J-values of building	g asse	mblies		Passive House wi	th PHPP V	ersion 10.6 EN
Climate: PHPP-Standard / TFA: 0 m² / Ov	erheating: %	/ PER: 0 kWh/(m²a)				
	-		Show spe	ecial cases and secondary ca	lculations	on the right -
Description of building assembly					Assembly n	10
Net Zero Retrofit - Wall						1ud
THE ZEIG FRENCH WAII						iuu
Orientation of building assembly (or R <sub>si</sub> )	2-Wall			Interior	insulation?	
Adjacent to (or R <sub>se</sub> )	3-Ventilated			U-value supplemen	it [W/(m²K)]	
Area section 1	λ [W/(mK)]	Area section 2 (optional)	λ [W/(mK)]	Area section 3 (optional)	λ [W/(mK)]	Thickness [mm]
1/2" Drywall	0.180					13
3-1/2" Old cavity insulation	0.055	2x4 framing @ 16" o.c.	0.130			89
1/2" Wood slat sheathing	0.130					13
1-1/2" Cellulose	0.039	1-1/2" exterior frame	0.130			38
4-1/2" Cellulose	0.039					114
1-1/2" Cellulose	0.039	1-1/2" exterior frame	0.130			38
Percentage of sec. 1:	91%	Percentage of sec. 2:	9.4%	Percentage of sec. 3:		
Heat transmission resista	nce coefficients	-		Total thickne	ess [cm]:	30.5
Heat transmission resista Interior R <sub>si</sub> :	0.13	m²K/W				
		1		Total thickne U-value [V		
Interior R <sub>si</sub> :	0.13	m²K/W				
Interior R <sub>si</sub> : Exterior R <sub>se</sub> :	0.13	m²K/W				
$\begin{array}{c} \text{Interior $R_{si}$:} \\ \text{Exterior $R_{sc}$:} \\ \\ \text{Description of building assembly} \end{array}$	0.13	m²K/W			V/(m <sup>2</sup> K)]:	<b>0.154</b>
Interior R <sub>si</sub> : Exterior R <sub>se</sub> :	0.13	m²K/W			V/(m <sup>2</sup> K)]:	0.154
$\begin{array}{c} \text{Interior $R_{si}$:} \\ \text{Exterior $R_{se}$:} \\ \\ \text{Description of building assembly} \\ \\ \text{Net Zero Retrofit - Foundation} \\ \end{array}$	0.13 0.13	m²K/W		U-value [V	V/(m²K)]: Assembly n	<b>0.154</b>
	0.13 0.13	m²K/W		U-value [V	Assembly n 0 insulation?	<b>0.154</b>
	0.13 0.13 2-Wall 2-Ground	m²K/W m²K/W		U-value [V	Assembly n  O  insulation?	0.154
	0.13 0.13 2-Wall 2-Ground \$\triangle [W/(mK)]	m²K/W	λ [W/(mK)]	U-value [V	Assembly n  O  insulation?	0.154
	0.13 0.13  2-Wall  2-Ground  \$\lambda [W/(mK)]  0.180	m²K/W m²K/W  Area section 2 (optional)		U-value [V	Assembly n  O  insulation?	0.154  io. 2ud  Thickness [mm
Interior R <sub>si</sub> :  Exterior R <sub>se</sub> :  Description of building assembly  Net Zero Retrofit - Foundation  Orientation of building assembly (or R <sub>si</sub> )  Adjacent to (or R <sub>se</sub> )  Area section 1  1/2" Drywall  3-1/2" Fibreglass batt insulation	0.13 0.13 2-Wall 2-Ground λ [W/(mK)] 0.180 0.054	m²K/W m²K/W	λ [W/(mK)]	U-value [V	Assembly n  O  insulation?	0.154  io. 2ud  Thickness [mm  13  89
Interior R <sub>si</sub> : Exterior R <sub>se</sub> :  Description of building assembly  Net Zero Retrofit - Foundation  Orientation of building assembly (or R <sub>si</sub> )  Adjacent to (or R <sub>se</sub> )  Area section 1  1/2" Drywall  3-1/2" Fibreglass batt insulation  2" EPS type ii	0.13 0.13 2-Wall 2-Ground $\lambda$ [W/(mK)] 0.180 0.054 0.036	m²K/W m²K/W  Area section 2 (optional)		U-value [V	Assembly n  O  insulation?	0.154  10. 2ud  Thickness [mm 13 89 51
Interior R <sub>si</sub> :  Exterior R <sub>se</sub> :  Description of building assembly  Net Zero Retrofit - Foundation  Orientation of building assembly (or R <sub>si</sub> )  Adjacent to (or R <sub>se</sub> )  Area section 1  1/2" Drywall  3-1/2" Fibreglass batt insulation  2" EPS type ii  2" EPS type ii	0.13 0.13 2-Wall 2-Ground $\lambda$ [W/(mK)] 0.180 0.054 0.036 0.036	m²K/W m²K/W  Area section 2 (optional)		U-value [V	Assembly n  O  insulation?	0.154  10. 2ud  Thickness [mm 13 89 51 51
Interior R <sub>si</sub> : Exterior R <sub>se</sub> :  Description of building assembly  Net Zero Retrofit - Foundation  Orientation of building assembly (or R <sub>si</sub> )  Adjacent to (or R <sub>se</sub> )  Area section 1  1/2" Drywall  3-1/2" Fibreglass batt insulation  2" EPS type ii	0.13 0.13 2-Wall 2-Ground $\lambda$ [W/(mK)] 0.180 0.054 0.036	m²K/W m²K/W  Area section 2 (optional)		U-value [V	Assembly n  O  insulation?	0.154  10. 2ud  Thickness [mm 13 89 51
Interior R <sub>si</sub> :  Exterior R <sub>se</sub> :  Description of building assembly  Net Zero Retrofit - Foundation  Orientation of building assembly (or R <sub>si</sub> )  Adjacent to (or R <sub>se</sub> )  Area section 1  1/2" Drywall  3-1/2" Fibreglass batt insulation  2" EPS type ii  2" EPS type ii	0.13 0.13 2-Wall 2-Ground $\lambda$ [W/(mK)] 0.180 0.054 0.036 0.036	m²K/W m²K/W  Area section 2 (optional)		U-value [V	Assembly n  O  insulation?	0.154  10. 2ud  Thickness [mm 13 89 51 51
Interior R <sub>si</sub> :  Exterior R <sub>se</sub> :  Description of building assembly  Net Zero Retrofit - Foundation  Orientation of building assembly (or R <sub>si</sub> )  Adjacent to (or R <sub>se</sub> )  Area section 1  1/2" Drywall  3-1/2" Fibreglass batt insulation  2" EPS type ii  2" EPS type ii	0.13 0.13 2-Wall 2-Ground $\lambda$ [W/(mK)] 0.180 0.054 0.036 0.036	m²K/W m²K/W  Area section 2 (optional)		U-value [V	Assembly n  O  insulation?	0.154  10. 2ud  Thickness [mm 13 89 51 51
Interior R <sub>si</sub> :  Exterior R <sub>se</sub> :  Description of building assembly  Net Zero Retrofit - Foundation  Orientation of building assembly (or R <sub>si</sub> )  Adjacent to (or R <sub>se</sub> )  Area section 1  1/2" Drywall  3-1/2" Fibreglass batt insulation  2" EPS type ii  2" EPS type ii	0.13 0.13 2-Wall 2-Ground $\lambda$ [W/(mK)] 0.180 0.054 0.036 0.036	m²K/W m²K/W  Area section 2 (optional)		U-value [V	Assembly n  O  insulation?	0.154  10. 2ud  Thickness [mm 13 89 51 51
Interior R <sub>si</sub> :  Exterior R <sub>se</sub> :  Description of building assembly  Net Zero Retrofit - Foundation  Orientation of building assembly (or R <sub>si</sub> )  Adjacent to (or R <sub>se</sub> )  Area section 1  1/2" Drywall  3-1/2" Fibreglass batt insulation  2" EPS type ii  2" EPS type ii	0.13 0.13 2-Wall 2-Ground $\lambda$ [W/(mK)] 0.180 0.054 0.036 0.036	m²K/W m²K/W  Area section 2 (optional)		U-value [V	Assembly n  O  insulation?	0.154  10. 2ud  Thickness [mm 13 89 51 51
Interior R <sub>si</sub> : Exterior R <sub>se</sub> :  Description of building assembly  Net Zero Retrofit - Foundation  Orientation of building assembly (or R <sub>si</sub> )  Adjacent to (or R <sub>se</sub> )  Area section 1  1/2" Drywall  3-1/2" Fibreglass batt insulation  2" EPS type ii  2" EPS type ii  8" Concrete foundation	0.13 0.13 2-Wall 2-Ground λ [W/(mK)] 0.180 0.054 0.036 0.036 2.300	m²K/W m²K/W  Area section 2 (optional)  2x4 framing @ 24" o.c.	0.130	U-value [V  Interior U-value supplement Area section 3 (optional)  Percentage of sec. 3:	Assembly n 0 insulation? it [W/(mK)]	0.154  10. 2ud  Thickness [mm 13 89 51 51 203
Interior R <sub>si</sub> : Exterior R <sub>se</sub> :  Description of building assembly  Net Zero Retrofit - Foundation  Orientation of building assembly (or R <sub>si</sub> )  Adjacent to (or R <sub>se</sub> )  Area section 1  1/2" Drywall  3-1/2" Fibreglass batt insulation  2" EPS type ii  2" EPS type ii  8" Concrete foundation	0.13 0.13 0.13 2-Wall 2-Ground \$\lambda[W/(mK)]\$ 0.180 0.054 0.036 0.036 2.300	m²K/W m²K/W  Area section 2 (optional)  2x4 framing @ 24" o.c.  Percentage of sec. 2:	0.130	U-value [V  Interior  U-value supplement  Area section 3 (optional)	Assembly n 0 insulation? it [W/(mK)]	0.154  no. 2ud  Thickness [mm] 13 89 51 51
Interior R <sub>si</sub> : Exterior R <sub>se</sub> :  Description of building assembly  Net Zero Retrofit - Foundation  Orientation of building assembly (or R <sub>si</sub> )  Adjacent to (or R <sub>se</sub> )  Area section 1  1/2" Drywall  3-1/2" Fibreglass batt insulation  2" EPS type ii  2" EPS type ii  8" Concrete foundation  Percentage of sec. 1:	0.13 0.13 0.13 2-Wall 2-Ground \$\lambda[W/(mK)]\$ 0.180 0.054 0.036 0.036 2.300	m²K/W m²K/W  Area section 2 (optional)  2x4 framing @ 24" o.c.  Percentage of sec. 2:	0.130	U-value [V  Interior U-value supplement Area section 3 (optional)  Percentage of sec. 3:	Assembly r 0 insulation? it [W/(m²K)] λ [W/(mK)]	0.154  no. 2ud  Thickness [mm] 13 89 51 51 203

## **ASSEMBLY VALUES**

	U - Value	R - Value	RSI
Wall Assembly	0.154	36.87	6.494
Foundation	0.214	26.53	4.673
Window Header	0.170	33.40	5.882
Slab	0.310	18.32	3.226
Roof	0.124	45.79	8.065

Description of building assembly  Net Zero Retrofit - Header					Assembly n	3ud
NOT ZETO NETIONE - FIEAUET					1 0.	Juu
		I				
Orientation of building assembly (or $R_{\rm si}$ )					insulation?	
Adjacent to (or R <sub>se</sub> )	3-Ventilated			U-value supplemen	nt [W/(m²K)]	
Area section 1	λ [W/(mK)]	Area section 2 (optional)	λ [W/(mK)]	Area section 3 (optional)	λ [W/(mK)]	Thickness [n
1/2" Drywall	0.180					13
1/2" Old cavity insulation	0.055					13
3" Wood header	0.130					76
*	0.130					13
1/2" Wood slat sheathing						
1-1/2" Cellulose	0.039	1-1/2" exterior frame	0.130			38
4-1/2" Cellulose	0.039					114
1-1/2" Cellulose	0.039	1-1/2" exterior frame	0.130			38
Percentage of sec. 1:	91%	Percentage of sec. 2:	9.4%	Percentage of sec. 3:		
Heat transmission resista	nce coefficients			Total thickne	ess [cm]:	30.5
Interior R <sub>si</sub> :	0.13	m²K/W				00.0
Exterior R <sub>se</sub> -	0.13	m²K/W		U-value [V	N//m2K\1.	0.470
Exterior N <sub>Se</sub> .	0.13	THI-K/VV		O-value [v	w/(III-K)]:	0.170
Description of building assembly					Assembly n	0.
Net Zero Retrofit - Slab					0-	4ud
Orientation of building assembly (or R <sub>si</sub> )	3-Floor			Interior	insulation?	
Adjacent to (or R <sub>se</sub> )	2-Ground			U-value supplemer	nt [W/(m²K)]	
Area section 1	λ [W/(mK)]	Area section 2 (optional)	λ [W//mK)]	Area section 3 (optional)		Thickness [n
3/4" Plywood	0.130	l lieu eeelen 2 (epilena)	/ [**/(III*/)]	/ nea coach o (opnomal)	/ [**/(III.t/)]	20
		0/4-0	0.400			
3/4" EPS between strips	0.036	3/4x3 embeded plywood	0.130			20
3-1/4" EPS	0.036					83
4" Concrete slab	2.300					102
Percentage of sec. 1:	100%	Percentage of sec. 2:		Percentage of sec. 3:		
Heat transmission resista	nce coefficients	<u> </u>		Total thickne	ess [cm]:	22.5
Interior R <sub>si</sub> :	0.17	m²K/W			·	
Exterior R <sub>se</sub> :	0.00	m²K/W		U-value [V	V/(m²K)]:	0.310
		1		•	` '2	01010
Description of building assembly					Assembly n	
Net Zero Retrofit - Roof					0	5ud
		1				
Orientation of building assembly (or $R_{\text{si}}$ )				Interior	insulation?	
Adjacent to (or R <sub>se</sub> )	3-Ventilated			U-value supplemen	nt [W/(m²K)]	
Area section 1	λ [W/(mK)]	Area section 2 (optional)	λ [W/(mK)]	Area section 3 (optional)	λ [W/(mK)]	Thickness [n
1/2" Drywall	0.180		,-			13
Empty attic cavity - average	0.000					610
1/2" Plywood sheathing						13
1/2 Flywood Sticatillid	0.130	4.0/40::-: 1	0.400			
		1-3/4" i-joist cord	0.130			44
1-3/4" Cellulose	0.039	,				213
1-3/4" Cellulose 8-3/8" Cellulose	0.039					2.10
1-3/4" Cellulose		1-3/4" i-joist cord	0.130			44
1-3/4" Cellulose 8-3/8" Cellulose	0.039		0.130			
1-3/4" Cellulose 8-3/8" Cellulose	0.039		0.130			
1-3/4" Cellulose 8-3/8" Cellulose 1-3/4" Cellulose	0.039 0.039	1-3/4" i-joist cord	0.130	Porconters of sec. 2		
1-3/4" Cellulose 8-3/8" Cellulose	0.039		0.130	Percentage of sec. 3:		
1-3/4" Cellulose 8-3/8" Cellulose 1-3/4" Cellulose	0.039 0.039	1-3/4" i-joist cord	0.130	· ·		44
1-3/4" Cellulose 8-3/8" Cellulose 1-3/4" Cellulose	0.039	1-3/4" i-joist cord  Percentage of sec. 2:	0.130	Percentage of sec. 3:		
1-3/4" Cellulose 8-3/8" Cellulose 1-3/4" Cellulose Percentage of sec. 1:	0.039	1-3/4" i-joist cord  Percentage of sec. 2:	0.130	· ·	ess [cm]:	93.7



Revisions

Notes



Scale

Net-Zero Retrofit

D1.7