MACHIELS BUILDING SOLUTIONS

- Initiatief van Group Machiels en LRM.
- Producent houtskeletelementen (wand-, vloer- en dakelementen).
- Volledig in houtskelet of hybride met beton of staal.
- Duurzame productie van alle constructie-elementen.

MACHIELS BUILDING SOLUTIONS ALS PARTNER VOOR :

- Zorginstellingen, kinderdagverblijven
- Onderwijsinstellingen
- Woningbouw
  - Residentiële woningbouw
  - (Sociale) huisvestingsmaatschappijen
- Utiliteitsbouw
  - Kantoorgebouwen
  - Openbare sector
- Recreatiewoningen

→ **Zowel voor nieuwbouw als renovatie**

TWEE PRODUCTGROEPEN

A. Building Kits

- Volledige constructies in houtskeletbouw
  - Wanden
  - Vloeren
  - Daken
- Dragende structuur (verticaal + horizontaal)
- Indien nodig aangevuld met bijkomende structuurelementen
- Akoestisch en brand-technisch in orde
- Momenteel tot 5 bouwlagen hoog
- Geïntegreerde technieken, gevelafwerking en buitenschrijnwerk

TWEE PRODUCTGROEPEN

A. Building Kits

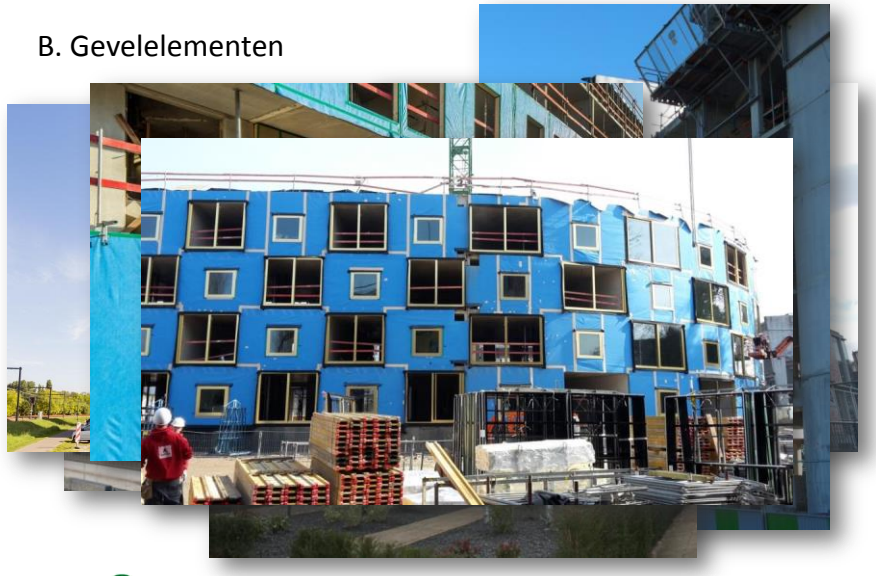
TWEE PRODUCTGROEPEN

B. Gevelelementen

- Niet dragende houtskeletelementen (enkel wind)
- Beton- of staalskelet structuur
- Thermische schil en waterdichte schilconstructie
- Voor dragende skeletstructuur
- Gevelgeluidsisolatie
- Brandweerstand (vlamoverslag)
- Brandreactie (gevelbekleding)
- Geen hoogtebeperking

TWEE PRODUCTGROEPEN

B. Gevelelementen



GEVELELEMENTEN : SAMENSTELLING

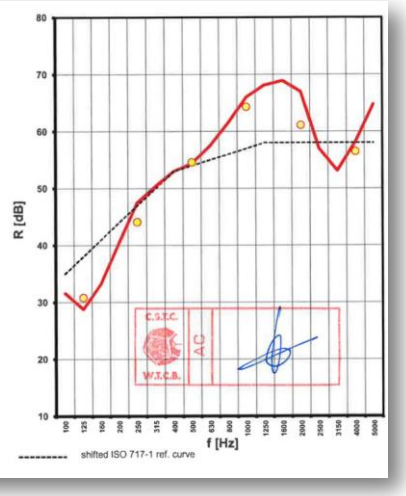
- Houtvezelcementplaat 10/12/16mm
- Skelet 45 (38min) x 190/215/240/300/360mm
- Rotswol 45kg/m³
- Dampremmende – luchtdichte folie
- Leidingspouwlatten 45mm
- Veerregels
- Afwerkingsplaat (bvb gipskarton)

GEVELELEMENTEN : GEVELGELUIDSISOLATIE

f (Hz)	R (dB) 1/3oct	oct
50	14.4	
63	11.1	13.9
80	20.4	
100	31.6	
125	28.8	30.8
160	33.3	
200	40.5	
250	47.5	44.1
315	50.4	
400	53.0	
500	54.4	54.6
630	57.5	
800	61.5	
1000	66.0	64.3
1250	68.1	
1600	68.9	
2000	67.0	61.1
2500	57.0	
3150	53.1	
4000	58.2	56.5
5000	64.8	

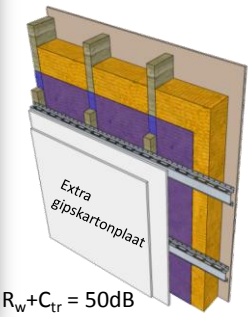
R_w (C;C_{tr}) = 54 (-4;-9) dB

$C_{50-3150}$= -10 dB
$C_{tr,50-3150}$= -22 dB
$C_{50-5000}$= -9 dB
$C_{tr,50-5000}$= -22 dB



Opbouw testelement:

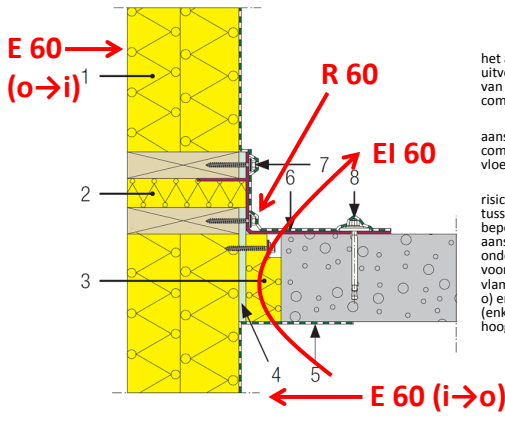
- Vezelcementplaat 10mm
- Houtskelet: 45 x 140mm - hoh 400mm
- Glaswol 140mm – λ 0,037
- PE-folie 0,15mm
- Leidingspouwlatten 45 x 45mm – hoh 400mm (Verticaal overeenkomstig stijlen houtskelet)
- Metalen veerregels 27mm – hoh max 500mm (Horizontaal geplaatst)
- Gipskartonplaat 12,5mm



R_w+C_{tr} = 50dB

GEVELELEMENTEN : BRANDWEERSTAND

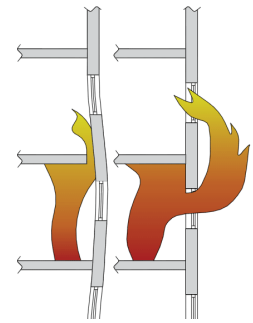
- Beperken van de voortplanting
- Eisen in het KB (art. 3.5.1 enkelwandige gevels)



het anker R60 beschermd uitvoeren tegen brand komende van de naast- en onderliggende compartimenten

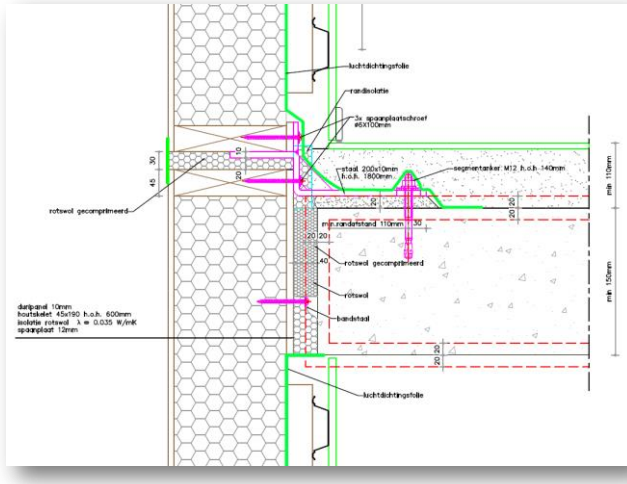
aansluiting compartimentswanden en –vloeren met gevel minimaal EI60

risico branduitbreiding via gevel tussen compartimenten beperken → ter hoogte van de aansluiting een brandwerend onderdeel van in totaal 1 meter voorzien, dat gedurende 1 uur vlamdicht is, onder vloer E60(i → o) en boven vloer E60(o → i). (enkel bij middelhoogbouw en hoogbouw)



Oplossingen te testen volgens : **EN1364-4**

GEVELELEMENTEN : STANDAARD DETAIL



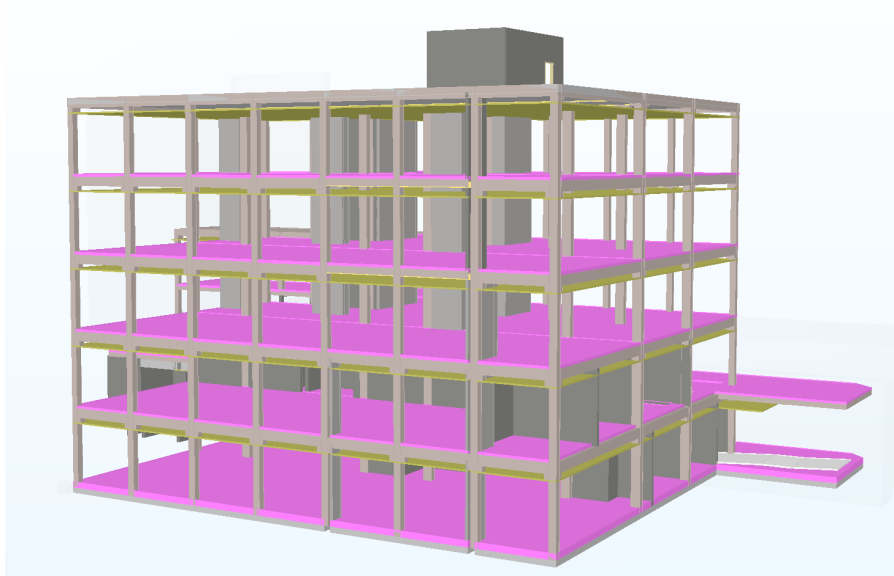
MACHIELS BUILDING SOLUTIONS

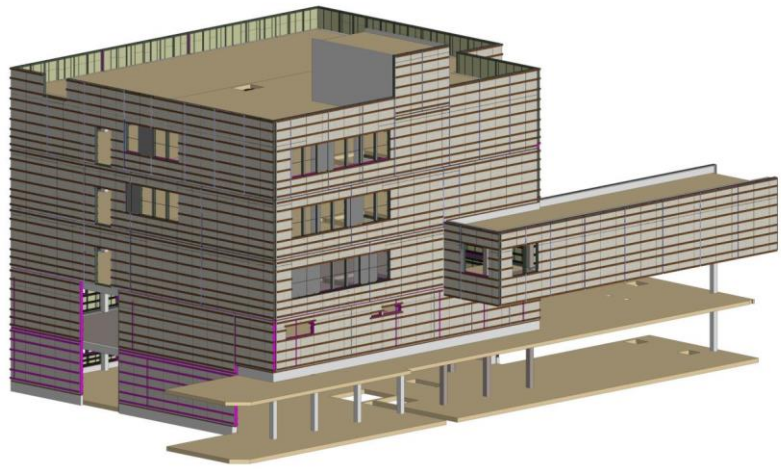
HEILIG HART ZIEKENHUIS MOL

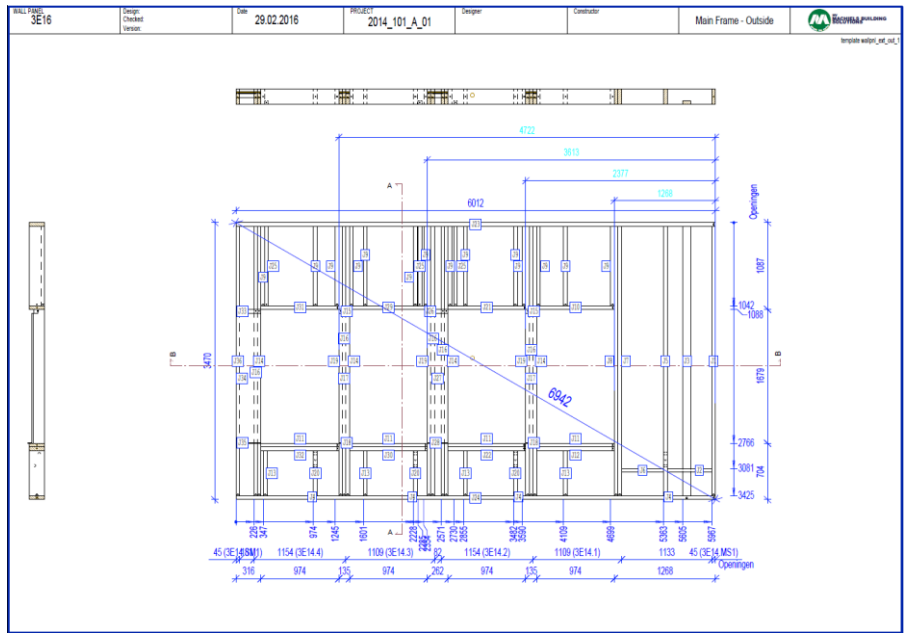
Bouwheer :	Heilig Hart Ziekenhuis
Architect :	Architektenbureau M. Moors BVBA – Leuven
Uitvoering :	2016
Product :	Houtskelet gevelelementen
Special :	Bepaalde delen van de gevelconstructie ➔ EI120 o.w.v. horizontale afstand naar tegenoverstaand gebouw < 8m

MBS projectspecifieke oplossing :
- toepassing van calciumsilicaatplaten 15mm aan beide zijden in combinatie met skelet van 190mm
- afsluiten van voeg tussen HSB gevelelement en beton dmv calciumsilicaatplaat
- extra inkapseling van het metalen anker dmv calciumsilicaatplaten

MACHIELS BUILDING SOLUTIONS






WALL PANEL
3E16
Design:
Checked:
Version:
Date
29.02.2016
PROJECT
2014_101_A_01
Designer:
Constructor:
Main Frame - Outside
4722
3613
2377
1268
6012
6942
3470
Openingen
1087
1042
1088
1679
2766
3081
704
3425
45 (3E14.MS1)
1154 (3E14.4)
1109 (3E14.3)
1154 (3E14.2)
1109 (3E14.1)
1133
316
974
135
262
1268

MACHIELS BUILDING SOLUTIONS

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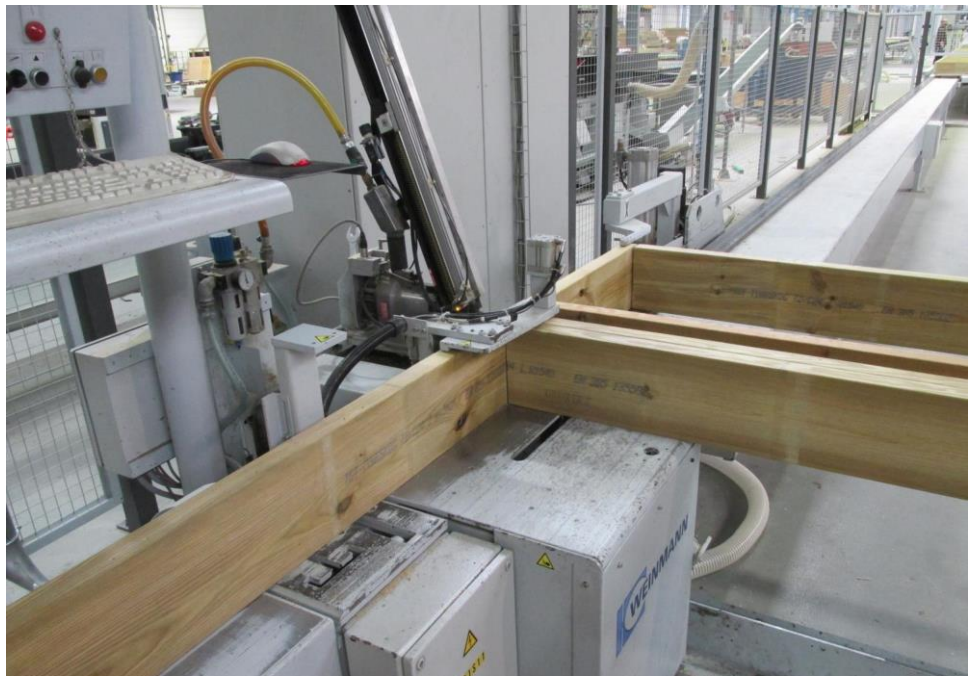

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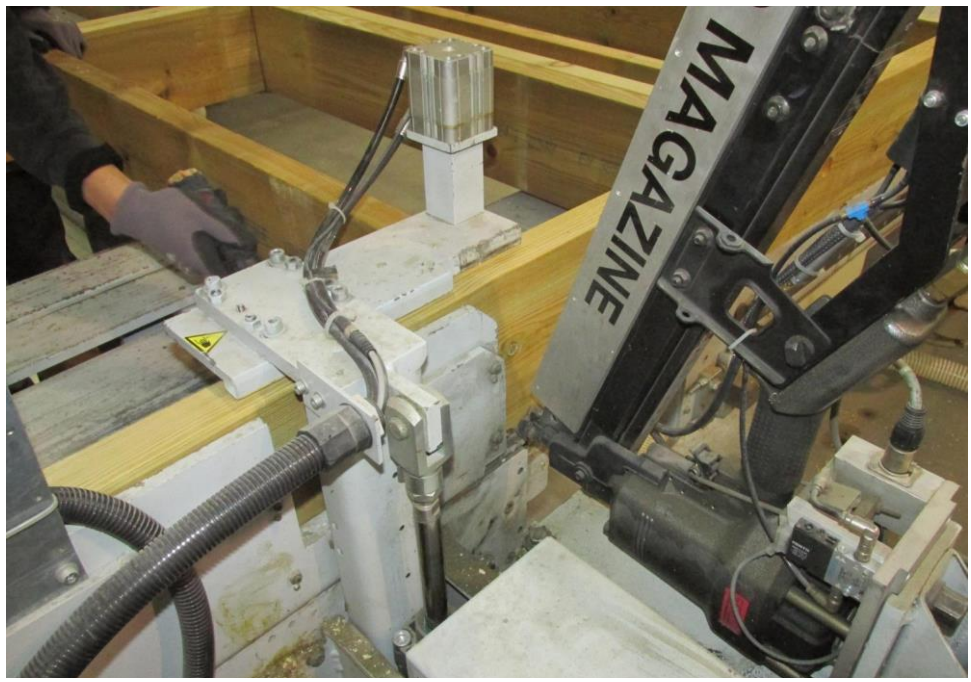

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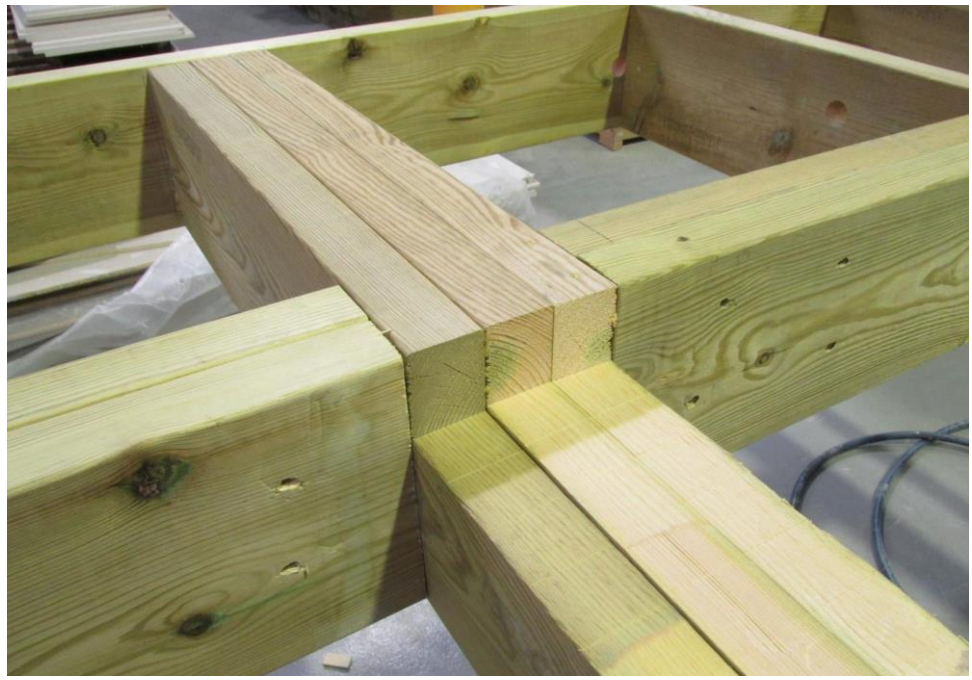

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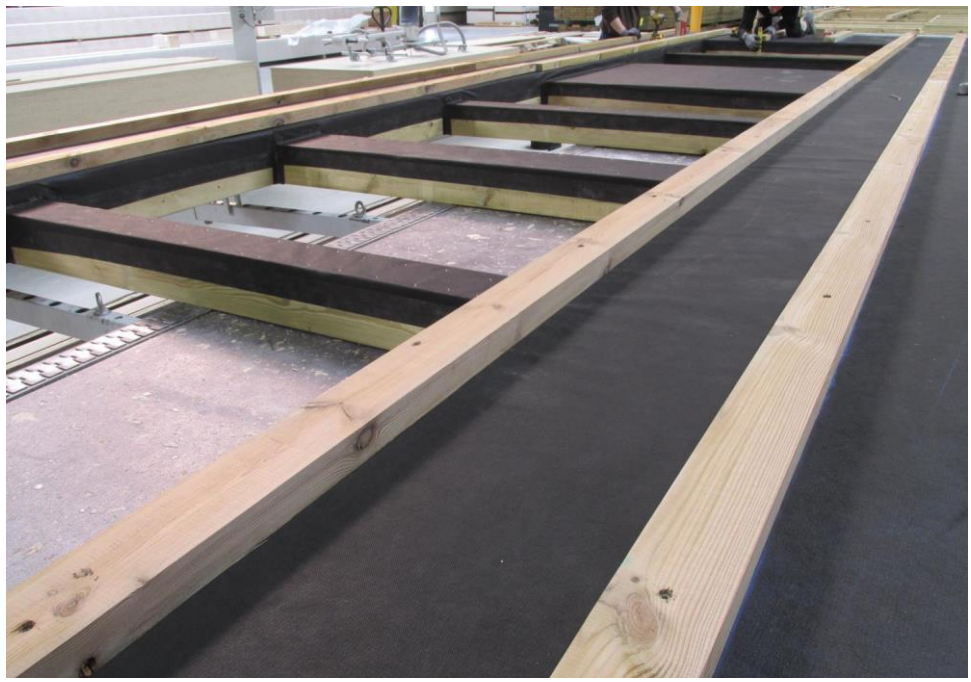

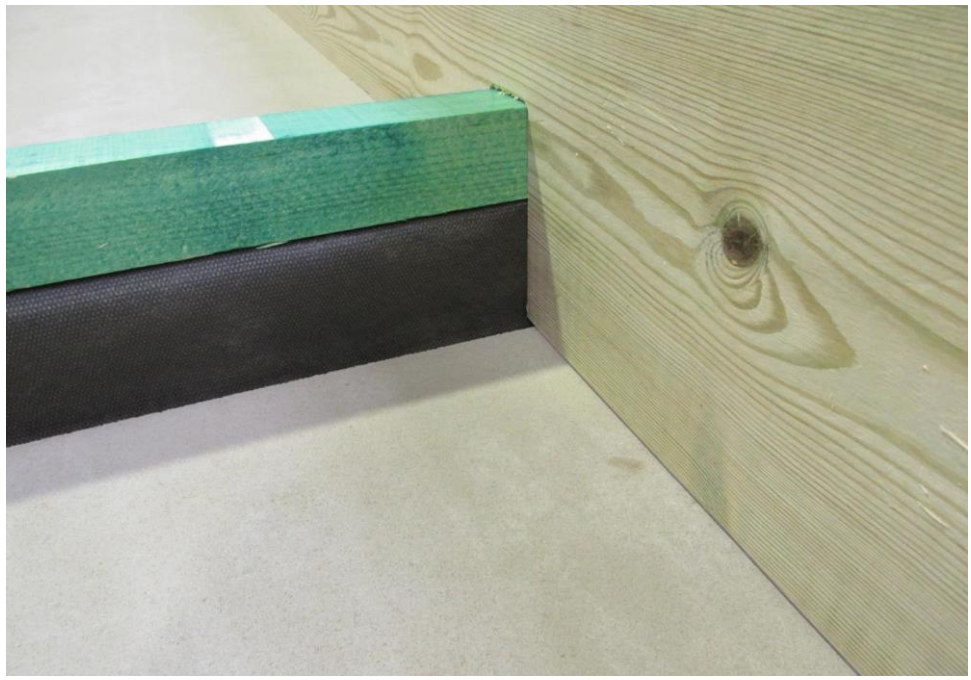

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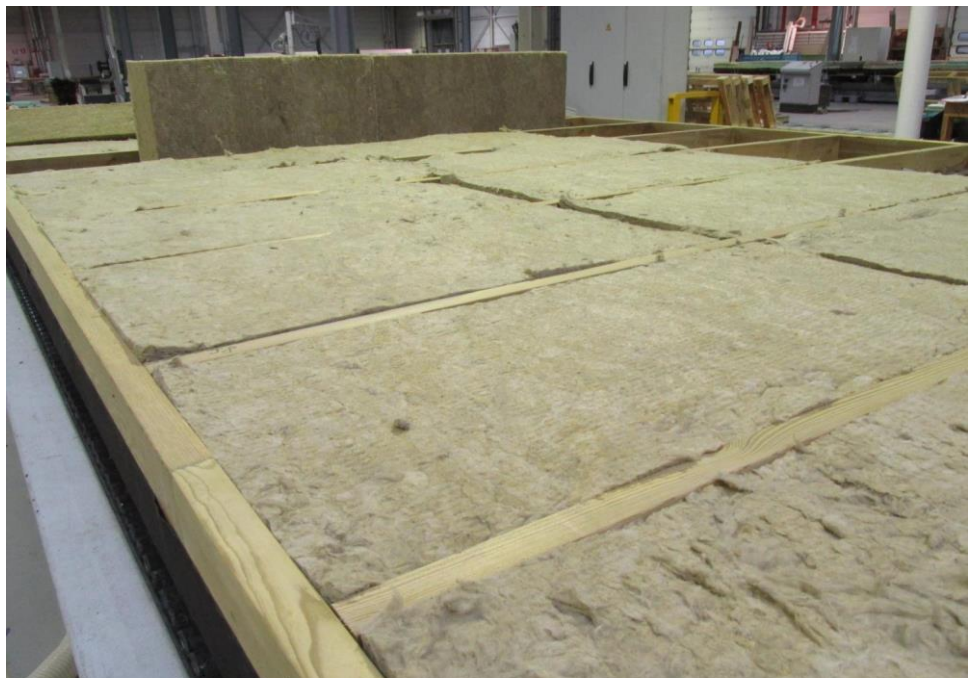

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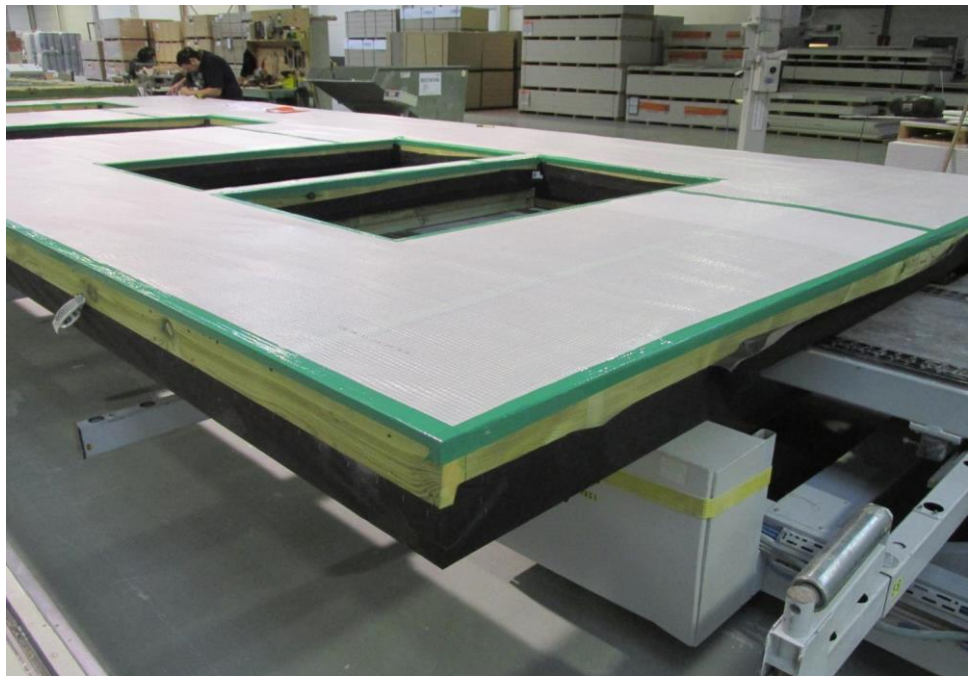

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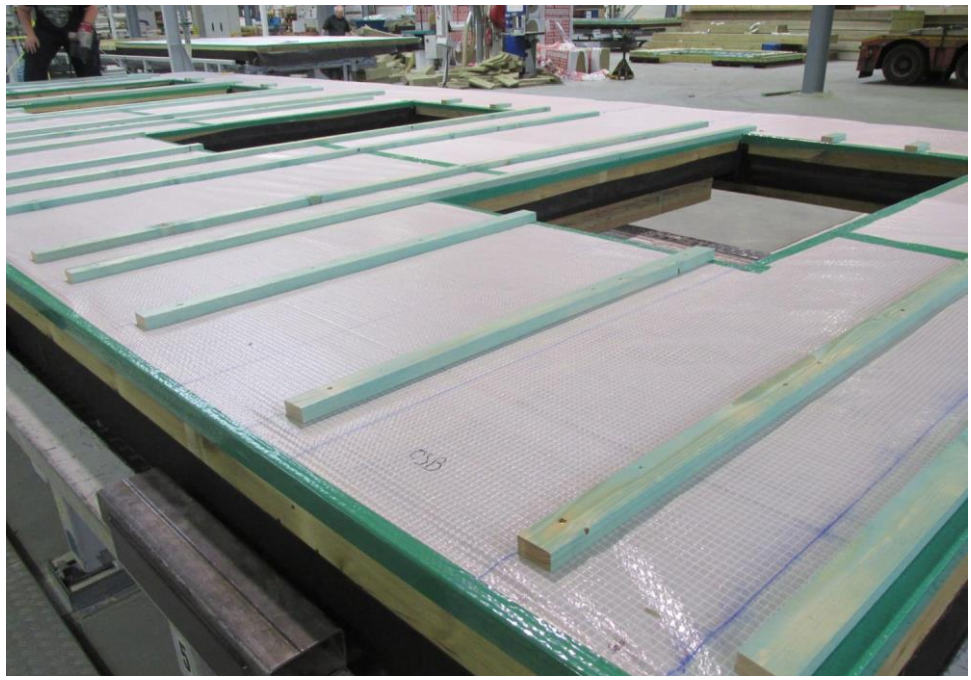

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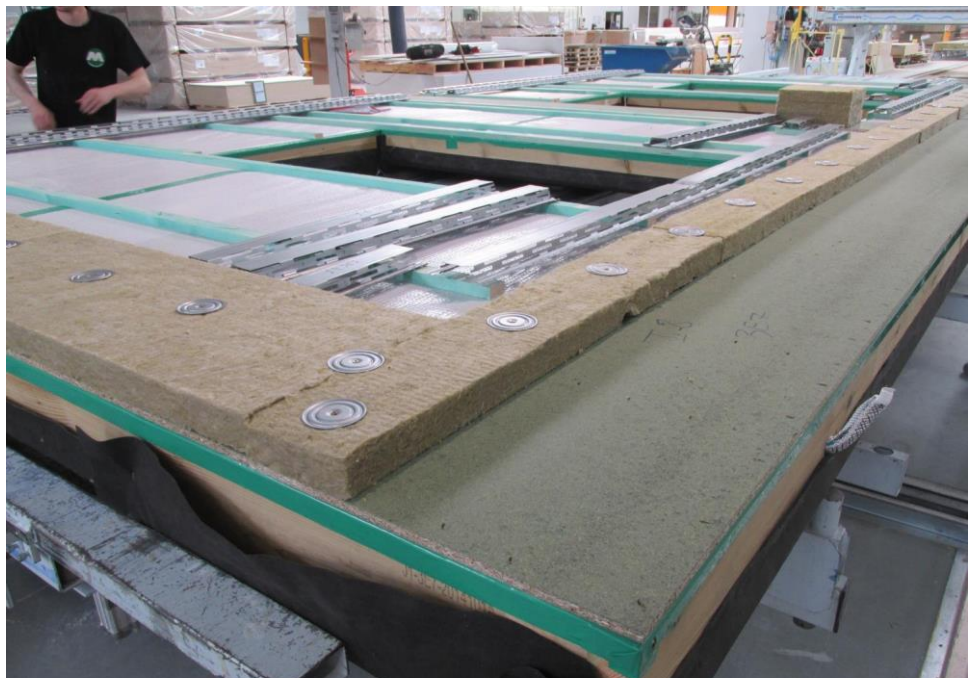

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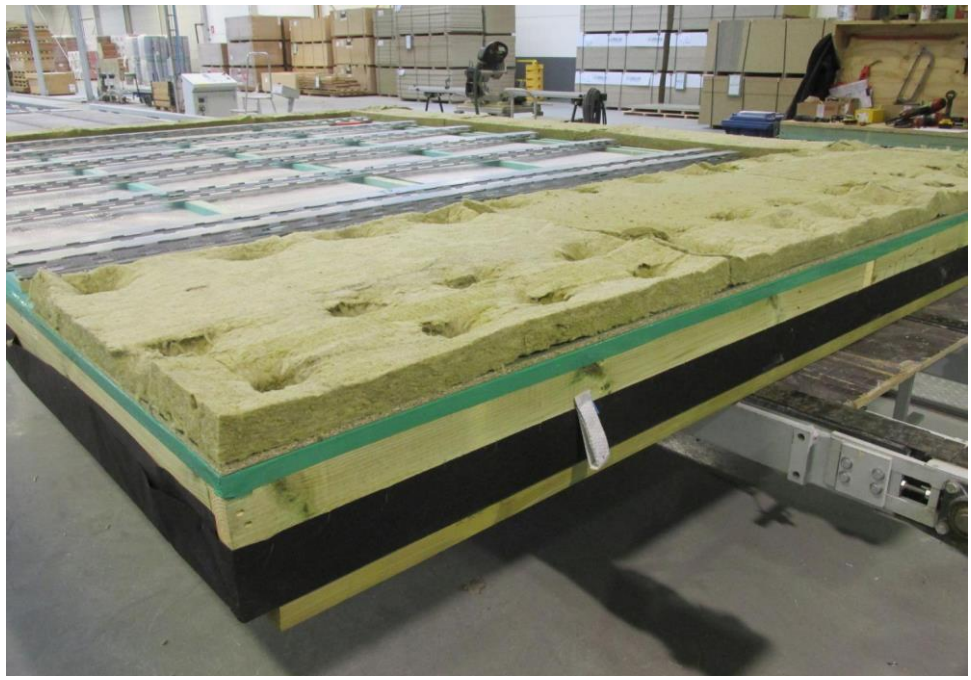

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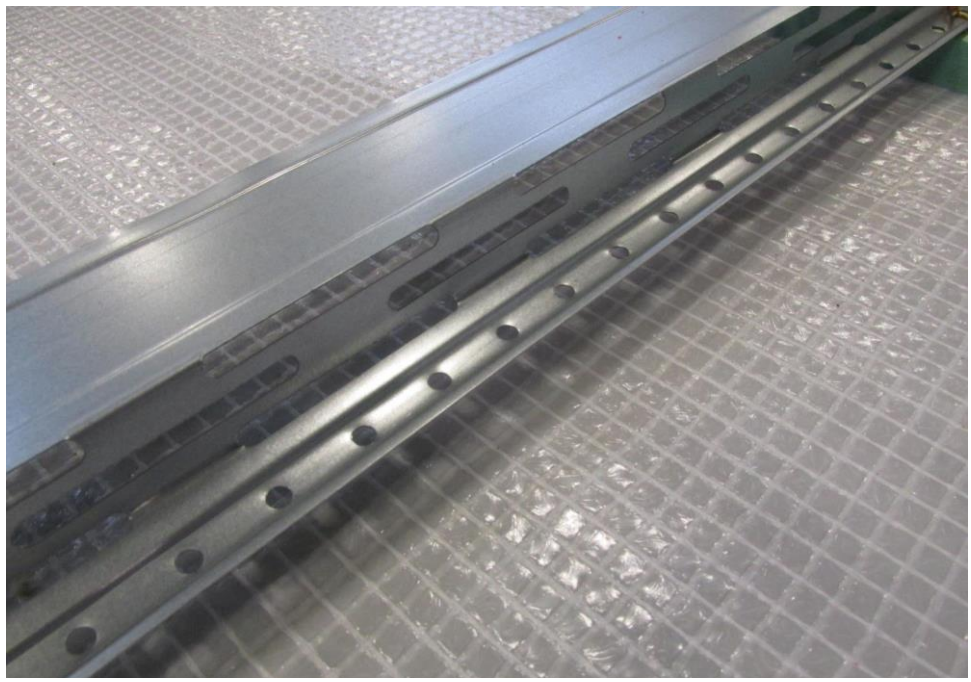

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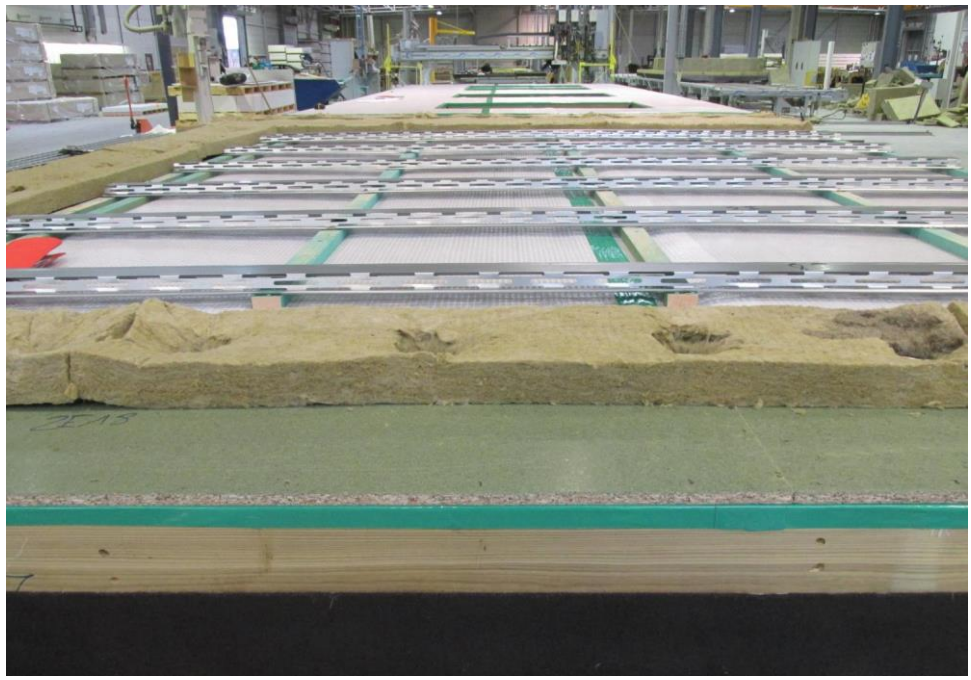

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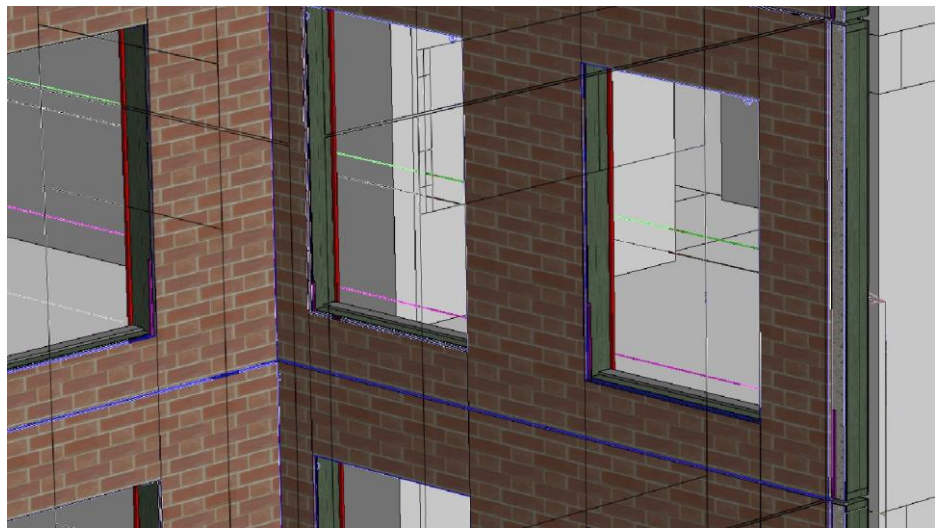
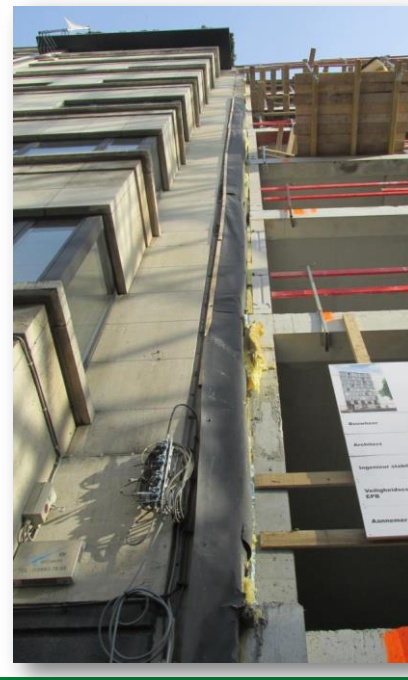
MACHIELS BUILDING SOLUTIONS

ROOSEVELT SQUARE ANTWERPEN

37 studentenflats + 12 appartementen – 9 bouwlagen

Bouwheer :	Urbicoon
Architect :	Lsie structuur architectuur bvba – Leuven
Uitvoering :	2016
Product :	Houtskelet gevelelementen
Special :	Voorgemonteerde panelen met steenstrips, aluminium buitenschrijnwerk en aluminium raamomkasting





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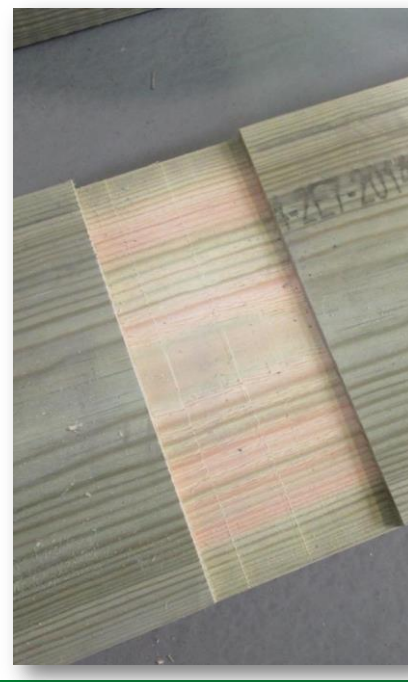

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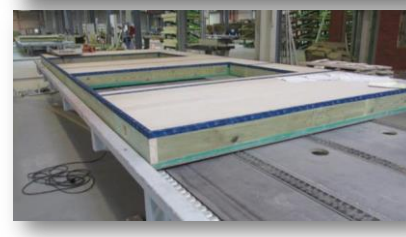

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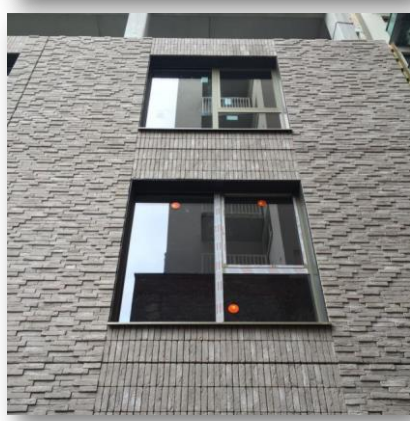

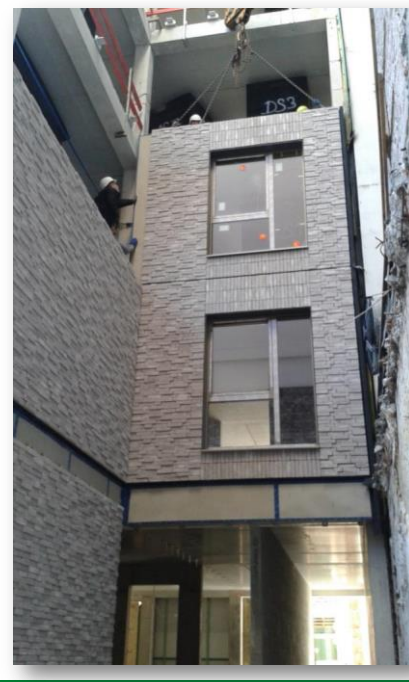

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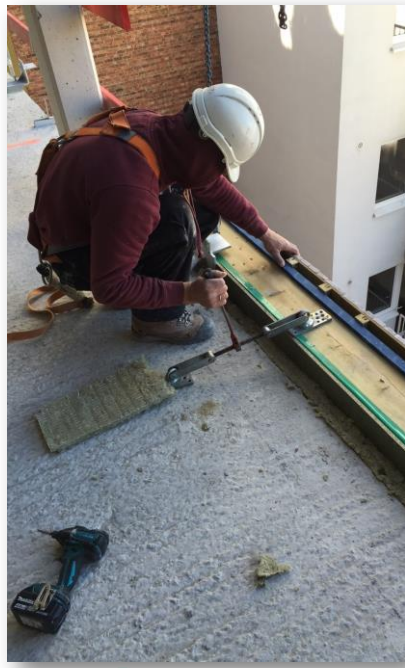

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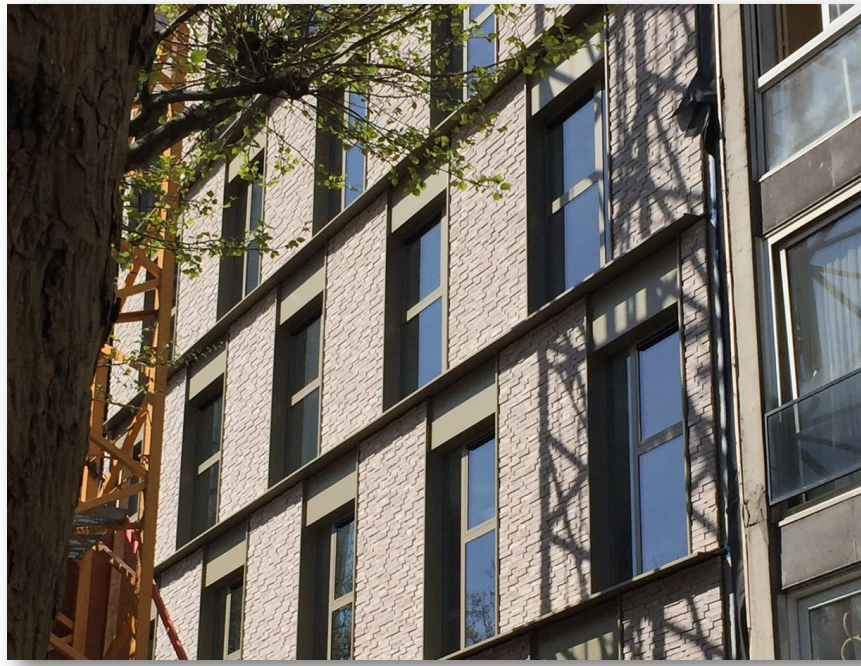

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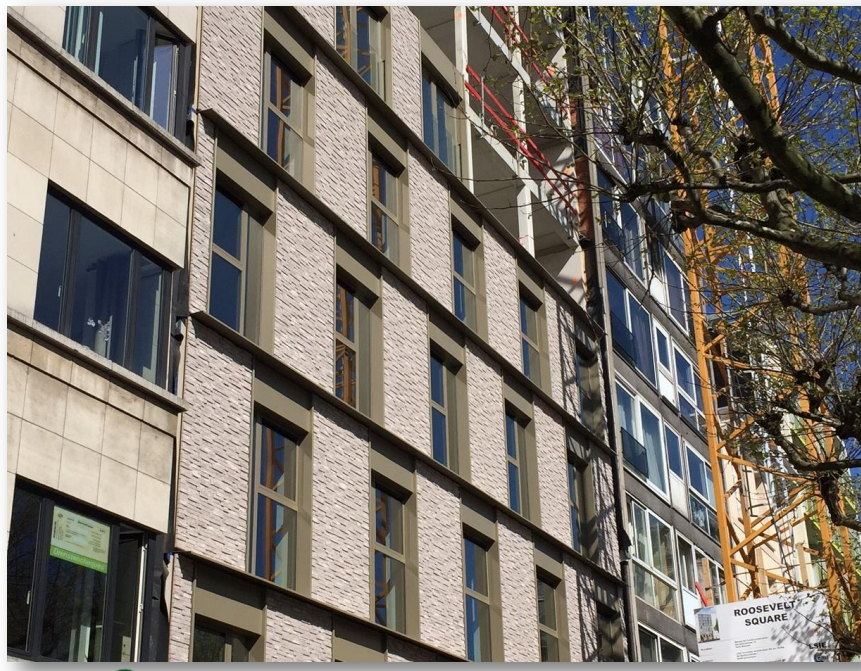

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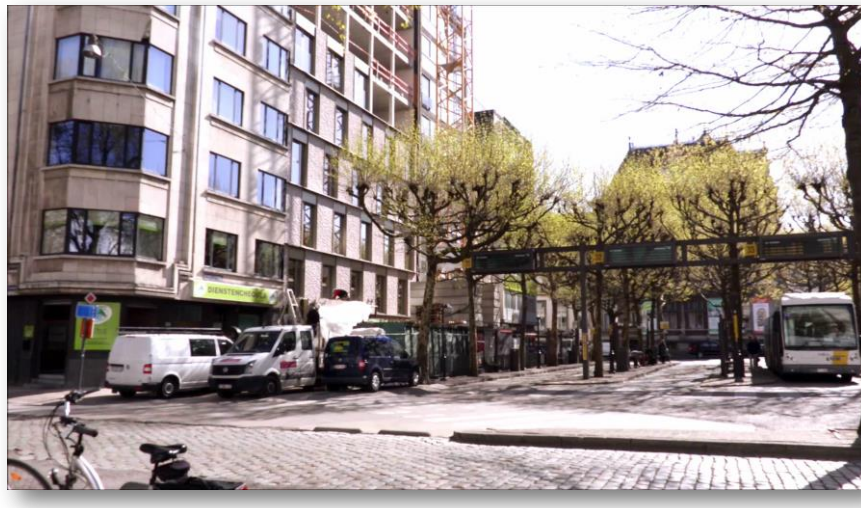
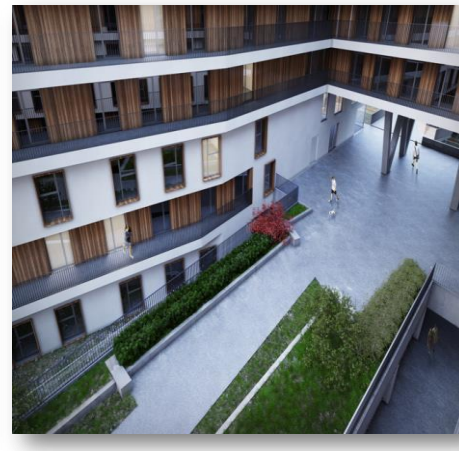


REDEMPTORISTEN GENT

540 studentenflats

Bouwheer :	Redemptoristen Vlaanderen vzw
Architect :	Arch & Teco Architecture – Gent
Uitvoering :	2015-2016
Product :	Houtskelet gevelelementen
Special :	7500m²
	Elementen gedeeltelijk geplaatst met spouwblad steker



MACHIELS BUILDING SOLUTIONS

MACHIELS BUILDING SOLUTIONS

NV MACHIELS BUILDING SOLUTIONS
CLOSING THE CIRCLE

margo.colson@machiels.com
Mondeolaan 5 – 3600 GENK / 011 230 500