

# Glass innovation

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# To calculate Glass Structures

There are no adequate Standards.

Connections, supports are critical, new methods are required: adhesives.

1 to 1 tests in laboratory required for validating.

Tests not only on strength & stiffness but also:

- Long term behaviour: creep and aging.
- Climate influences, temperature, sun, humidity.
- Building physical behaviour in regard to inner climate/ comfort.



Theatre Porto  
Large glass window  
12 X 25 meter











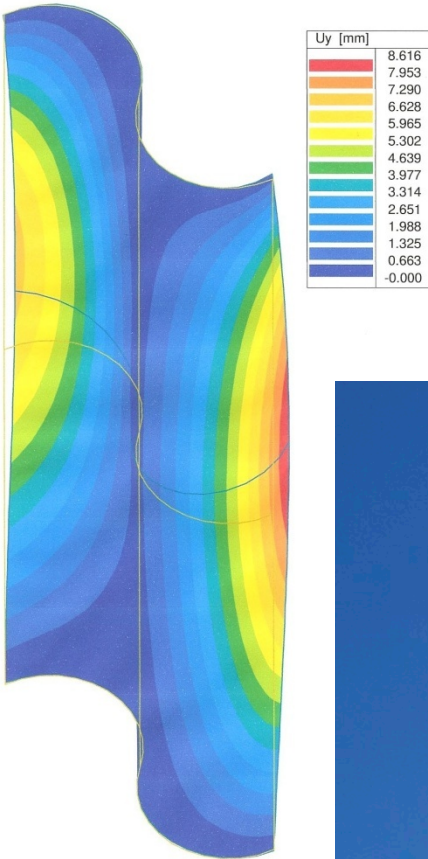


# Museum aan de Stroom in Antwerp (B)

Neutelings Riedijk Architecten







15/05/2005



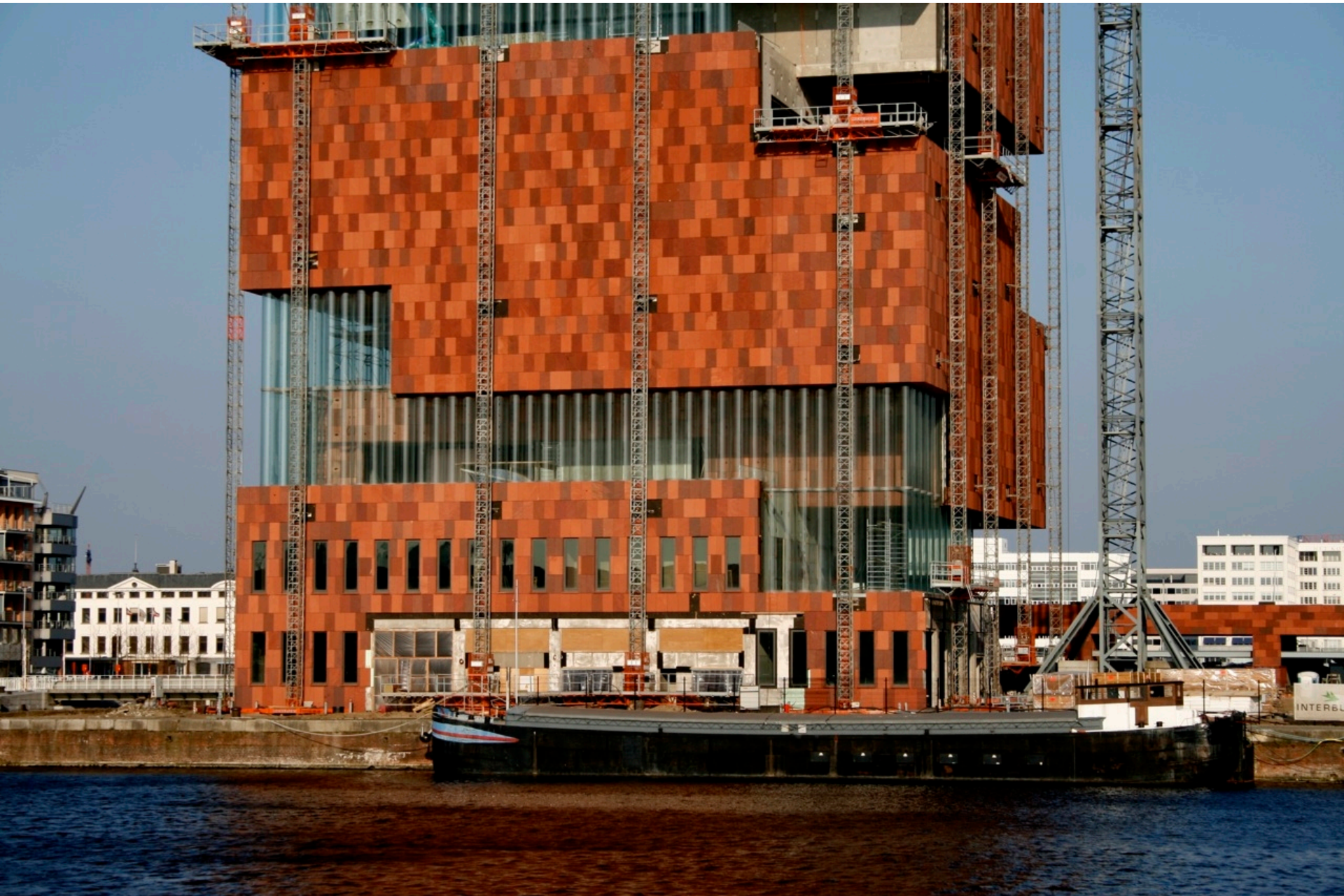
# Tests on glass panels



15/05/2005

Glass





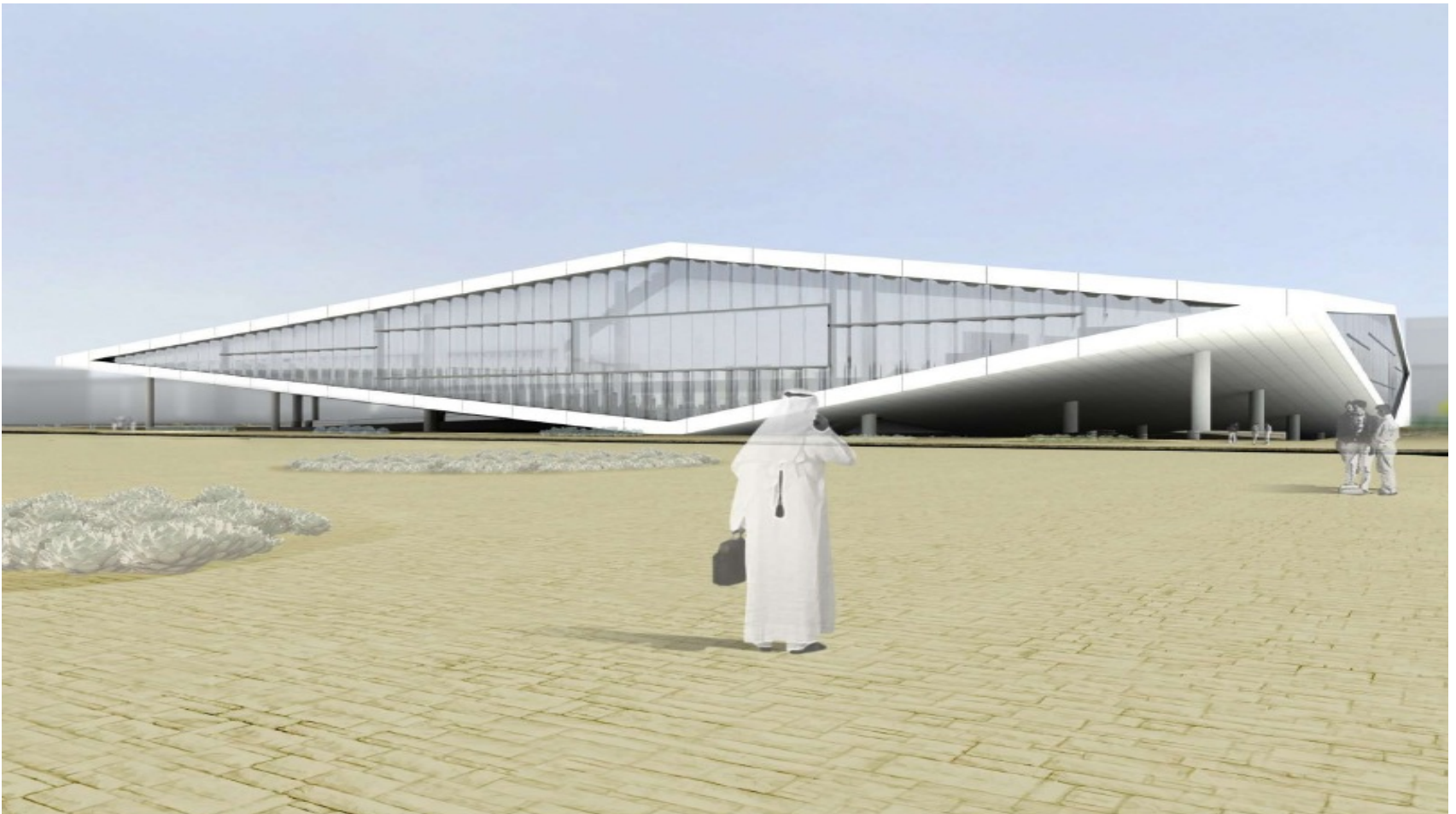
15/05/2005

Glass, tales of span and imagination



# University Library Doha- Qatar

OMA Architects



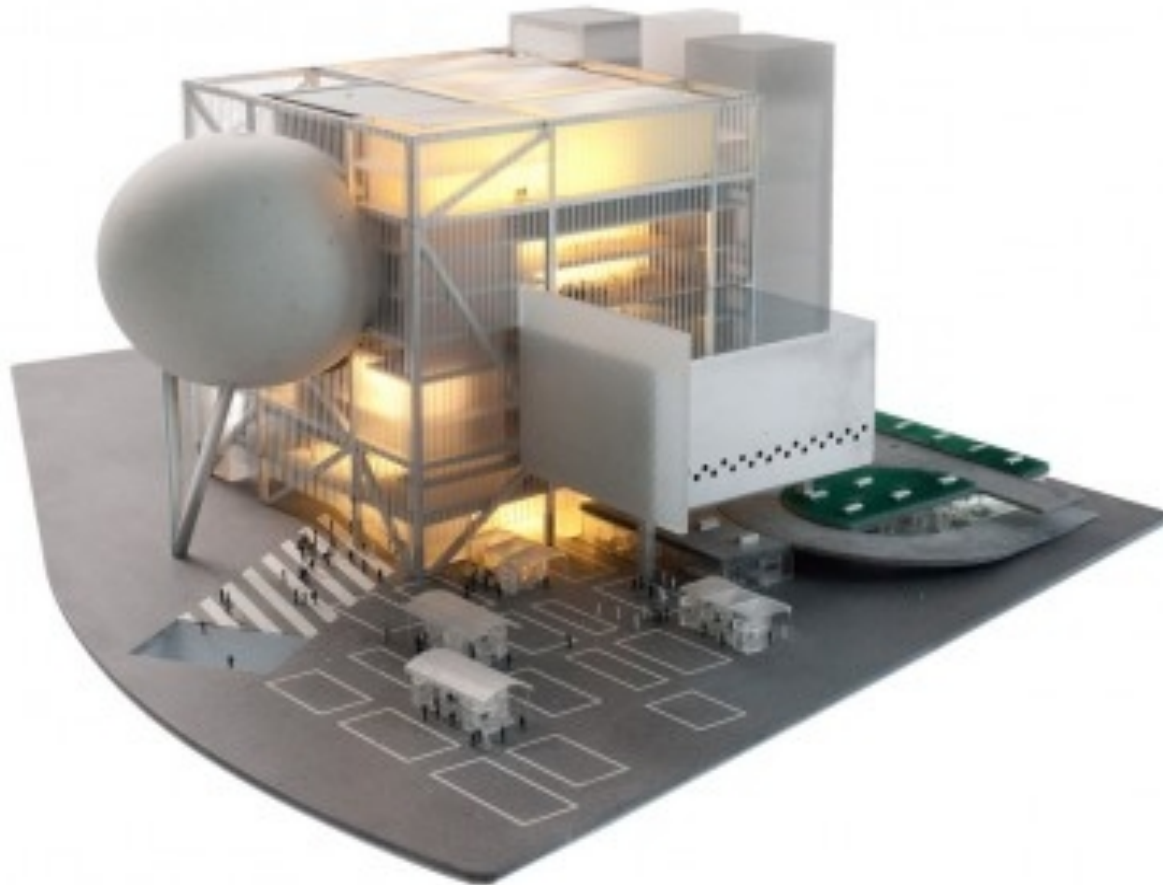


SOUTH FACADE









# Taipei Theatre OMA













Glass composites promise to change the look of bridges as dramatically as the transition from wood to steel.

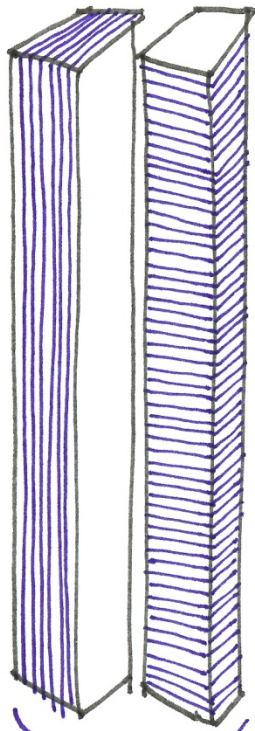
The future of glass?

Glass Columns



# SAFE GLASS COLUMNS

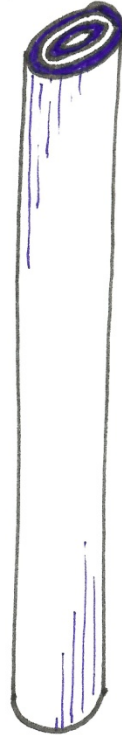
Possible shapes  
of  
all glass columns



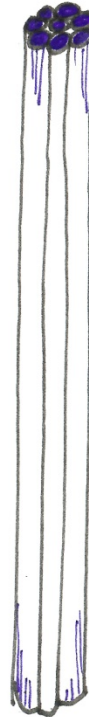
stacked  
column



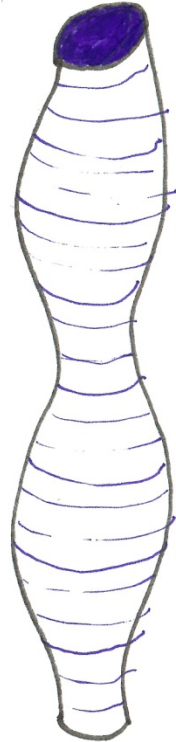
H-  
profile



layered  
cilinder



bundle  
column



poured  
in  
formwork













## Resultaten

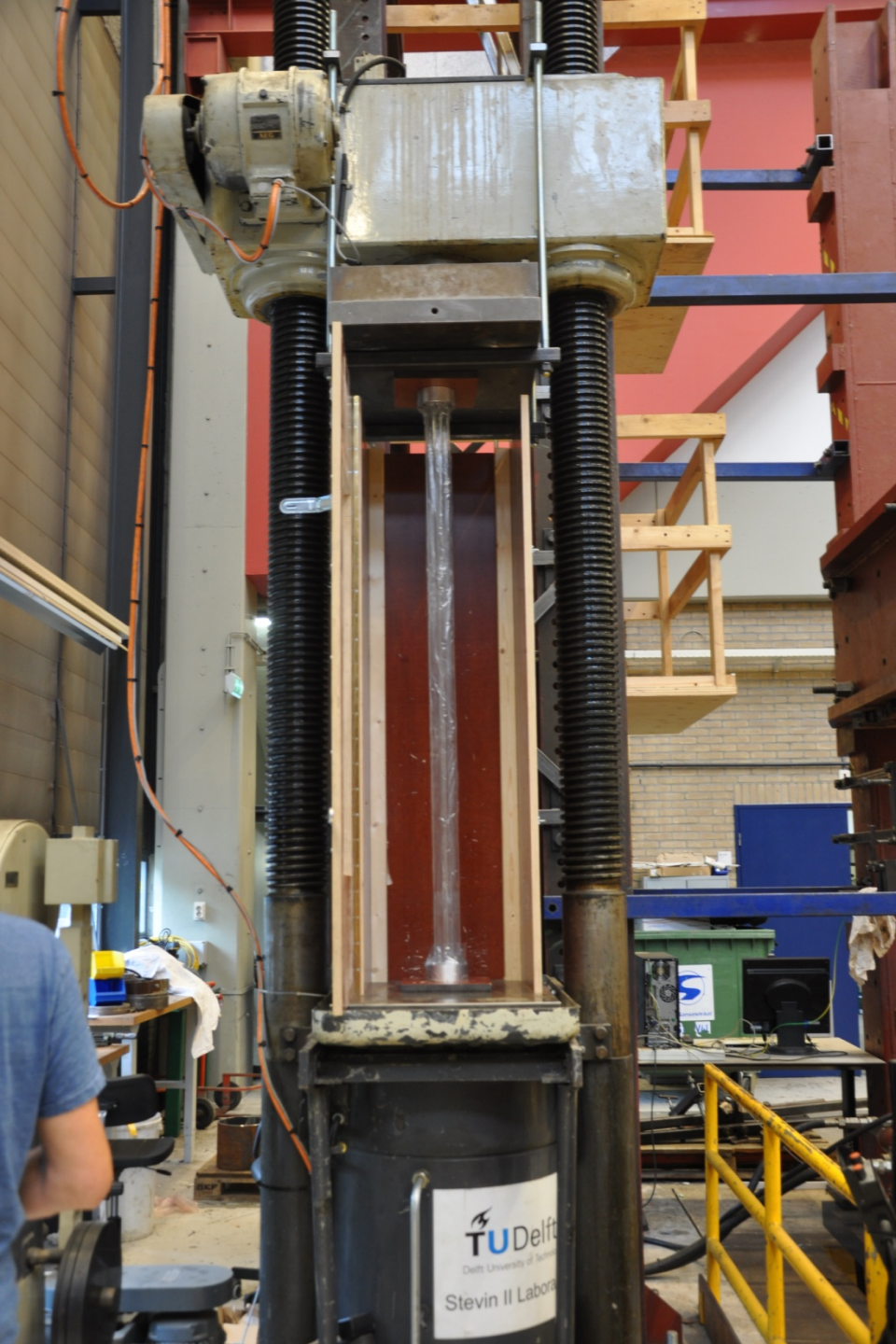
De resultaten zijn gegeven in tabel 1.

Proef nummer	Bezwijkbelasting (kN)	Bezwijkspanning (MPa)
1	>200	33.3
2	420	70.0
3	450	75.0
4	470	78.3
5	310	51.7
6	270	45.0
7	300	50.0
8	475	79.2
9	320	53.3
10	655	109.2
11	650	108.3
12	680	113.3
13	405	67.5
14	510	85.0
Gemiddelde	437	72.8
Standaard deviatie/ gemiddelde	34.4%	34.4%

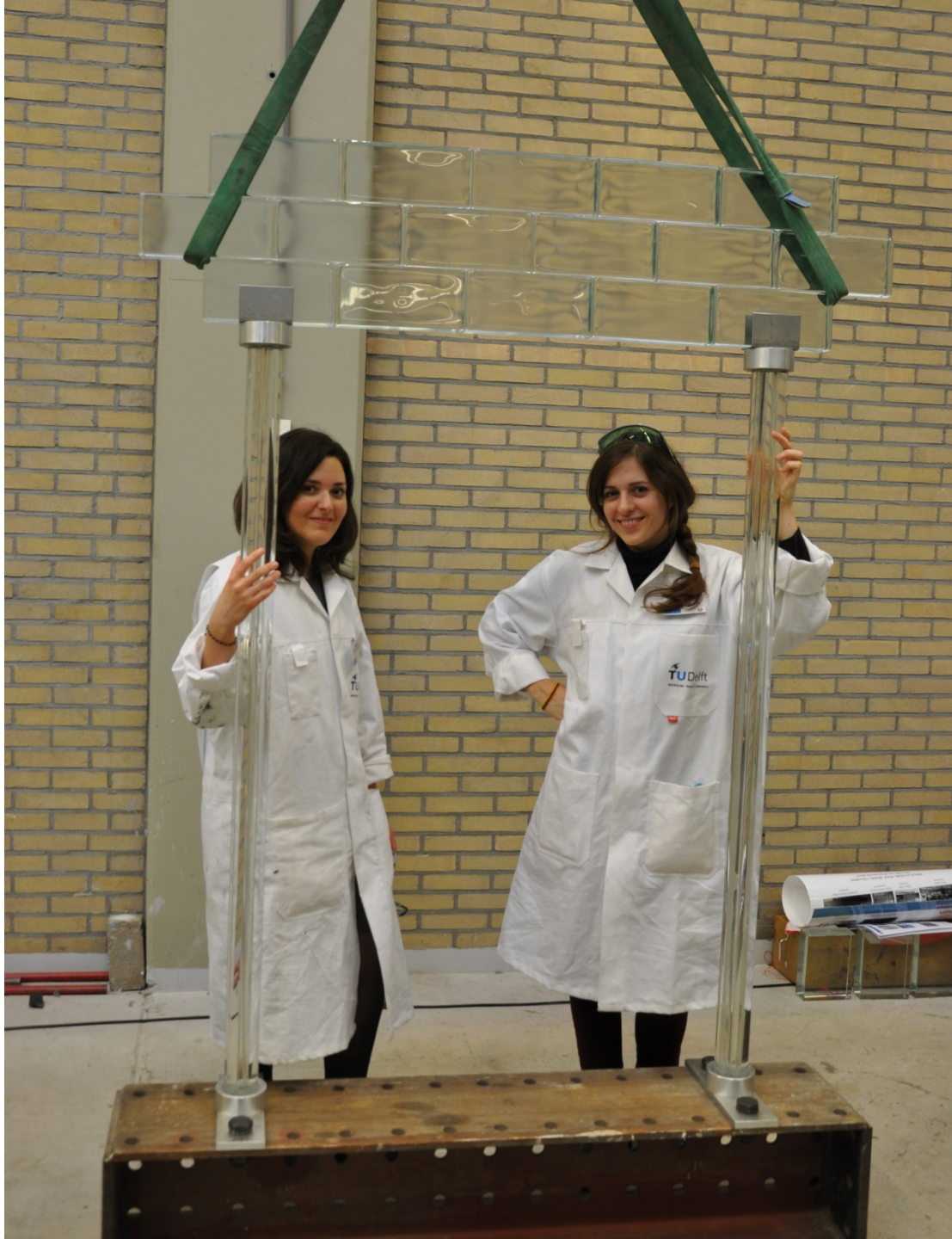




bundle  
column











**gevel huidige stand**

ca. 38,3 m<sup>2</sup> glazen stenen (lagenmaat 70mm);  
ca. 547 m<sup>1</sup> lintvoeg

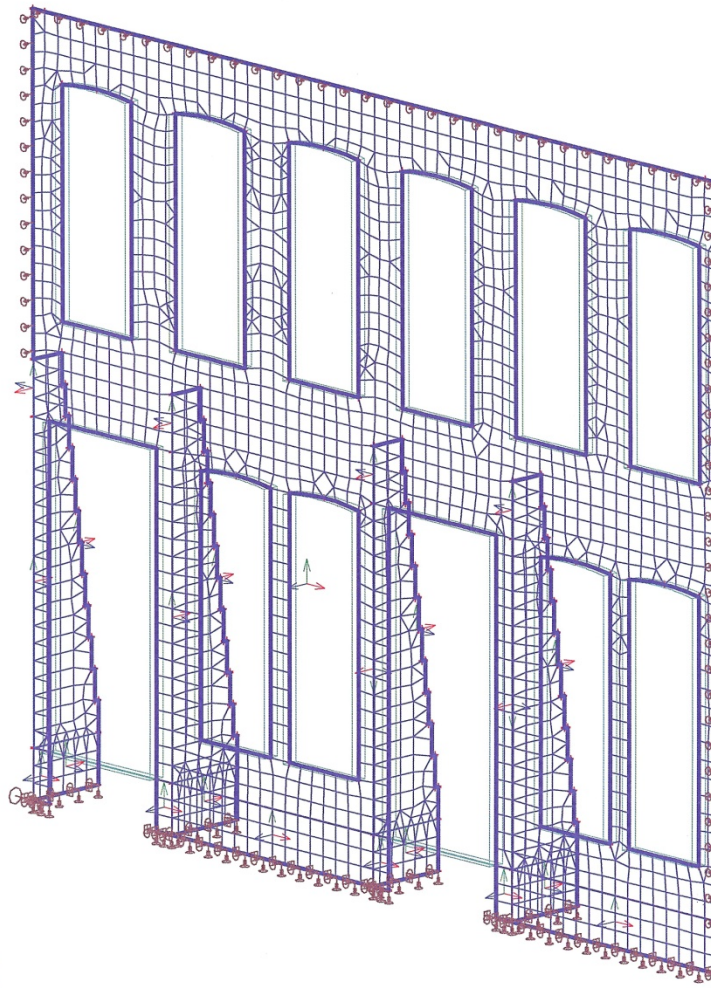
PC Hooftstraat 94-96-98  
**Amsterdam**









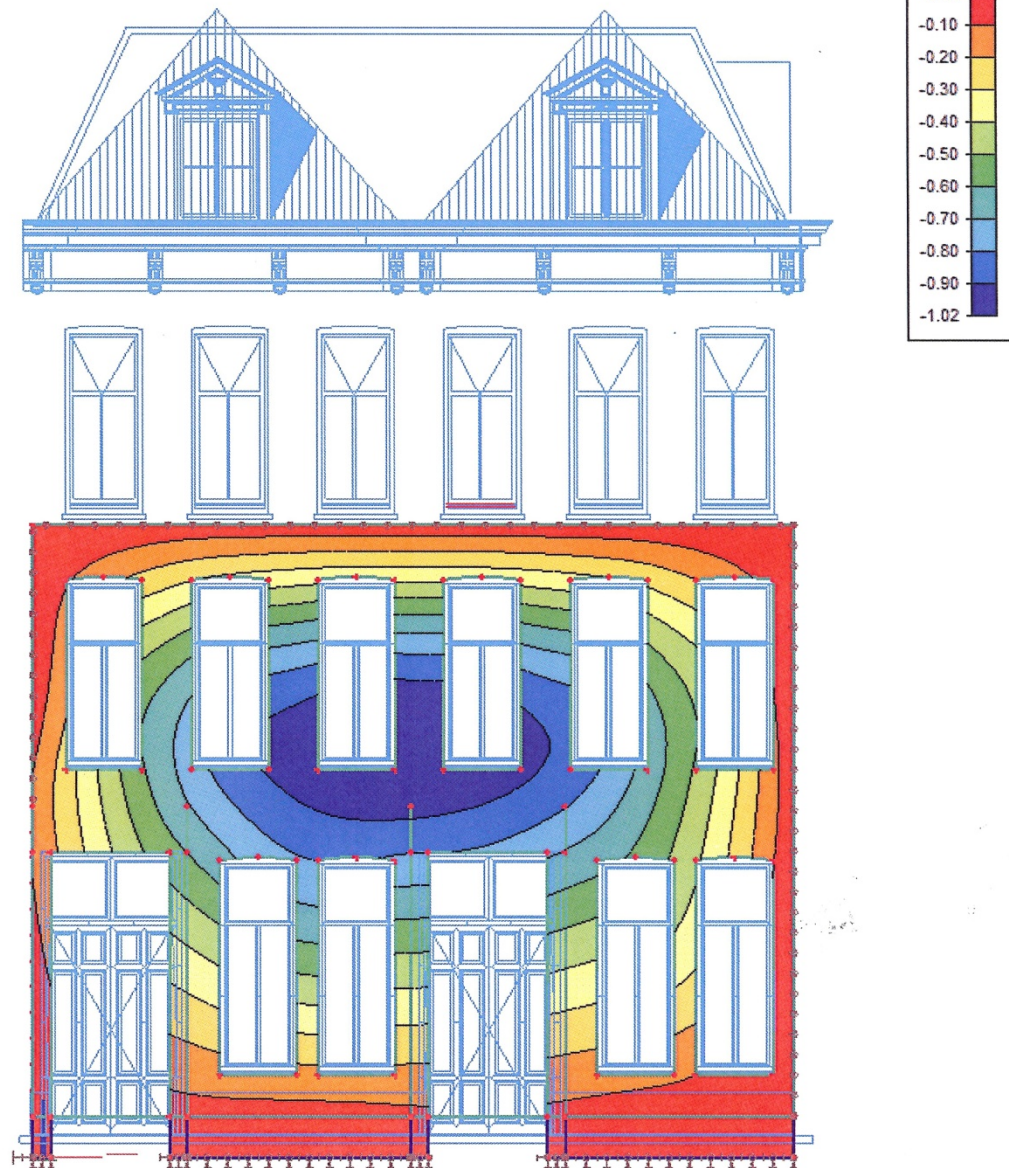


### 3.5. Doorsneden

### 3.6. Materialen

Naam	Type	Massa eenheid [kg/m³]	E-mod [MPa]	Poisson - nu	G-mod [MPa]	Thermisch uitz. [m/mK]	Karakteristieke cylinderdruksterkte f <sub>ck</sub> (28) [MPa]
Glas gevel	Beton	2500,0	5,0000e+04	0,23	2,0325e+04	0,00	20,00





*Drukspanningen*

De maximaal berekende drukspanning bedraagt:

- $-2,5\text{N/mm}^2$  (piekwaarde) in penant naast deuropening (as 3)







CHANEL





CHANEL

CHANEL





CHANEL





RDV

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