HIGH PERFORMANCE RETROFIT - DETAIL SET

J-values of building	g asse	mblies		Passive House wit		
Climate: PHPP-Standard / TFA: 0 m² / Ov	verheating: %	. ,				
			Show spe	ecial cases and secondary cal	culations	on the righ
Description of building assembly					Assembly n	•
High Performance Retrofit - Wall						o. 1ud
rigit offermation teach. Wall						iuu
Orientation of building assembly (or R _{si})	2-Wall			Interior i	insulation?	
Adjacent to (or R _{se})	3-Ventilated	U-value supplement [W/(m²K)]				
Area section 1	λ [W/(mK)]	Area section 2 (optional)	λ [W/(mK)]	Area section 3 (optional)	λ [W/(mK)]	Thickness [m
1/2" Drywall	0.180					13
3-1/2" Fibreglass batt insulation	0.054	2x4 framing @ 24" o.c.	0.130			89
1/2" OSB sheathing	0.130					13
2" Rockwool ComfortBoard 80	0.033					51
2" Rockwool ComfortBoard 80	0.033					51
					ĺ	
Percentage of sec. 1:	94%	Percentage of sec. 2:	6.3%	Percentage of sec. 3:		
Heat transmission resista Interior R _{se} :	ance coefficients	-	0.070	Total thickne U-value [W		21.7
Heat transmission resista	ance coefficients	m²K/W	0.070	Total thickne		
Heat transmission resista	ance coefficients	m²K/W	0.070	Total thickne: U-value [W		0.197
Heat transmission resista $ \text{Interior } R_{\text{si}}. $ $ \text{Exterior } R_{\text{se}}. $	0.13 0.13	m²K/W	0.070	Total thickne: U-value [W	//(m²K)]:	0.197
Heat transmission resista Interior R _{si} Exterior R _{se} : Description of building assembly High Performance Retrofit - Foundation	nnce coefficients 0.13 0.13	m²K/W	0.070	Total thickne: U-value [W	//(m²K)]:	0.197
Heat transmission resista Interior R _{si} . Exterior R _{se} . Description of building assembly High Performance Retrofit - Foundation Orientation of building assembly (or R _{si})	0.13 0.13	m²K/W	0.070	Total thickner U-value [W	Assembly no 02	0.197
Heat transmission resista Interior $R_{\rm si}$: Exterior $R_{\rm se}$: Description of building assembly High Performance Retrofit - Foundation Orientation of building assembly (or $R_{\rm si}$) Adjacent to (or $R_{\rm se}$)	0.13 0.13 0.13 2-Wall 2-Ground	m²K/W m²K/W		Total thicknes U-value [W	Assembly n 02 insulation? t [W/(m²K)]	0.197 o. 2ud
Heat transmission resista Interior $R_{\rm si}$: Exterior $R_{\rm se}$: Description of building assembly High Performance Retrofit - Foundation Orientation of building assembly (or $R_{\rm si}$) Adjacent to (or $R_{\rm se}$) Area section 1	0.13 0.13 0.13 2-Wall 2-Ground $\lambda [W/(mK)]$	m²K/W		Total thicknes U-value [W	Assembly n 02 insulation? t [W/(m²K)]	0.197 o. 2ud Thickness [m
Heat transmission resista Interior R _{si} : Exterior R _{se} : Description of building assembly High Performance Retrofit - Foundation Orientation of building assembly (or R _{si}) Adjacent to (or R _{se}) Area section 1 1/2" Drywall	0.13 0.13 0.13 2-Wall 2-Ground \(\lambda \text{[W/(mK)]}\) 0.180	m²K/W m²K/W Area section 2 (optional)	λ [W/(mK)]	Total thicknes U-value [W	Assembly n 02 insulation? t [W/(m²K)]	0.197 o. 2ud Thickness [m
Heat transmission resista Interior R _{si} : Exterior R _{se} : Description of building assembly High Performance Retrofit - Foundation Orientation of building assembly (or R _{si}) Adjacent to (or R _{se}) Area section 1 1/2" Drywall 3-1/2" Fibreglass batt insulation	0.13 0.13 0.13 2-Wall 2-Ground λ [W/(mK)] 0.180 0.054	m²K/W m²K/W		Total thicknes U-value [W	Assembly n 02 insulation? t [W/(m²K)]	0.197 o. 2ud Thickness [m 13 89
Heat transmission resistation interior R _{si} : Exterior R _{se} : Description of building assembly High Performance Retrofit - Foundation Orientation of building assembly (or R _{si}) Adjacent to (or R _{se}) Area section 1 1/2" Drywall 3-1/2" Fibreglass batt insulation 1/2" Air gap	0.13 0.13 0.13 0.13 2-Wall 2-Ground λ [W/(mK)] 0.180 0.054 0.079	m²K/W m²K/W Area section 2 (optional)	λ [W/(mK)]	Total thicknes U-value [W	Assembly n 02 insulation? t [W/(m²K)]	0.197 o. 2ud Thickness [m 13 89 13
Heat transmission resistation interior R _{si} : Exterior R _{se} : Description of building assembly High Performance Retrofit - Foundation Orientation of building assembly (or R _{si}) Adjacent to (or R _{se}) Area section 1 1/2" Drywall 3-1/2" Fibreglass batt insulation 1/2" Air gap 8" Concrete foundation	0.13 0.13 0.13 0.13 0.13 2-Wall 2-Ground λ [W/(mK)] 0.180 0.054 0.079 2.300	m²K/W m²K/W Area section 2 (optional)	λ [W/(mK)]	Total thicknes U-value [W	Assembly n 02 insulation? t [W/(m²K)]	0.197 o. 2ud Thickness [m 13 89 13 203
Heat transmission resistation interior R _{si} : Exterior R _{se} : Description of building assembly High Performance Retrofit - Foundation Orientation of building assembly (or R _{si}) Adjacent to (or R _{se}) Area section 1 1/2" Drywall 3-1/2" Fibreglass batt insulation 1/2" Air gap 8" Concrete foundation 2" EPS type ii	0.13 0.13 0.13 0.13 2-Wall 2-Ground λ [W/(mK)] 0.180 0.054 0.079 2.300 0.036	m²K/W m²K/W Area section 2 (optional)	λ [W/(mK)]	Total thicknes U-value [W	Assembly n 02 insulation? t [W/(m²K)]	0.197 o. 2ud Thickness [m 13 89 13 203 51
Heat transmission resistation interior R _{si} : Exterior R _{se} : Description of building assembly High Performance Retrofit - Foundation Orientation of building assembly (or R _{si}) Adjacent to (or R _{se}) Area section 1 1/2" Drywall 3-1/2" Fibreglass batt insulation 1/2" Air gap 8" Concrete foundation	0.13 0.13 0.13 0.13 0.13 2-Wall 2-Ground λ [W/(mK)] 0.180 0.054 0.079 2.300	m²K/W m²K/W Area section 2 (optional)	λ [W/(mK)]	Total thicknes U-value [W	Assembly n 02 insulation? t [W/(m²K)]	0.197 o. 2ud Thickness [m 13 89 13 203
Heat transmission resistation interior R _{si} : Exterior R _{se} : Description of building assembly High Performance Retrofit - Foundation Orientation of building assembly (or R _{si}) Adjacent to (or R _{se}) Area section 1 1/2" Drywall 3-1/2" Fibreglass batt insulation 1/2" Air gap 8" Concrete foundation 2" EPS type ii	0.13 0.13 0.13 0.13 2-Wall 2-Ground λ [W/(mK)] 0.180 0.054 0.079 2.300 0.036	m²K/W m²K/W Area section 2 (optional)	λ [W/(mK)]	Total thicknes U-value [W	Assembly n 02 insulation? t [W/(m²K)]	0.197 o. 2ud Thickness [m 13 89 13 203 51
Heat transmission resistation interior R _{si} : Exterior R _{se} : Description of building assembly High Performance Retrofit - Foundation Orientation of building assembly (or R _{si}) Adjacent to (or R _{se}) Area section 1 1/2" Drywall 3-1/2" Fibreglass batt insulation 1/2" Air gap 8" Concrete foundation 2" EPS type ii	0.13 0.13 0.13 0.13 2-Wall 2-Ground λ [W/(mK)] 0.180 0.054 0.079 2.300 0.036	m²K/W m²K/W Area section 2 (optional) 2x4 framing @ 24" o.c.	λ [W/(mK)]	Total thicknes U-value [W Interior i U-value supplement Area section 3 (optional)	Assembly n 02 insulation? t [W/(m²K)]	0.197 o. 2ud Thickness [m 13 89 13 203 51
Heat transmission resistation interior R _{si} : Exterior R _{se} : Description of building assembly High Performance Retrofit - Foundation Orientation of building assembly (or R _{si}) Adjacent to (or R _{se}) Area section 1 1/2" Drywall 3-1/2" Fibreglass batt insulation 1/2" Air gap 8" Concrete foundation 2" EPS type ii 2" EPS type ii	2-Wall 2-Ground	m²K/W m²K/W Area section 2 (optional)	λ [W/(mK)]	Total thicknes U-value [W	Assembly n 02 insulation? t [W/(m²K)]	0.197 o. 2ud Thickness [m 13 89 13 203 51
Heat transmission resistation interior R _{si} : Exterior R _{se} : Description of building assembly High Performance Retrofit - Foundation Orientation of building assembly (or R _{si}) Adjacent to (or R _{se}) Area section 1 1/2" Drywall 3-1/2" Fibreglass batt insulation 1/2" Air gap 8" Concrete foundation 2" EPS type ii 2" EPS type ii	2-Wall 2-Ground	m²K/W m²K/W Area section 2 (optional) 2x4 framing @ 24" o.c. Percentage of sec. 2:	λ [W/(mK)]	Total thicknes U-value [W Interior i U-value supplement Area section 3 (optional)	Assembly no 02 insulation? t [W/(m²K)] : [W/(m²K)]	0.197 o. 2ud Thickness [m 13 89 13 203 51
Heat transmission resistatinterior R _{si} : Exterior R _{se} : Description of building assembly High Performance Retrofit - Foundation Orientation of building assembly (or R _{si}) Adjacent to (or R _{se}) Area section 1 1/2" Drywall 3-1/2" Fibreglass batt insulation 1/2" Air gap 8" Concrete foundation 2" EPS type ii 2" EPS type ii Percentage of sec. 1:	2-Wall 2-Ground	m²K/W m²K/W Area section 2 (optional) 2x4 framing @ 24" o.c. Percentage of sec. 2:	λ [W/(mK)]	Interior i U-value supplement Area section 3 (optional) Percentage of sec. 3:	Assembly n 02 insulation? t [W/(m²K)] λ [W/(mK)] sss [cm]:	0.197 o. 2ud Thickness [m 13 89 13 203 51 51 42.0

Description of building assembly					Assembly r	10.
High Performance Retrofit - Header					C	3ud
Orientation of building assembly (or R _{si})	2 Wall	<u> </u>		Interior	insulation?	
Adjacent to (or R _{se})		-		U-value supplemen		
Area section 1		Area section 2 (optional)	3 [\M//mK\]	Area section 3 (optional)	- , ,-	Thickness [mi
1/2" Dywall	λ [W/(mK)]	Area section 2 (optional)	λ [vv/(IIIK)]	Area section 3 (optional)	λ [vv/(IIIK)]	13
1/2" Fibreglass batt insulation	0.160					13
-						-
3" Wood header	0.130					76
1/2" OSB sheathing	0.130					13
2" Rockwool ComfortBoard 80	0.033					51
2" Rockwool ComfortBoard 80	0.033					51
Percentage of sec. 1:	100%	Percentage of sec. 2:		Percentage of sec. 3:		
Interior R _{si} . Exterior R _{se} .		m²K/W m²K/W		U-value [\	V /(m²K)]:	0.230
		-		U-value [\	N/(m²K)]:	
Exterior R _{se}		-		U-value [\	Assembly r	
Exterior R _{se} Description of building assembly High Performance Retrofit - Slab	0.13	-			Assembly r	10.
	0.13 3-Floor	-		Interior	Assembly r	no. 14ud
Description of building assembly High Performance Retrofit - Slab Orientation of building assembly (or R _{sl}) Adjacent to (or R _{se})	3-Floor 2-Ground	m²K/W	λ.[W/(mK)]	Interior U-value supplemen	Assembly r	no. I4ud
Description of building assembly	3-Floor 2-Ground λ [W/(mK)]	-	λ [W/(mK)]	Interior	Assembly r	no. 14ud Thickness [m
Description of building assembly High Performance Retrofit - Slab Orientation of building assembly (or R _{si}) Adjacent to (or R _{se}) Area section 1 3/4" Plywood	3-Floor 2-Ground \(\lambda\) [W/(mK)] 0.130	m²K/W	λ [W/(mK)]	Interior U-value supplemen	Assembly r	no. I4ud
Description of building assembly High Performance Retrofit - Slab Orientation of building assembly (or R _{si}) Adjacent to (or R _{se}) Area section 1 3/4" Plywood 2" EPS type ii	3-Floor 2-Ground λ [W/(mK)] 0.130 0.036	m²K/W	λ [W/(mK)]	Interior U-value supplemen	Assembly r	Thickness [mi
Description of building assembly High Performance Retrofit - Slab Orientation of building assembly (or R _{si}) Adjacent to (or R _{se}) Area section 1 3/4" Plywood 2" EPS type ii 2" EPS type ii	3-Floor 2-Ground λ [W/(mK)] 0.130 0.036 0.036	m²K/W	λ [W/(mK)]	Interior U-value supplemen	Assembly r	Thickness [mi 20 51 51
Description of building assembly High Performance Retrofit - Slab Orientation of building assembly (or R _{si}) Adjacent to (or R _{se}) Area section 1 3/4" Plywood 2" EPS type ii	3-Floor 2-Ground λ [W/(mK)] 0.130 0.036	m²K/W	λ [W/(mK)]	Interior U-value supplemen	Assembly r	Thickness [mi
Description of building assembly High Performance Retrofit - Slab Orientation of building assembly (or R _{si}) Adjacent to (or R _{se}) Area section 1 3/4" Plywood 2" EPS type ii 2" EPS type ii	3-Floor 2-Ground λ [W/(mK)] 0.130 0.036 0.036	m²K/W	λ [W/(mK)]	Interior U-value supplemen	Assembly r	Thickness [m 20 51 51
Description of building assembly High Performance Retrofit - Slab Orientation of building assembly (or R _{si}) Adjacent to (or R _{se}) Area section 1 3/4" Plywood 2" EPS type ii 2" EPS type ii	3-Floor 2-Ground λ [W/(mK)] 0.130 0.036 0.036	m²K/W	λ [W/(mK)]	Interior U-value supplemen	Assembly r	Thickness [mi 20 51 51
Description of building assembly High Performance Retrofit - Slab Orientation of building assembly (or R _{si}) Adjacent to (or R _{se}) Area section 1 3/4" Plywood 2" EPS type ii 2" EPS type ii	3-Floor 2-Ground λ [W/(mK)] 0.130 0.036 0.036	m²K/W	λ [W/(mK)]	Interior U-value supplemen	Assembly r	Thickness [mi 20 51 51
Description of building assembly High Performance Retrofit - Slab Orientation of building assembly (or R _{si}) Adjacent to (or R _{se}) Area section 1 3/4" Plywood 2" EPS type ii 2" EPS type ii 4" Concrete slab	3-Floor 2-Ground λ [W/(mK)] 0.130 0.036 0.036 2.300	Area section 2 (optional)	λ [W/(mK)]	Interior U-value supplement Area section 3 (optional)	Assembly in C	Thickness [mi 20 51 51
Description of building assembly High Performance Retrofit - Slab Orientation of building assembly (or R _{si}) Adjacent to (or R _{se}) Area section 1 3/4" Plywood 2" EPS type ii 2" EPS type ii	3-Floor 2-Ground λ [W/(mK)] 0.130 0.036 0.036	m²K/W	λ [W/(mK)]	Interior U-value supplemen	Assembly in C	Thickness [m 20 51 51
Description of building assembly High Performance Retrofit - Slab Orientation of building assembly (or R _{si}) Adjacent to (or R _{se}) Area section 1 3/4" Plywood 2" EPS type ii 2" EPS type ii 4" Concrete slab	3-Floor 2-Ground \(\lambda\) [W/(mK)] 0.130 0.036 0.036 2.300	Area section 2 (optional) Percentage of sec. 2:	λ [W/(mK)]	Interior U-value supplement Area section 3 (optional) Percentage of sec. 3:	Assembly in Control of the Control o	Thickness [m 20 51 102
Description of building assembly High Performance Retrofit - Slab Orientation of building assembly (or R _{si}) Adjacent to (or R _{se}) Area section 1 3/4" Plywood 2" EPS type ii 2" EPS type ii 4" Concrete slab	3-Floor 2-Ground \(\lambda\) [W/(mK)] 0.130 0.036 0.036 2.300	Area section 2 (optional) Percentage of sec. 2:	λ [W/(mK)]	Interior U-value supplement Area section 3 (optional)	Assembly in Control of the Control o	Thickness [m 20 51 51

ASSEMBLY VALUES

	U - Value	R - Value	RSI
Wall Assembly	0.197	28.82	5.076
Foundation	0.203	27.97	4.926
Window Header	0.230	24.69	4.348
Slab	0.312	18.2	3.205

NOTES:

Project No.



A

Notes

Project North



Scale

High-Perform. Retrofit

D1.2
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