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melbournedesignstudios.com.au
The Hütt 01 Passive House
A Beacon of Hope

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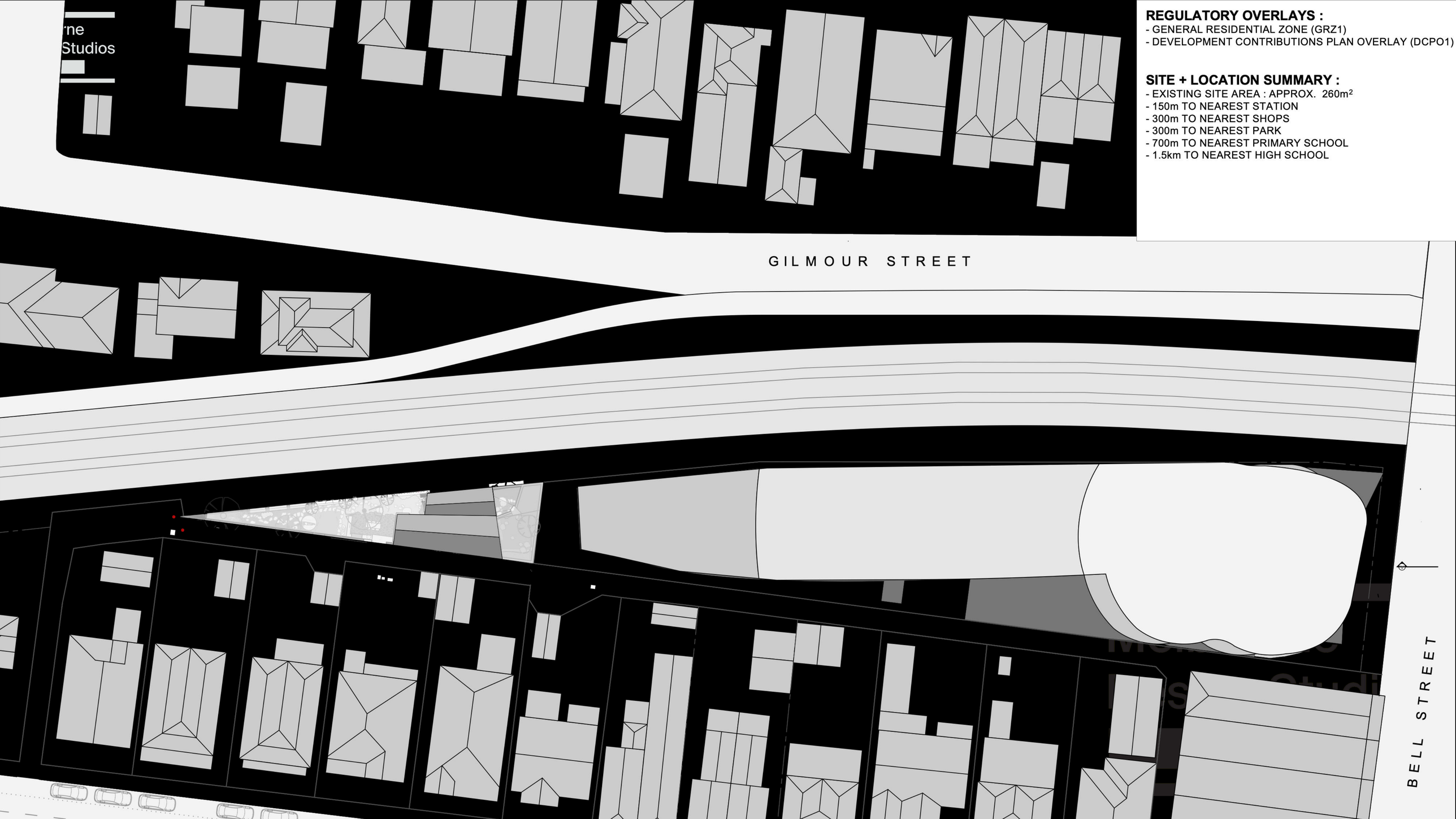

REGULATORY OVERLAYS :
- GENERAL RESIDENTIAL ZONE (GRZ1)
- DEVELOPMENT CONTRIBUTIONS PLAN OVERLAY (DCPO1)

SITE + LOCATION SUMMARY :
- EXISTING SITE AREA : APPROX. 260m^2
- 150m TO NEAREST STATION
- 300m TO NEAREST SHOPS
- 300m TO NEAREST PARK
- 700m TO NEAREST PRIMARY SCHOOL
- 1.5km TO NEAREST HIGH SCHOOL

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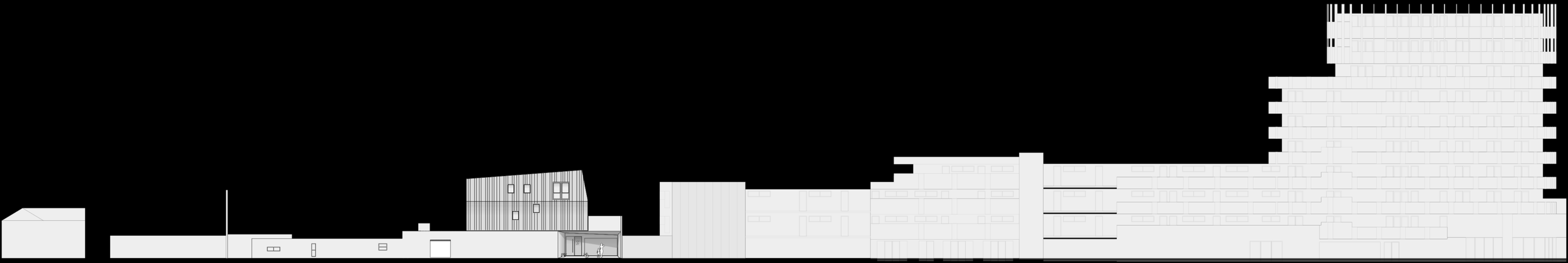

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Consultant:	CP
Street:	Magnolia
Postcode/City:	3185
Province/Country:	Victoria AU-Australia

Client:	F Bernstein & M Bernstein-Hussmann
Street:	c/o Melbourne Design Studios
Postcode/City:	3058 Coburg
Province/Country:	Victoria

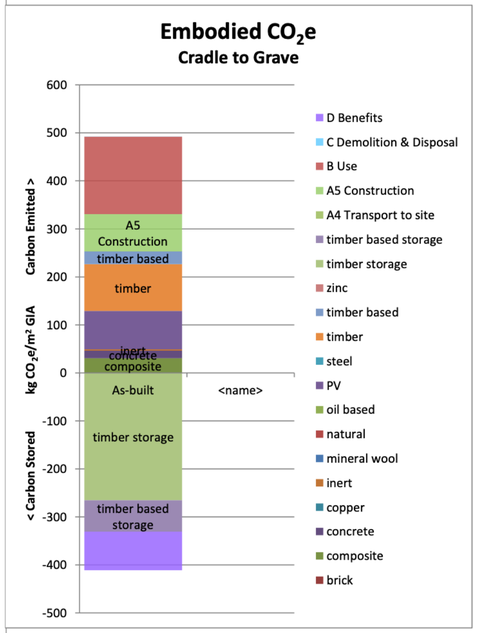
Building:	'TMRW' by Hütt
Street:	Rear 146 Bell St
Postcode/City:	3058 COBURG
Province/Country:	VICTORIA
Building type:	FAMILY HOME

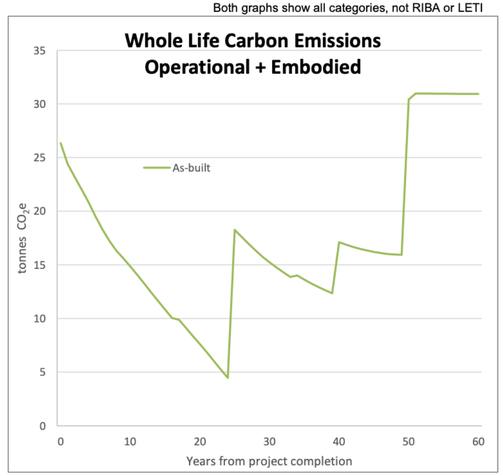
AECB building knowledge

AECB Embodied Carbon Assessment

Year of construction:	2020
No. of dwelling units:	1
TFA:	178
Building Life, yrs	60

For this Certificate Building life must be 60 yrs
Both graphs show all categories, not RIBA or LETI





Operational	Option 1	Option 2	Option 3	Option 4
Space Heating kWh/m2.a	8.7	8.7	8.7	8.7
Final Energy kWh/m2.a (excl PV)	18.0	18.0	18.0	18.0
tonnes CO_2e (incl PV if any)	-33.2	0.0	0.0	0.0
kgCO2e/m² GIA (incl PV if any)	-184.6			

if Operational varies then adjust these cells

Embodied	Option 1	Option 2	Option 3	Option 4
All categories, tonnes CO2e A-C	57.5	0.0	0.0	0.0
RIBA kgCO2e/m² GIA	319.3			
LETI kgCO2e/m² GIA	77.8			

Taking into consideration the total lifetime carbon emissions (sum of embodied and operational) for your development, please explain which option you have chosen and why.

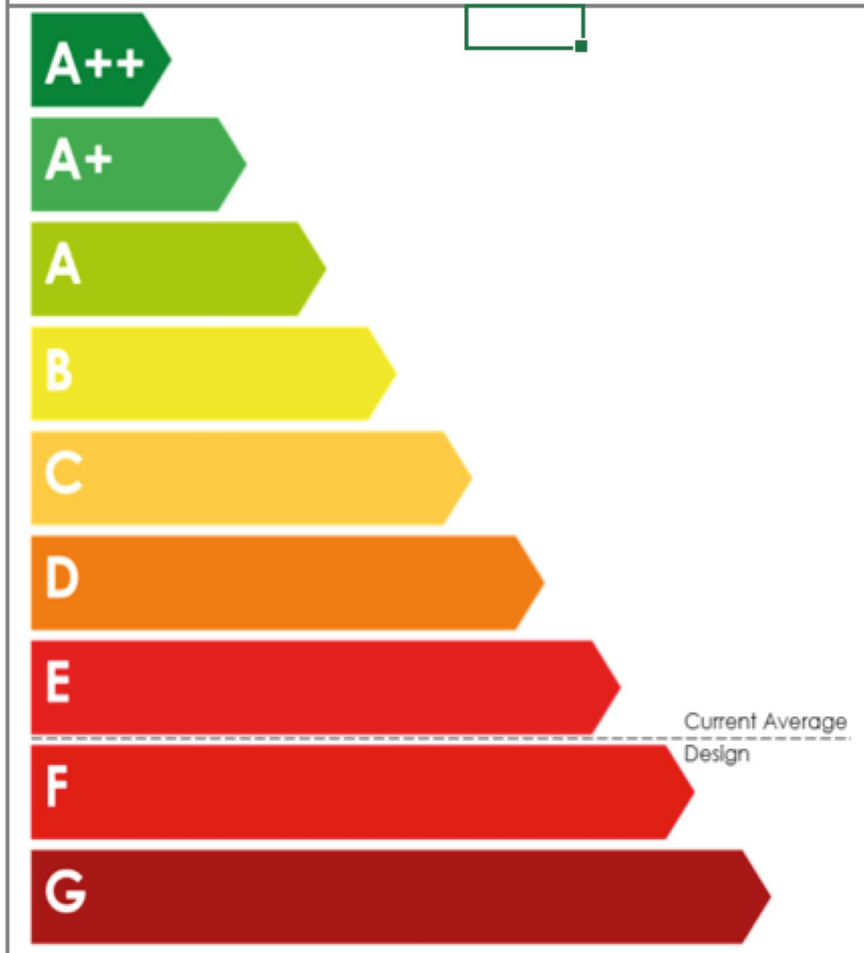
Type of building: Domestic

I confirm that the values given herein have been determined following the RICS methodology and based on the characteristic values of the building. The PH Ribbon calculations are attached to this verification.

Task:	Name		
Certifier	CP		
	Issued on:	City:	Signature:
'TMRW' by Hütt	15/02/22	Melbourne	DRAFT - CP

LETI Results graphic. The dots with the numbers 1-4 represent the results for options 1-4.

Project Name TMRW by Hutt
Project Sector Domestic
Assessment Date 30/01/2022
Assessment By (company) CP
Location of Data -



Upfront Carbon A1-5 exc. Sequestration	Embodied CarbonA1-5, B1-5, C1-4 $kgCO_2e/m^2$
1	1
100	150
200	300
300	450
400	625
500	800
675	1000
850	1200
1000	1400
1200	1600

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“The House Is On Fire …”

VALUE OF CONSTRUCTION ACTIVITY IN AUSTRALIA
202.69bn AUD

- Residential Construction makes up over 30% of the construction industry sector, so it is hugely important to see change happening on a small scale, not just on large projects.

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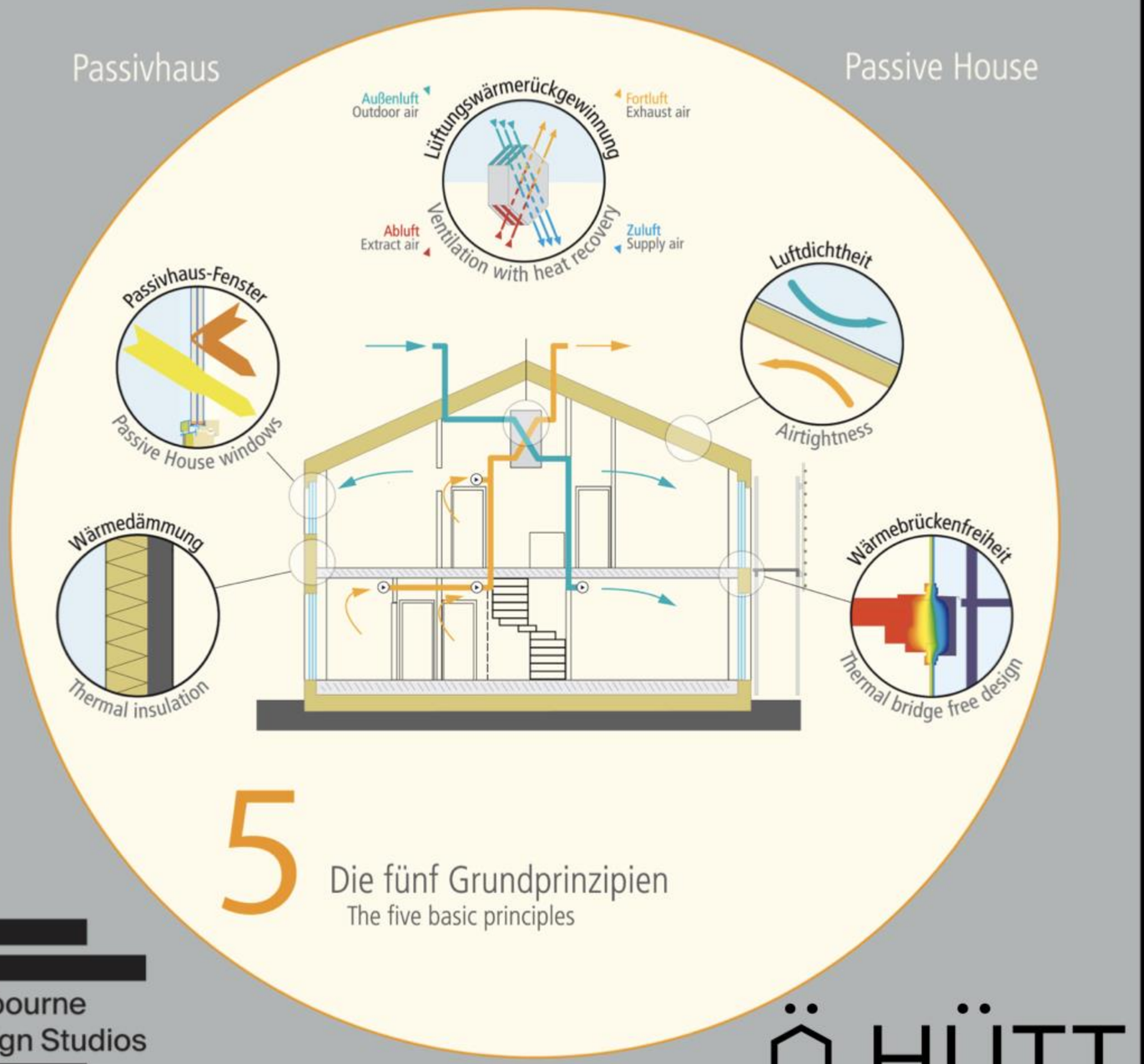
PRINCIPLES



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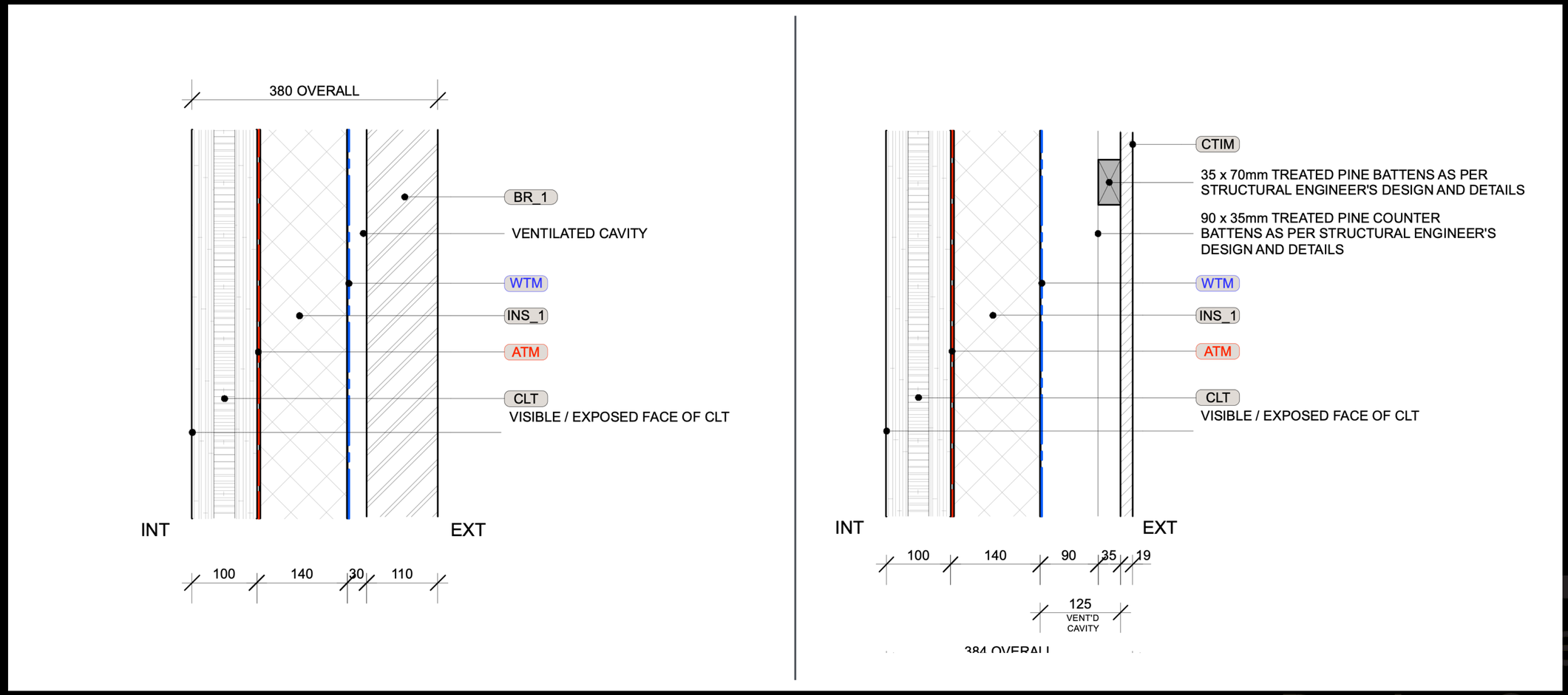
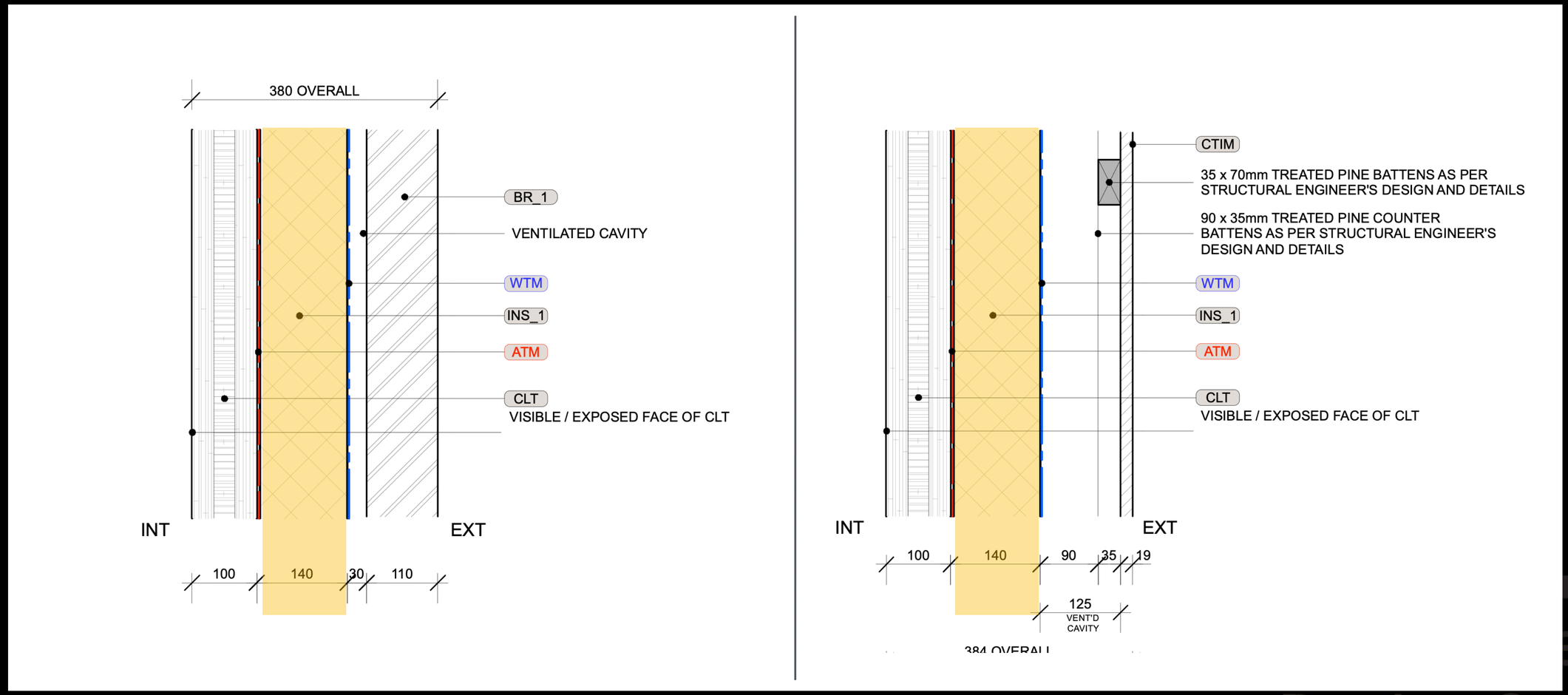


Wall Types : Airtightness (1)



Wall Types : Insulation (2)

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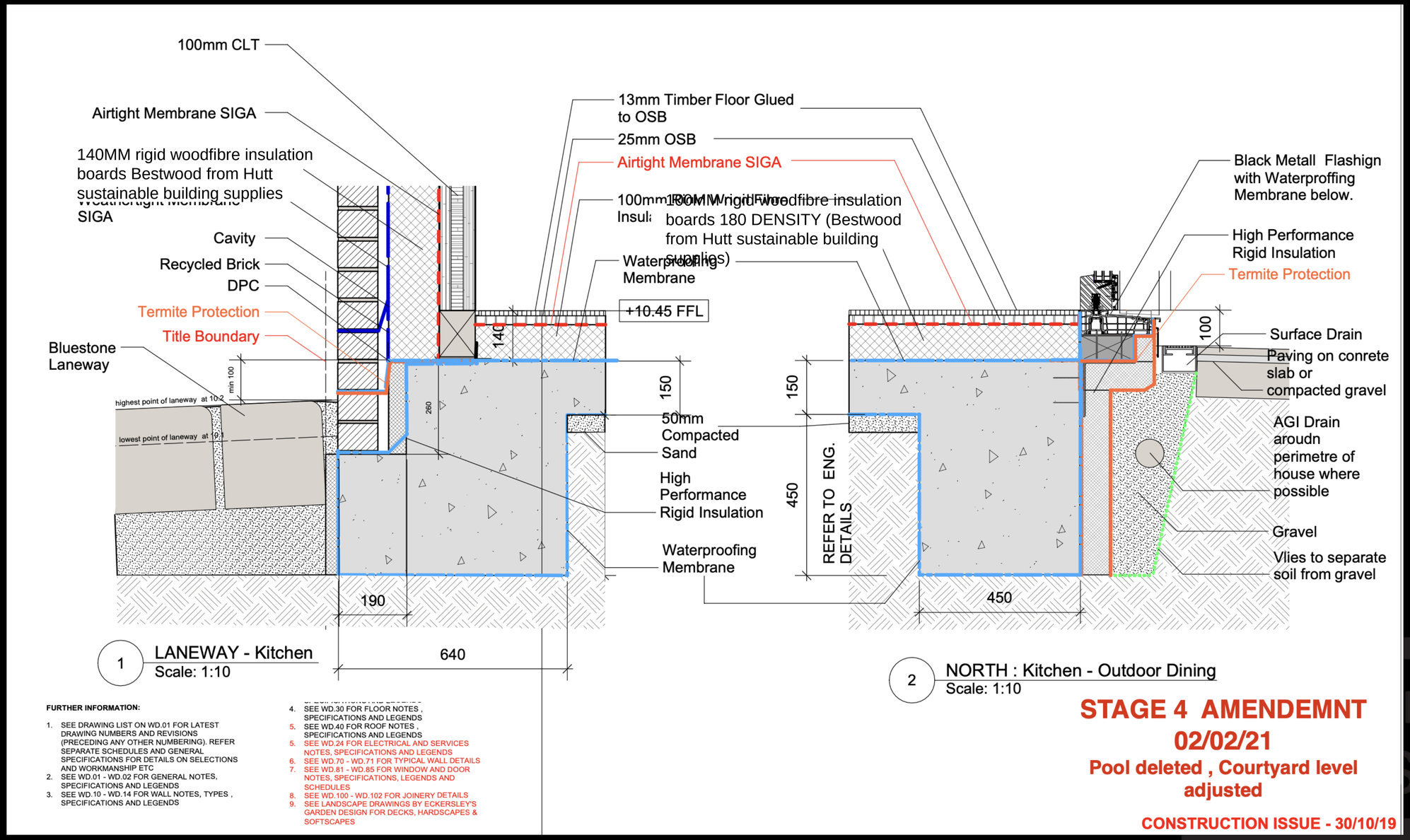


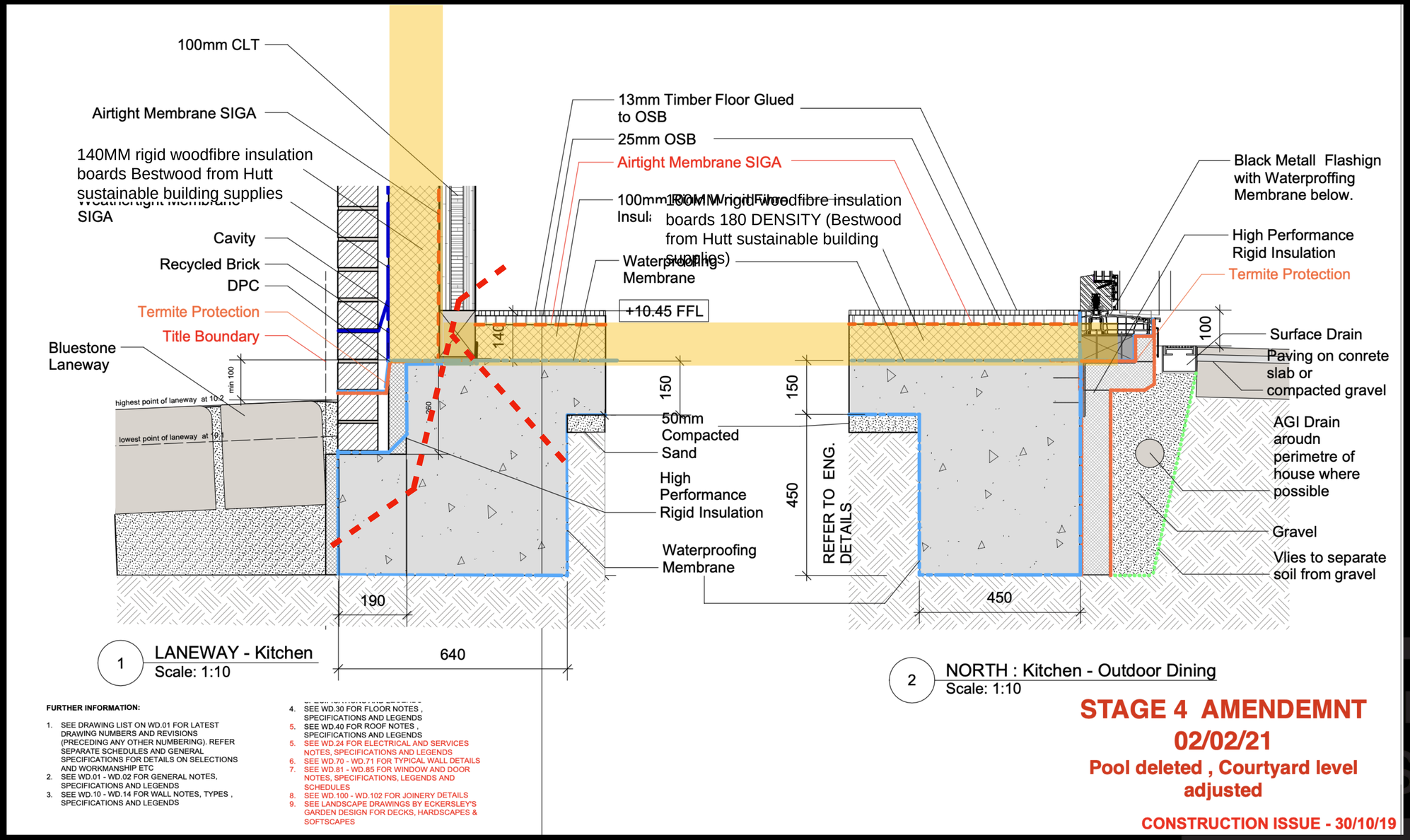
FURTHER INFORMATION:

1. SEE DRAWING LIST ON WD.01 FOR LATEST DRAWING NUMBERS AND REVISIONS (PRECEDING ANY OTHER NUMBERING). REFER SEPARATE SCHEDULES AND GENERAL SPECIFICATIONS FOR DETAILS ON SELECTIONS AND WORKMANSHIP ETC
2. SEE WD.01 - WD.02 FOR GENERAL NOTES, SPECIFICATIONS AND LEGENDS
3. SEE WD.10 - WD.14 FOR WALL NOTES, TYPES , SPECIFICATIONS AND LEGENDS
4. SEE WD.30 FOR FLOOR NOTES , SPECIFICATIONS AND LEGENDS
5. SEE WD.40 FOR ROOF NOTES , SPECIFICATIONS AND LEGENDS
5. SEE WD.24 FOR ELECTRICAL AND SERVICES NOTES, SPECIFICATIONS AND LEGENDS
6. SEE WD.70 - WD.71 FOR TYPICAL WALL DETAILS
7. SEE WD.81 - WD.85 FOR WINDOW AND DOOR NOTES, SPECIFICATIONS, LEGENDS AND SCHEDULES
8. SEE WD.100 - WD.102 FOR JOINERY DETAILS
9. SEE LANDSCAPE DRAWINGS BY ECKERSLEY'S GARDEN DESIGN FOR DECKS, HARDSCAPES & SOFTSCAPES

STAGE 4 AMENDEMNT
02/02/21
Pool deleted , Courtyard level adjusted

CONSTRUCTION ISSUE - 30/10/19

Thermal Bridge-Free Construction (3)



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STAGE 4 AMENDEMNT
02/02/21
Pool deleted , Courtyard level adjusted

CONSTRUCTION ISSUE - 30/10/19

Thermal Bridge-Free Construction (3)

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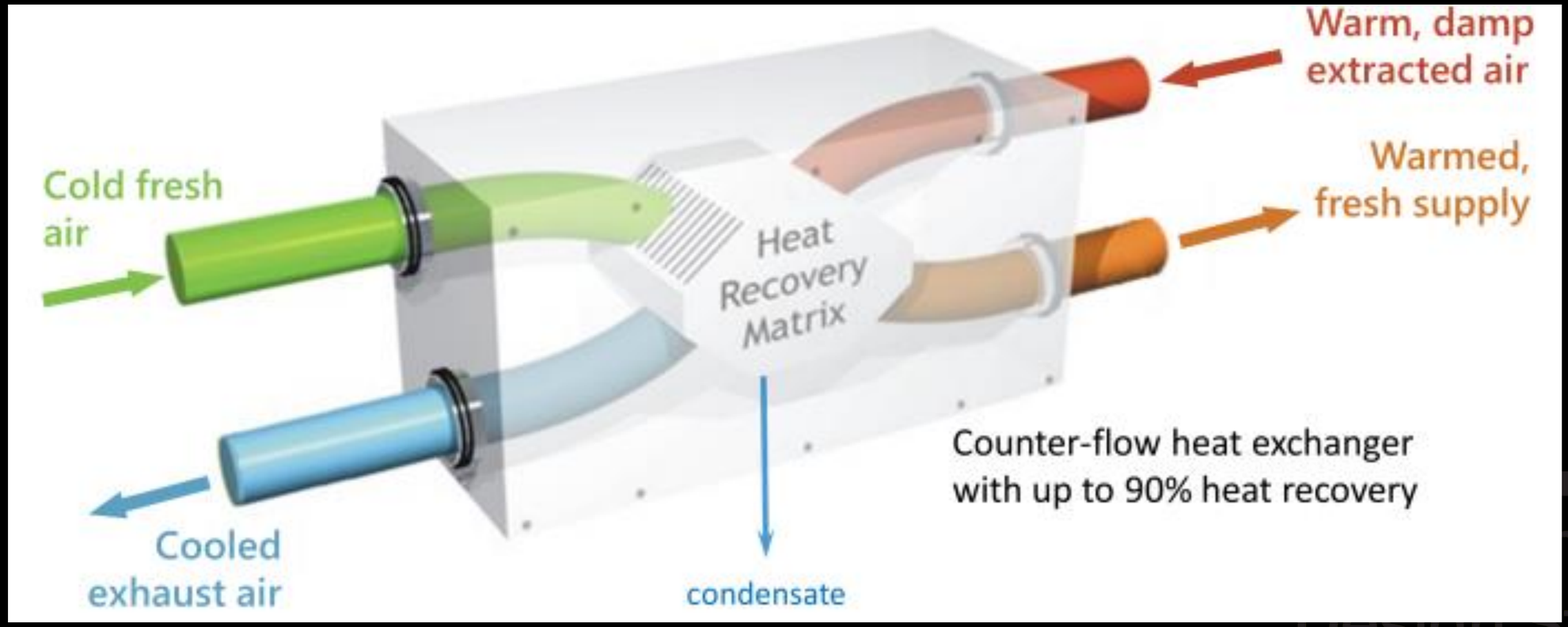
High-Performance Windows (4)

- **CONSTANT FRESH AIR SUPPLY : MECHANICAL VENTILATION WITH HEAT RECOVERY (HRV) / ENERGY RECOVERY (ERV) (MELBOURNE CLIMATE WINTER)**



Mechanical Heat Recovery Ventilation System (5)

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1. Cross-Laminated Timber

2. Timber Windows

3. Woodfibre Insulation

1. Cross-Laminated Timber (CLT)


CARDINIA

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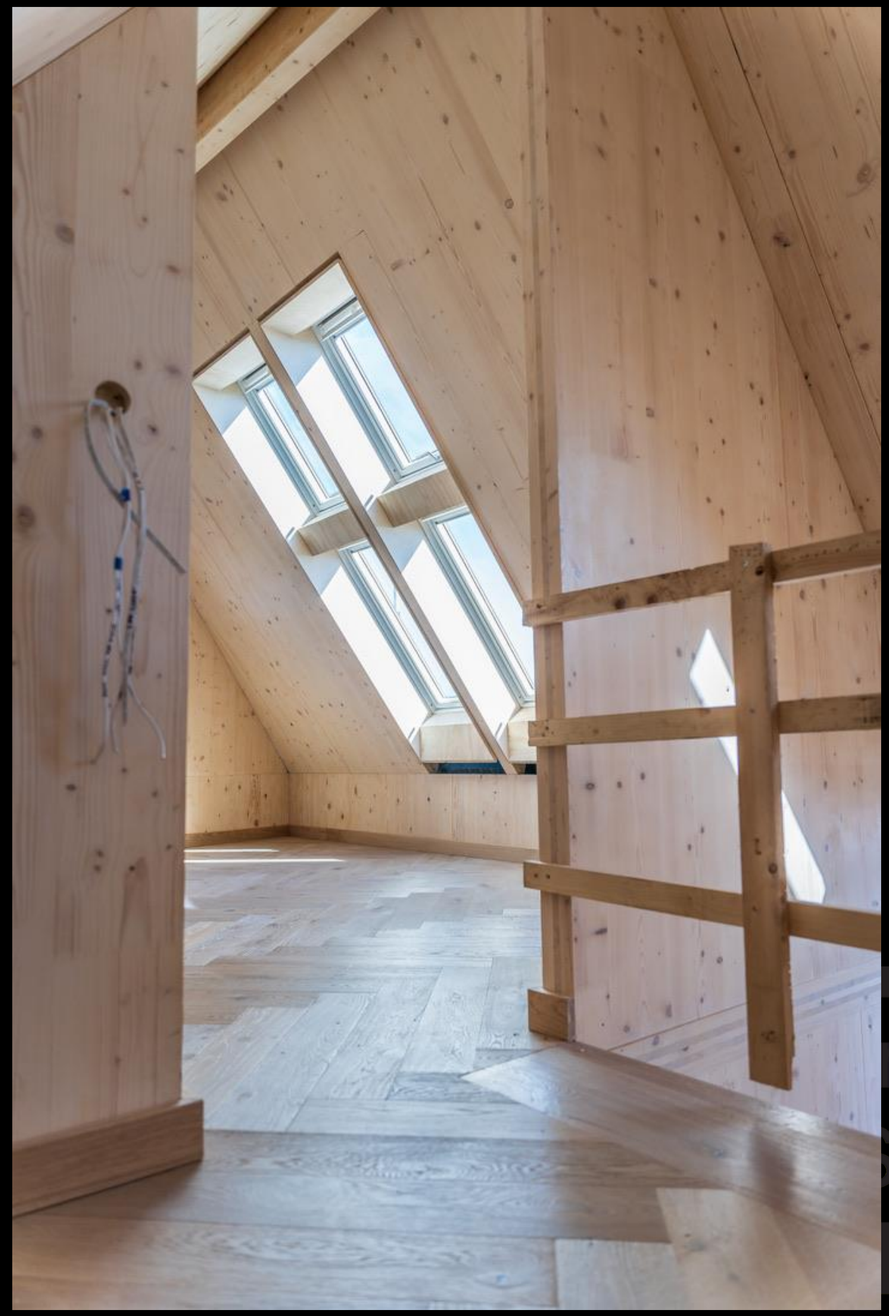

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TRANSPORT SLEDGES AND SHIPPING PALLETS RECYCLED INTO HALLWAY SUSPENDED CEILING FOR DUCTS, MATCHING CLT PANELS

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2. TIMBER WINDOWS

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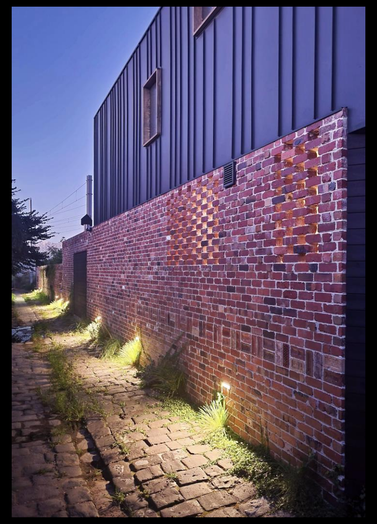


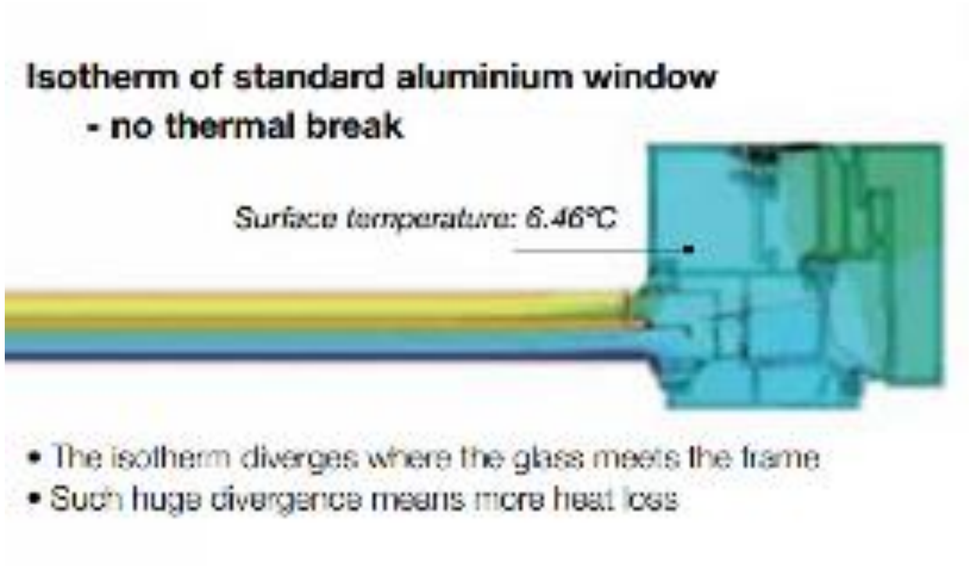
- **HIGH PERFORMANCE WINDOWS**

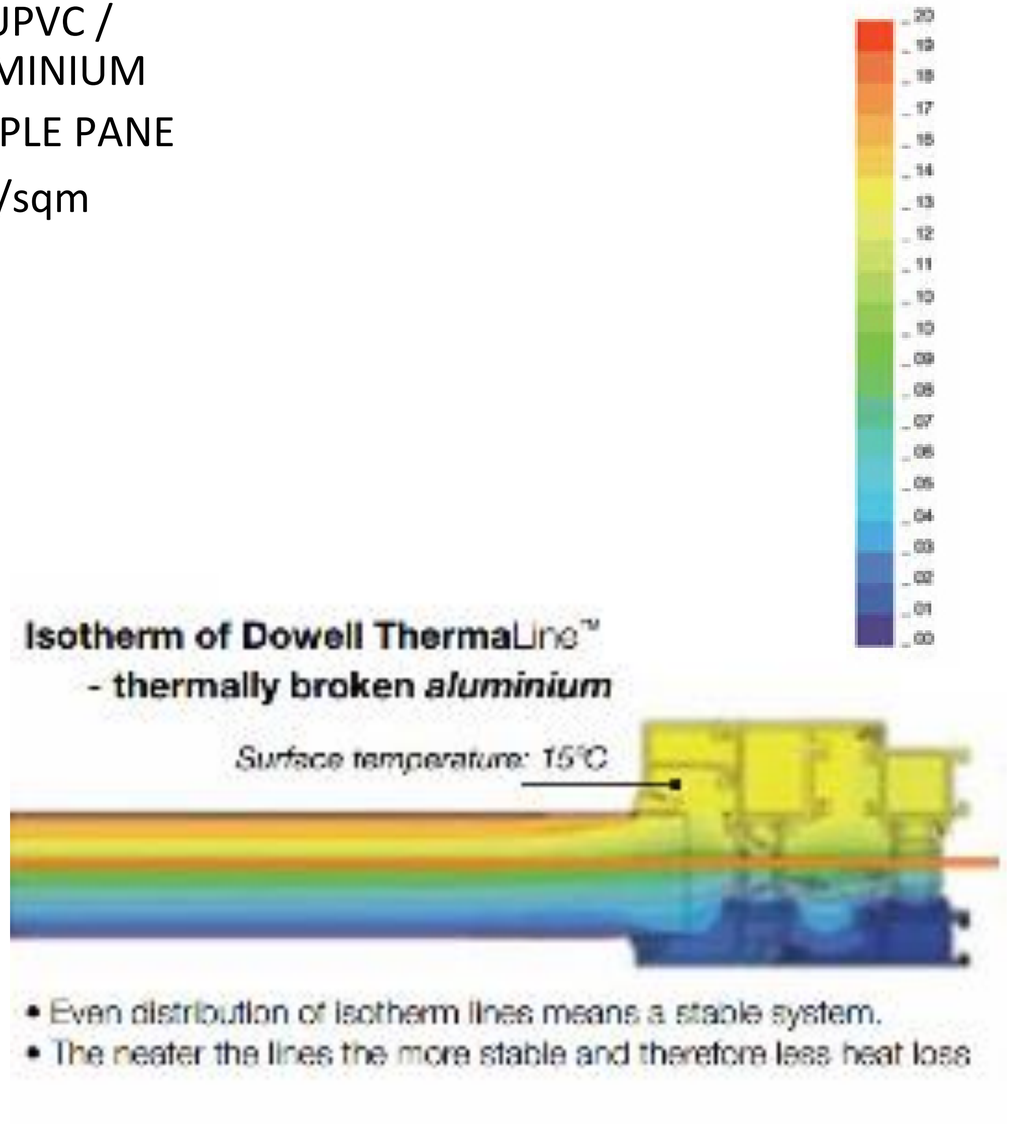
  FRAMING – WOODEN / UPVC / THERMALLY BROCKEN ALUMINIUM

  GLAZING – DOUBLE / TRIPLE PANE

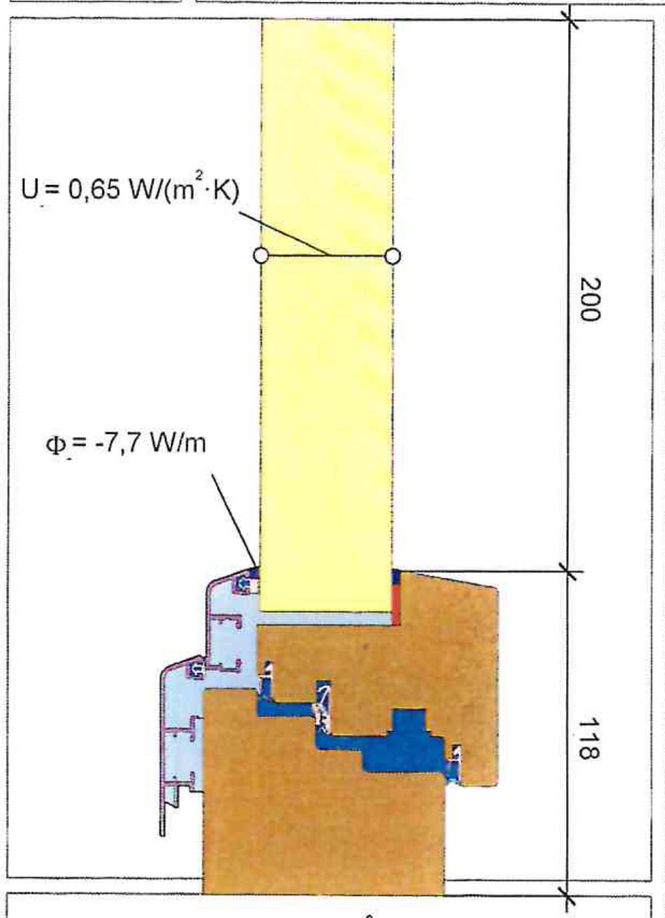
  U_{value} ~ 0.6W/sqm to 2W/sqm

  SHGC ~ 0.6





Ermittlung des U_{frame} von Fensterprofilen nach DIN EN ISO 10077- Teil 2



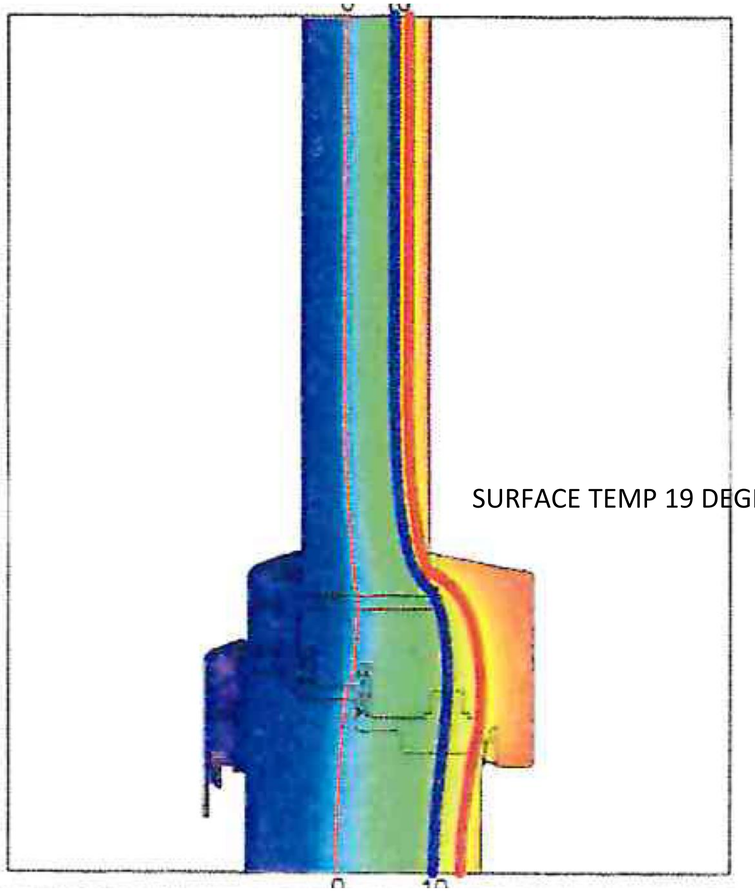
U_f = 1,083 W/(m²·K)

Die Wärmeleitfähigkeiten der verwendeten Materialien entsprechend EN ISO 10077-2 bzw. EN ISO 10456. Andere Bemessungswerte der Wärmeleitfähigkeiten wurden vom Auftraggeber übermittelt.

Bericht - Nr.:	15034402
Hersteller:	
OPTIWIN GmbH Wildbichlerstraße 1 6341 Ebbs	
Allgemeines	
Typ	Fenster
Systemtyp	Holz - Alu
System	Alround (Freisinger GmbH)
Untersystem I	Anschlaglösung
Untersystem II	Typ3
Profil	
Profiltyp	Flügel unten
Profilname	Standard
Profilbreite	118 mm
Profilnummer	-
Hauptmaterial	Fichte/Tanne
Füllung	
Dicke	48 mm
Einbautiefe	15 mm
Art	Paneel WLG 035

Anmerkung:

OPTIWIN COMPOSITE WINDOW BY HUTT SUSTAINABLE BUILDING SUPPLIES



SURFACE TEMP 19 DEGREES

SIX TIMES ENERGY CONSUMPTION / SAVING

	ABS DYNAMIC **ALUMINIUM** AWNING – DG	DOWELL **THERMALLY BROKEN ALUMINIUM** AWNING – DG	LOCAL HIGH-PERF **TIMBER** TILT + TURN - DG	HUTT SUSTAINABLE BUILDING SUPPLIES (OPTIWIN COMPOSITE TILT + TURN - TG)
TOTAL U-VALUE	4.43	2.6	2.22	0.751
FRAME U-VALUE	7.746	2.44	1.653	1.083
GLASS U-VALUE	2.97	2.66	2.76	0.5
GLASS G-VALUE	0.75	0.75	0.74	0.53
PSI SPACER	0.07	0.07	0.03	0.026

DOUBLE ENERGY CONSUMPTION / SAVING

FREISINGER Fensterbau

HÜTT™
sustainable building supplies

PURISTA (rahmenlos)
Holz-Alu

Klares zeitloses Design und höchste technische Qualität - das zeichnet das Fenstersystem PURISTA aus. Das rahmenlose Holz-Alu-Fenster ermöglicht durch seine spezielle Konstruktion eine Außenansicht aus purem Glas und harmoniert perfekt mit der MOTURA Holz-Alu Hebeschiebetür. Im Inneren sorgt die Holzoberfläche des Passivhausfensters für ein behagliches Wohnklima. Das Fenster PURISTA aus Holz und Alu ist für Passivhäuser bestens geeignet und zertifiziert durch das PHI Darmstadt - ein energieeffizientes Fenster für beste Aussichten.

Dieses Produkt kann optimal auf Sie abgestimmt werden. Wir bieten Ihnen eine Vielzahl an Gestaltungsmöglichkeiten. Mehr Information finden Sie auf Seite 32-33.

Gesamtbautiefe (mm)	150
Glasstärke (mm)	48/50/52/54
U_w (W/m²K) -Fenster bis	0,64
U_G (W/m²K) -Glas bis	0,5
Psi-Wert (W/mK)-Abstandhalter	0,023
Passivhauszertifiziert	ja
Dichtungsebenen	4
Entwässerungsebenen	2

WHERE DESIGN & PERFORMANCE MEET : AUSTRALIA'S FIRST FRAMELESS CERTIFIED PASSIVE HOUSE WINDOW

Durch **4 Dichtungsebenen** können wir besten Schutz gegen alle Witterungen gewährleisten.

2 Entwässerungsebenen sorgen dafür, dass Feuchtigkeit keine Chance hat.

Wir verwenden bei diesem System **Accoyaholz**, welches die Langlebigkeit unserer Fenster erhöht.

Das Fenster
mit Weitblick

Perfekt abgestimmte **Fensterbänke** für innen und außen. Mit den optisch harmonisch abgestimmten Produkten von Freisinger werten Sie Ihr Zuhause merklich auf.

Fenster ganz nach
Ihrem Geschmack

Variante 01: **Classic mit sichtbarem Beschlag**

Variante 02: **Classic mit verdecktem Beschlag**

Variante 03: **Modern mit verdecktem Beschlag**

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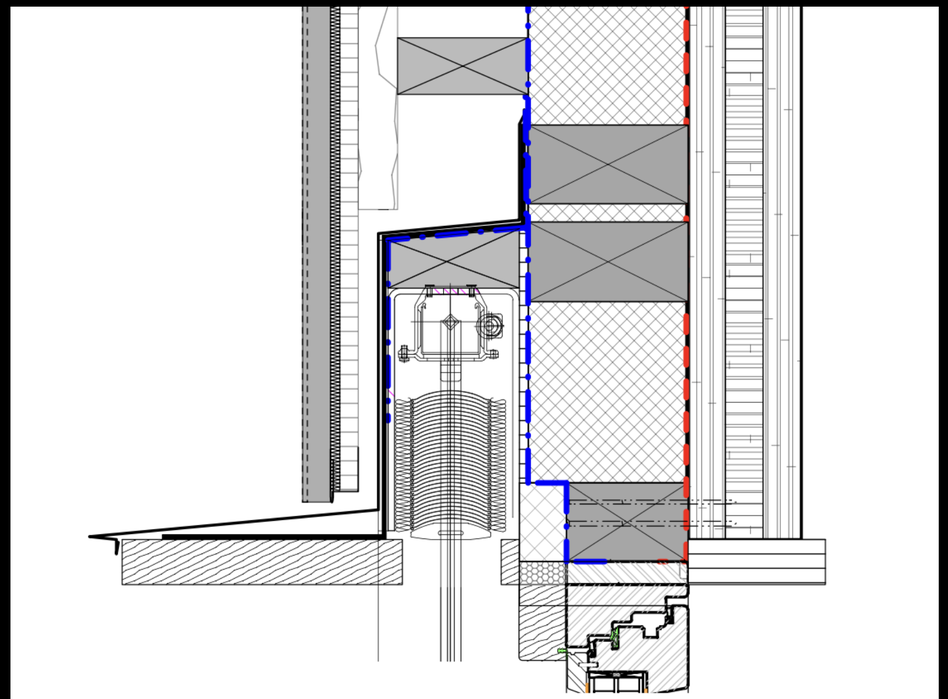

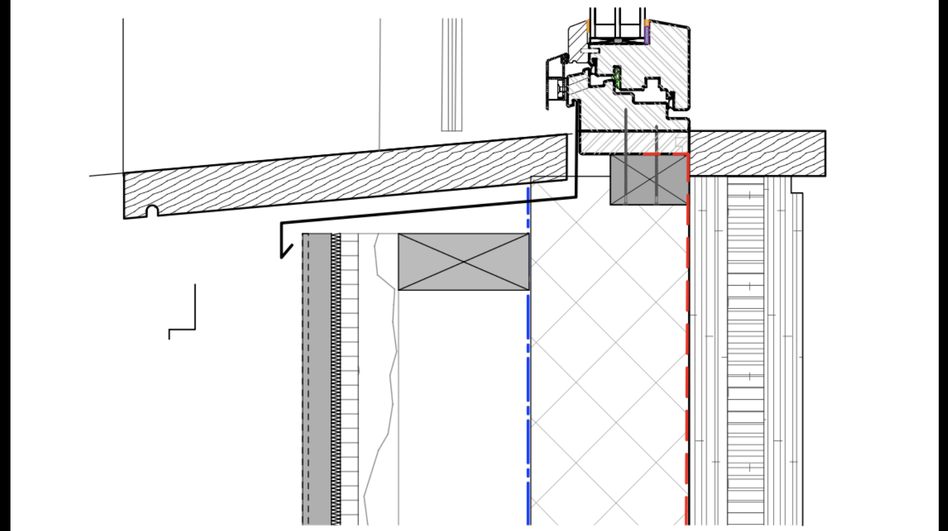

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3. WOODFIBRE INSULATION

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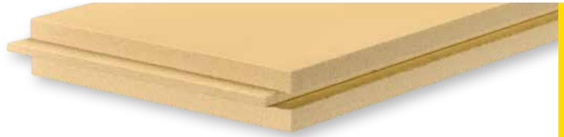


Product description

MULTITHERM 140 is a pressure-resistant wood fiber insulation board with an excellent value of thermal conductivity. MULTITHERM 140 can be applied in roofs and walls.
In combination with MULTITHERM 110, it is a cost-effective solution for high insulation thicknesses.

011-7D006

EPD

Fields of application according to DIN 4108-10

DAD-ds, DI-zg, WAB-ds, WH, WTR

- On-roof insulation (this board is not weatherproof)
- Plane insulation, for wall and ceiling areas
- Behind facades
- Directly on wood frame constructions in combination with a curtain wall

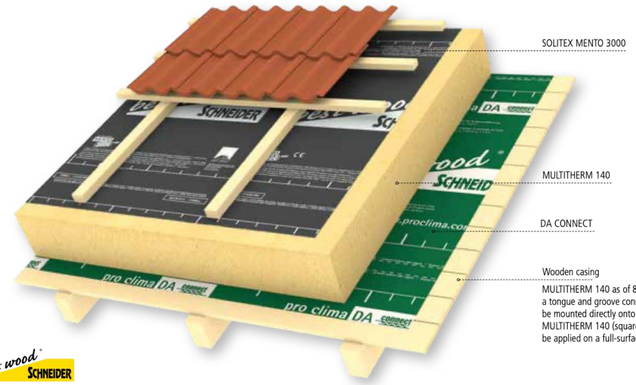
More detailed information about the different fields of application can be found in our technical data sheet.
Download at **www.schneider-holz.com**

Accessories

Bonding and sealing materials, fixing materials etc. can be found under the rubric "Accessories" starting on page 34. Profiles can be found on page 48.

Characteristics of wood fiber insulation MULTITHERM 140

Denomination of insulation board	WF-EN13171-T4-CS(10\Y)100-TR20-WS1,0-AF75-MU3
Standard	EN13171
Density	140 [kg/m³]
Nominal value of thermal conductivity λ_D (Keymark)	0.040 [W/(mK)]
Reaction to fire according to DIN EN 13501-1	E
Construction material class according to DIN 4102-1	B2
Full declaration	Wood fibers, PMDI gluing, paraffin
Production process	Dry process
Compressive stress at 10% compression	≥ 100 [kPa]
Tensile strength perpendicular to the plane of the board	≥ 20 [kPa]
Modulus of elasticity $E_{t,0}$	≥ 1,45 [N/mm²]
Water vapor diffusion resistance μ	3
Linear flow resistance	> 75 [kPa·s/m²]
Short time water absorption	< 1.0 [kg/m²]
Specific heat capacity	2100 [J/(kgK)]
Waste code according to AVV	030105, 170201



HÜTT™
sustainable building supplies

best wood **FLOOR 220**

Floor insulation

Cover size (m² per board)	Tongue and groove	580 x 1500 mm (0.87 m²)
Thickness in mm		**m² per pallet** (units per pallet)
22		**93.96** (108)
35		**57.42** (66)
40		**52.20** (60)

Product description

Wood fiber insulation board for certified sound protection installations on solid wood ceilings with increased compressive stresses.

Quality label for best wood FLOOR 220 and GLULAM elements.

EPD

Fields of application according to DIN 4108-10

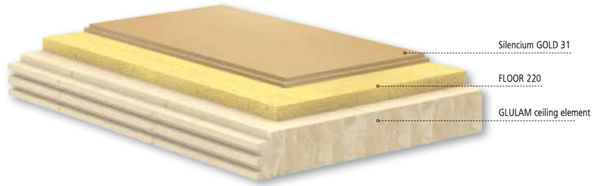
DEO-ds

- As sub-base for dry screeds

More detailed information about the different fields of application can be found in our technical data sheet.
Download at **www.schneider-holz.com**

Characteristics of wood fiber insulation board FLOOR 220

Denomination of insulation board	WF-EN13171-T4-DS(70)2-CS(10\Y)180-TR35-WS1,0-AF100-MU3
Standard	EN13171
Density	220 [kg/m³]
Nominal value of thermal conductivity λ_D	0.047 [W/(mK)]
Reaction to fire according to DIN EN 13501-1	E
Construction material class according to DIN 4102-1	B2
Full declaration	Wood fibers, PMDI gluing, paraffin
Production process	Dry process
Compressive stress at 10% compression	≥ 180 [kPa]
Tensile strength perpendicular to the plane of the board	≥ 35 [kPa]
Modulus of elasticity $E_{t,0}$	≥ 3,00 [N/mm²]
Water vapor diffusion resistance μ	5
Linear flow resistance	> 100 [kPa·s/m²]
Short time water absorption	< 1.0 [kg/m²]
Specific heat capacity	2100 [J/(kgK)]
Waste code according to AVV	030105, 170201



Standard stocked items with short delivery times
Order-based production
More information about shipment by container on page 26

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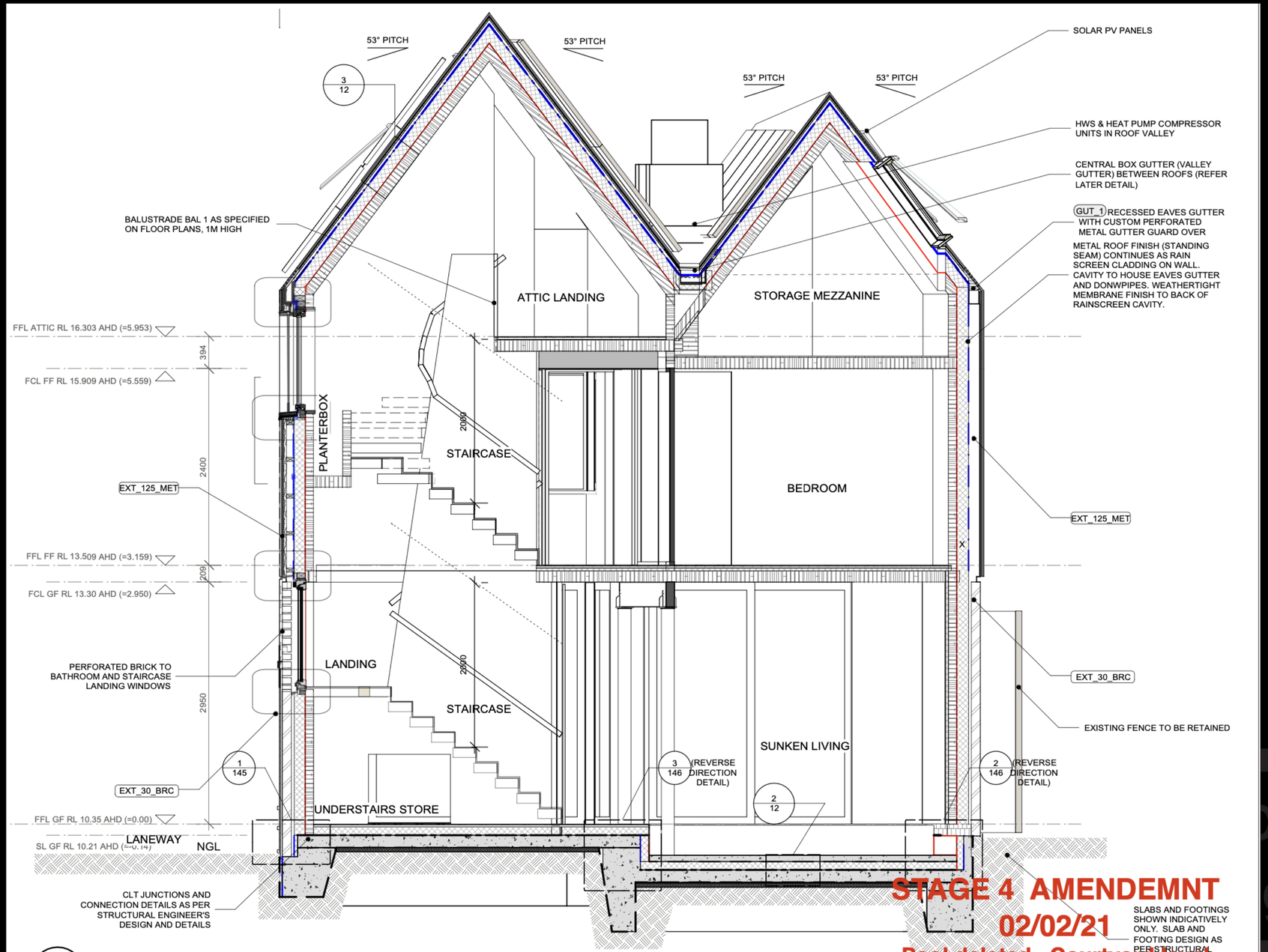

1 SECTION THROUGH STAIRCASE
Scale: 1:50

STAGE 4 AMENDEMNT
02/02/21
Pool deleted , Courtyard level adjusted

CONSTRUCTION ISSUE - 30/10/19

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1300 850 670 www.MDS.archi

Marc Bernstein (Bernstein-Hussmann)
Architect & Certified Passive House Designer

welcome@MDS.archi
welcome@SustainableBuildingSupplies.com.au