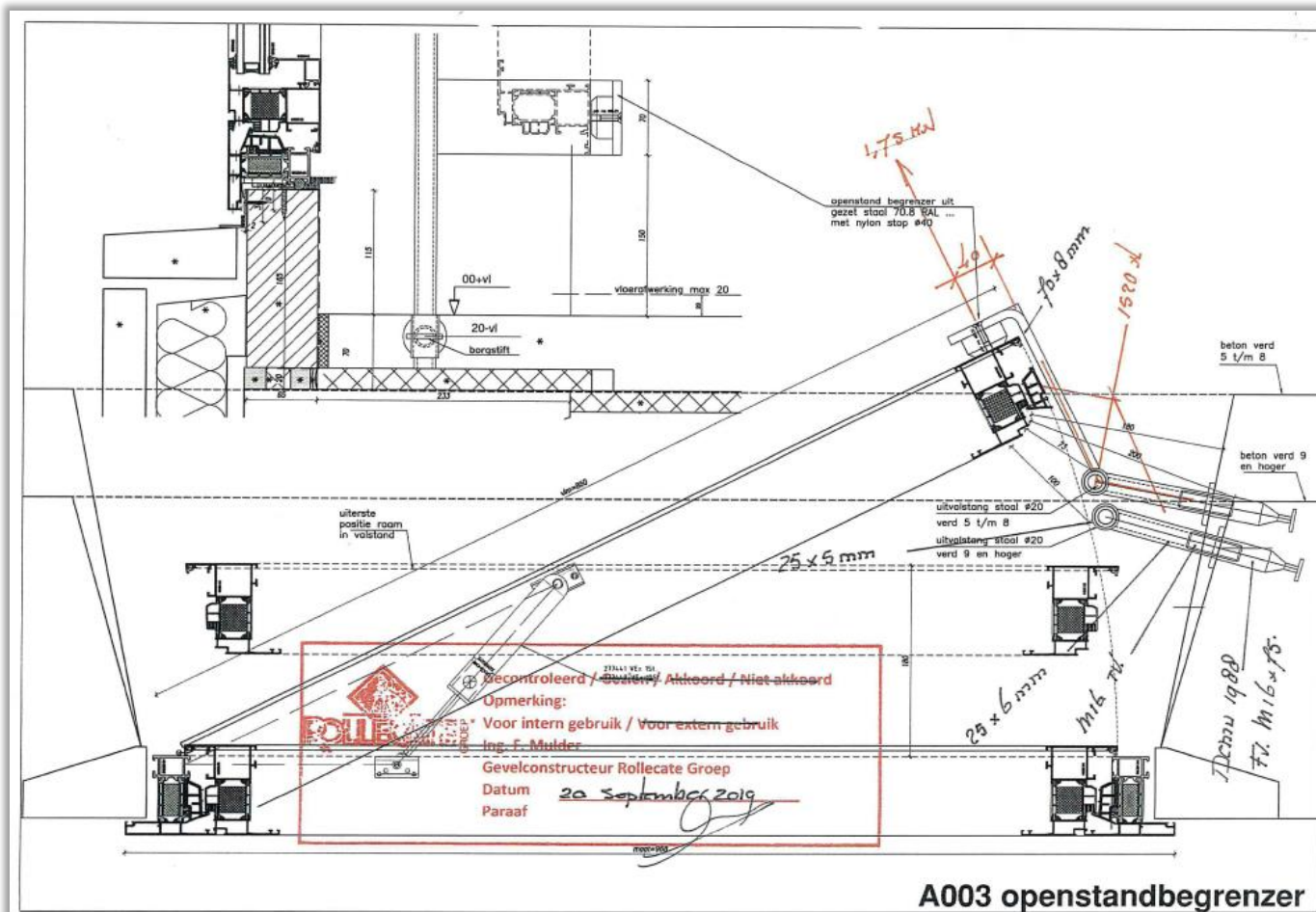
Geometrie [mm] & Belastingen [kN, kNm]



Windtunneltest

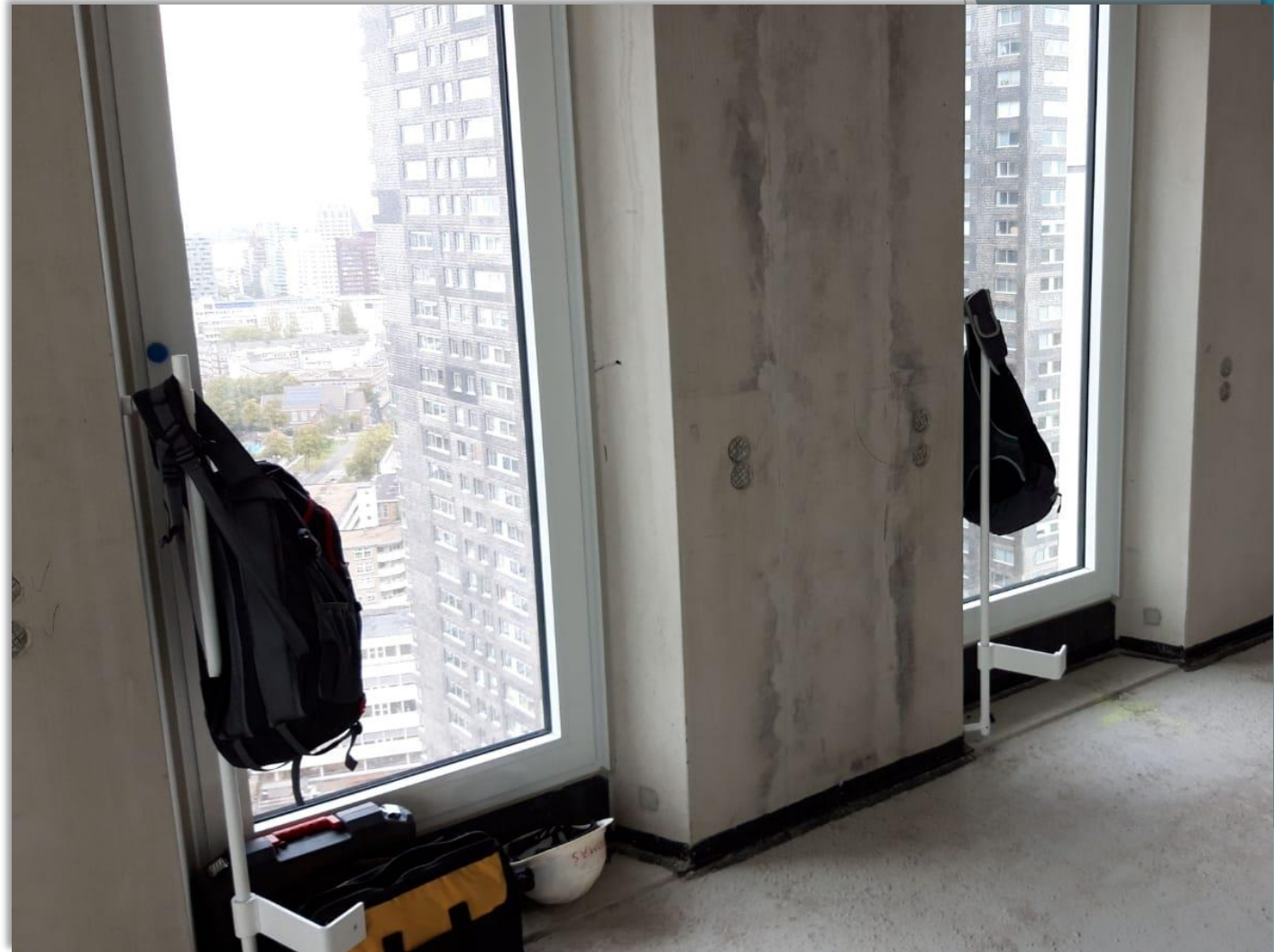


Source: <https://www.peutz.nl/sites/peutz.nl/files/inline-images/windZalmhaven.jpg>
taken on 03-02-'22



Structural calculations

- Opening of the window (purge ventilation)





Schüco testing centre

- Testing at Schüco Bielefeld
- Systemsupplier profiles

Source: <https://www.schueco.com/nl/wie-zijn-wij-/over-schueco/schueco-technologiecentrum>
taken on 03-02-'22

How do they measure sound?

- Acoustic room

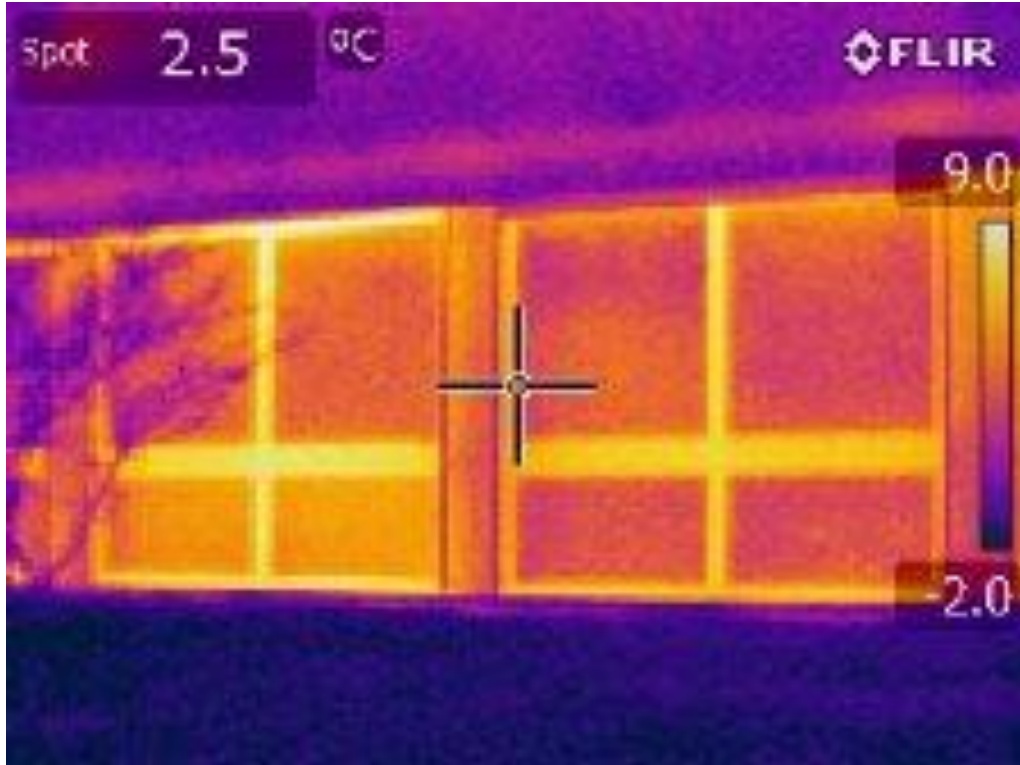


Source: <https://www.schueco.com/nl/wie-zijn-wij-/over-schueco/schueco-technologiecentrum/vakgebieden>
taken on 03-02-'22



A view from above

Devices we use during our inspections



Thermal camera



Drone



Drone

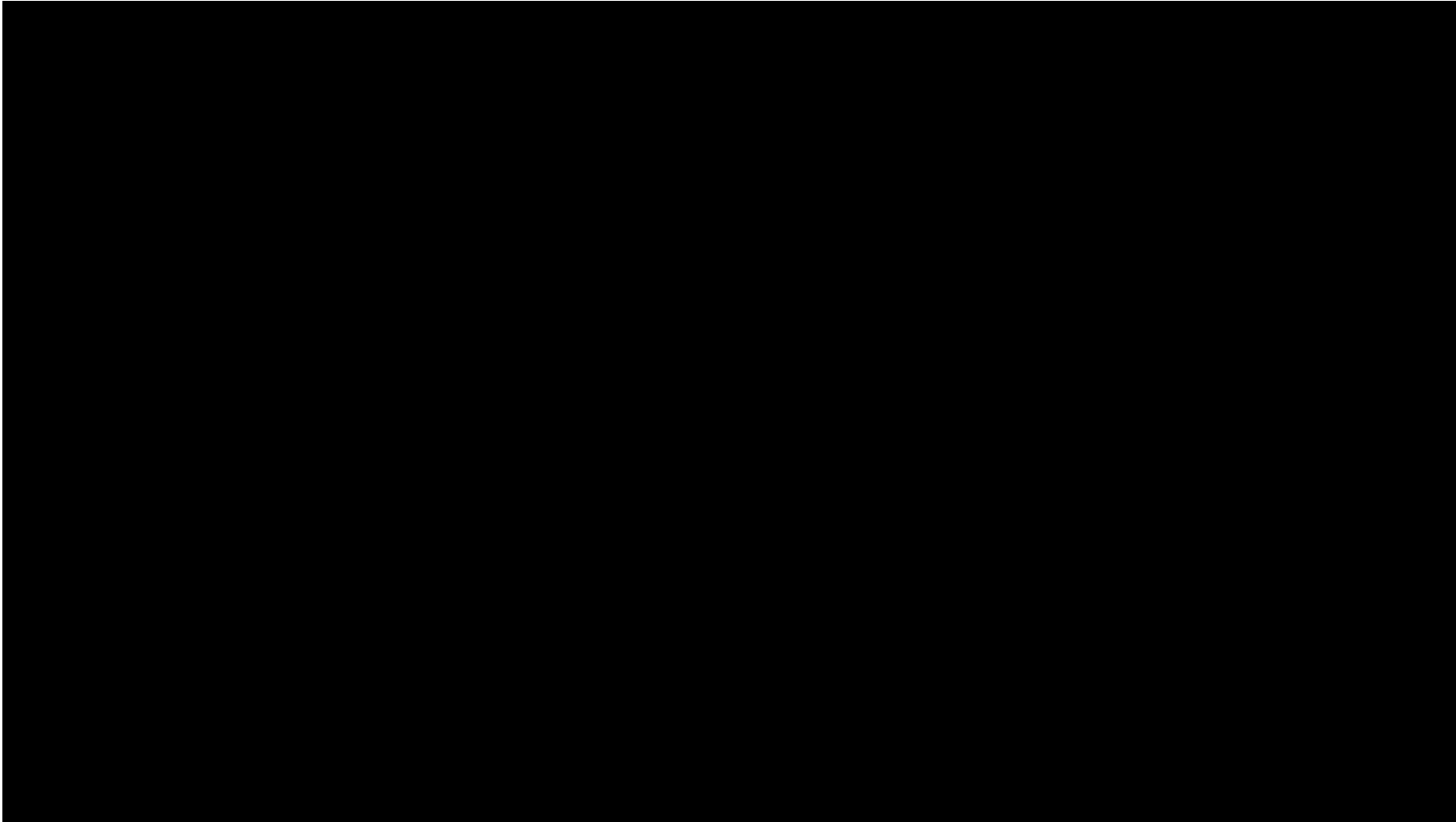
Unster



Questions?



PROMO FILM



Vacancies

Who?

Students, Graduates

Working at GevelAdvies

Are you looking for a challenge, like to learn on the job and combine with your study? Are you interested in façade technology and solving complex issues? Then GevelAdvies Ingenieursbureau is looking for you! We have offices in Staphorst (HQ), Wormer, Dordrecht and Eindhoven.

Interested?

Feel free to mail us
at info@geveladvies.nl

Thank you for
having us here!

Case Day

CHEOPS 2022

