NET ZERO STEEL STUD - DETAIL SET

l-values of building	g asse	emblies		Passive House wi		
Climate: PHPP-Standard / TFA: 0 m² / Ov	verheating: %					
			Show sp	ecial cases and secondary ca	lculations	on the right
Description of building assembly					Assembly n	10
Net Zero Steel Stud Exterior Insulation	- Wall					1ud
Orientation of building assembly (or R_{si})				Interior	insulation?	
Adjacent to (or R _{se})	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 [m
1/2" Drywall	0.180					13
3-1/2" Structrue - service cavity	0.483	2x4 steel stud @ 16" o.c.	50.000			89
1/2" Plywood sheathing	0.130					13
2" GPS exterior insulation	0.030					51
2" GPS exterior insulation	0.030					51
Percentage of sec. 1:	100%	Percentage of sec. 2:	0.0%	Percentage of sec. 3:		
Heat transmission resista Interior R _{si} . Exterior R _{se} :	0.13 0.13	m²K/W m²K/W		Total thickne		21.7
Interior R _{se} :	0.13	m²K/W				
$\begin{array}{c} \text{Interior } R_{si}. \\ \\ \text{Exterior } R_{se}. \end{array}$ Description of building assembly	0.13 0.13	m²K/W m²K/W			V/(m²K)]:	0.249
Interior R _{se} :	0.13 0.13	m²K/W m²K/W			V/(m²K)]:	0.249
Interior R _{si} : Exterior R _{se} : Description of building assembly Net Zero Steel Stud Exterior Insulation	0.13 0.13	m²K/W m²K/W		U-value [V	V/(m²K)]:	0.249
	0.13 0.13 - Foundation 2-Wall	m²K/W m²K/W		U-value [V	V/(m²K)]: Assembly n 0 insulation?	0.249
	0.13 0.13 - Foundation 2-Wall 2-Ground	m²K/W m²K/W	∂ IW/(mK)	U-value [V	Assembly n Or insulation? It [W/(m²K)]:	0.249
Interior R _{si} : Exterior R _{se} : Description of building assembly Net Zero Steel Stud Exterior Insulation Orientation of building assembly (or R _{si}) Adjacent to (or R _{se}) Area section 1	0.13 0.13 - Foundation 2-Wall 2-Ground λ [W/(mK)]	m²K/W m²K/W	λ [W/(mK)]	U-value [V	Assembly n Or insulation? It [W/(m²K)]:	0.249 io. 2ud Thickness [mr
	0.13 0.13 - Foundation 2-Wall 2-Ground	m²K/W m²K/W	λ [W/(mK)]	U-value [V	Assembly n Or insulation? It [W/(m²K)]:	0.249 10. 2ud
Interior R _{si} : Exterior R _{se} : Description of building assembly Net Zero Steel Stud Exterior Insulation Orientation of building assembly (or R _{si}) Adjacent to (or R _{se}) Area section 1 1/2" Drywall	0.13 0.13 - Foundation 2-Wall 2-Ground λ [W/(mK)] 0.180	m²K/W m²K/W	λ [W/(mK)]	U-value [V	Assembly n Or insulation? It [W/(m²K)]:	0.249 io. 2ud Thickness [mr
Interior R _{si} : Exterior R _{se} : Description of building assembly Net Zero Steel Stud Exterior Insulation Orientation of building assembly (or R _{si}) Adjacent to (or R _{se}) Area section 1 1/2" Drywall 2-3/4" Quadlock ICF - EPS 8" Concrete foundation	0.13 0.13 - Foundation 2-Wall 2-Ground λ [W/(mK)] 0.180 0.036	m²K/W m²K/W	λ [W/(mK)]	U-value [V	Assembly n Or insulation? It [W/(m²K)]:	0.249 io. 2ud Thickness [mi 13 70
Interior R _{si} : Exterior R _{se} : Description of building assembly Net Zero Steel Stud Exterior Insulation Orientation of building assembly (or R _{si}) Adjacent to (or R _{se}) Area section 1 1/2" Drywall 2-3/4" Quadlock ICF - EPS	0.13 0.13 - Foundation 2-Wall 2-Ground \(\lambda \text{[W/(mK)]}\) 0.180 0.036 2.300	m²K/W m²K/W	λ [W/(mK)]	U-value [V	Assembly n Or insulation? It [W/(m²K)]:	0.249 o. 2ud Thickness [mi 13 70 203
Interior R _{si} : Exterior R _{se} : Description of building assembly Net Zero Steel Stud Exterior Insulation Orientation of building assembly (or R _{si}) Adjacent to (or R _{se}) Area section 1 1/2" Drywall 2-3/4" Quadlock ICF - EPS 8" Concrete foundation	0.13 0.13 - Foundation 2-Wall 2-Ground \(\lambda \text{[W/(mK)]}\) 0.180 0.036 2.300	m²K/W m²K/W Area section 2 (optional)	λ [W/(mK)]	U-value [V Interior U-value supplement Area section 3 (optional)	Assembly n Or insulation? It [W/(m²K)]:	0.249 o. 2ud Thickness [mi 13 70 203
Interior R _{se} : Exterior R _{se} : Description of building assembly Net Zero Steel Stud Exterior Insulation Orientation of building assembly (or R _{se}) Adjacent to (or R _{se}) Area section 1 1/2" Drywall 2-3/4" Quadlock ICF - EPS 8" Concrete foundation 2-3/4" Quadlock ICF - EPS	0.13 0.13 - Foundation 2-Wall 2-Ground λ [W/(mK)] 0.180 0.036 2.300 0.036	m²K/W m²K/W	λ [W/(mK)]	U-value [V	Assembly n Or insulation? It [W/(m²K)]:	0.249 o. 2ud Thickness [mi 13 70 203
Interior R _{se} : Exterior R _{se} : Description of building assembly Net Zero Steel Stud Exterior Insulation Orientation of building assembly (or R _{se}) Adjacent to (or R _{se}) Area section 1 1/2" Drywall 2-3/4" Quadlock ICF - EPS 8" Concrete foundation 2-3/4" Quadlock ICF - EPS	0.13 0.13 - Foundation 2-Wall 2-Ground λ [W/(mK)] 0.180 0.036 2.300 0.036	m²K/W m²K/W Area section 2 (optional) Percentage of sec. 2:	λ [W/(mK)]	U-value [V Interior U-value supplement Area section 3 (optional)	Assembly n 0 insulation? at [W/(mK)]	0.249 o. 2ud Thickness [mi 13 70 203
Interior R _{si} : Exterior R _{se} : Description of building assembly Net Zero Steel Stud Exterior Insulation Orientation of building assembly (or R _{si}) Adjacent to (or R _{se}) Area section 1 1/2" Drywall 2-3/4" Quadlock ICF - EPS 8" Concrete foundation 2-3/4" Quadlock ICF - EPS	0.13 0.13 - Foundation 2-Wall 2-Ground λ [W/(mK)] 0.180 0.036 2.300 0.036	m²K/W m²K/W Area section 2 (optional) Percentage of sec. 2:	λ [W/(mK)]	Interior U-value supplemer Area section 3 (optional) Percentage of sec. 3:	Assembly n 0 insulation? at [W/(mK)]	0.249 10.22ud Thickness [mt 13 70 203 70

Description of building assembly					Assembly	no.
Net Zero Steel Stud Exterior Insulation	- Header				()3ud
Orientation of building assembly (or R _{si})		-			r insulation?	
Adjacent to (or R _{se})				U-value suppleme	- , ,-	
Area section 1	λ [W/(mK)]	Area section 2 (optional)	λ [W/(mK)]	Area section 3 (optional)	λ [W/(mK)]	Thickness
1/2" Drywall	0.180					13
3-1/2" Structure -service cavity	0.483	2x4 steel stud @ 16" o.c.	50.000			89
1/2" Plywood sheathing	0.130					13
2" GPS exterior insulation	0.030					51
2" GPS exterior insulation	0.030					51
Percentage of sec. 1:	91%	Percentage of sec. 2:	9.4%	Percentage of sec. 3	:	
Exterior R _{se} :	0.13	m²K/W		U-value [۱	W/(m²K)]:	0.25
Description of building assembly		m²K/W		U-value (\	Assembly	no.
		m²K/W		U-value [۱	Assembly	
Description of building assembly Net Zero Steel Stud Exterior Insulation	- Slab	m²K/W			Assembly	no.)4ud
Description of building assembly Net Zero Steel Stud Exterior Insulation Orientation of building assembly (or R _{si})	- Slab	m²K/W		Interio	Assembly (no.)4ud
Description of building assembly Net Zero Steel Stud Exterior Insulation	- Slab 3-Floor 2-Ground		λ [W/(mK)]	Interio U-value suppleme	Assembly (r insulation? nt [W/(m²K)]	no.)4ud
Description of building assembly Net Zero Steel Stud Exterior Insulation Orientation of building assembly (or R _{si}) Adjacent to (or R _{se})	- Slab	m²K/W Area section 2 (optional)	λ [W/(mK)]	Interio	Assembly (r insulation? nt [W/(m²K)]	no.)4ud
Description of building assembly Net Zero Steel Stud Exterior Insulation Orientation of building assembly (or R _{si}) Adjacent to (or R _{se}) Area section 1 4" Concrete	- Slab 3-Floor 2-Ground λ [W/(mK)]		λ [W/(mK)]	Interio U-value suppleme	Assembly (r insulation? nt [W/(m²K)]	no.)4ud
Description of building assembly Net Zero Steel Stud Exterior Insulation Orientation of building assembly (or R _{si}) Adjacent to (or R _{se}) Area section 1	- Slab 3-Floor 2-Ground λ [W/(mK)] 2.300		λ [W/(mK)]	Interio U-value suppleme	Assembly (r insulation? nt [W/(m²K)]	no.)4ud Thickness
Description of building assembly Net Zero Steel Stud Exterior Insulation Orientation of building assembly (or R _{si}) Adjacent to (or R _{so}) Area section 1 4" Concrete 2" EPS type ii	- Slab 3-Floor 2-Ground λ [W/(mK)] 2.300 0.036		λ [W/(mK)]	Interio U-value suppleme	Assembly (r insulation? nt [W/(m²K)]	Thickness
Description of building assembly Net Zero Steel Stud Exterior Insulation Orientation of building assembly (or R _{si}) Adjacent to (or R _{so}) Area section 1 4" Concrete 2" EPS type ii	- Slab 3-Floor 2-Ground λ [W/(mK)] 2.300 0.036		λ [W/(mK)]	Interio U-value suppleme	Assembly (r insulation? nt [W/(m²K)]	Thickness
Description of building assembly Net Zero Steel Stud Exterior Insulation Orientation of building assembly (or R _{si}) Adjacent to (or R _{so}) Area section 1 4" Concrete 2" EPS type ii	- Slab 3-Floor 2-Ground λ [W/(mK)] 2.300 0.036		λ [W/(mK)]	Interio U-value suppleme	Assembly (r insulation? nt [W/(m²K)]	no.)4ud Thickness 102 51
Description of building assembly Net Zero Steel Stud Exterior Insulation Orientation of building assembly (or R _{si}) Adjacent to (or R _{so}) Area section 1 4" Concrete 2" EPS type ii	- Slab 3-Floor 2-Ground λ [W/(mK)] 2.300 0.036		λ [W/(mK)]	Interio U-value suppleme	Assembly (r insulation? nt [W/(m²K)]	Thickness
Description of building assembly Net Zero Steel Stud Exterior Insulation Orientation of building assembly (or R _{si}) Adjacent to (or R _{so}) Area section 1 4" Concrete 2" EPS type ii	- Slab 3-Floor 2-Ground λ [W/(mK)] 2.300 0.036		λ [W/(mK)]	Interio U-value suppleme	Assembly (r insulation? nt [W/(m²K)]	no.)4ud Thickness 102 51
Description of building assembly Net Zero Steel Stud Exterior Insulation Orientation of building assembly (or R _{si}) Adjacent to (or R _{so}) Area section 1 4" Concrete 2" EPS type ii	- Slab 3-Floor 2-Ground λ [W/(mK)] 2.300 0.036		λ [W/(mK)]	Interio U-value suppleme	Assembly (r insulation? nt [W/(m²K)]	Thickness
Description of building assembly Net Zero Steel Stud Exterior Insulation Orientation of building assembly (or R _{si}) Adjacent to (or R _{se}) Area section 1 4" Concrete 2" EPS type ii 2" EPS type ii	- Slab 3-Floor 2-Ground \(\lambda \text{[W/(mK)]}\) 2.300 0.036 0.036	Area section 2 (optional)	λ [W/(mK)]	Interio U-value suppleme Area section 3 (optional)	Assembly (r insulation? nt [W/(m²K)]	no.)4ud Thickness 102 51
Description of building assembly Net Zero Steel Stud Exterior Insulation Orientation of building assembly (or R _{si}) Adjacent to (or R _{se}) Area section 1 4" Concrete 2" EPS type ii 2" EPS type ii	- Slab 3-Floor 2-Ground \(\lambda \text{[W/(mK)]}\) 2.300 0.036 0.036	Area section 2 (optional) Percentage of sec. 2:	λ [W/(mK)]	Interio U-value suppleme Area section 3 (optional)	Assembly (r insulation? nt [W/(m²K)] λ [W/(mK)]	102 51
Description of building assembly Net Zero Steel Stud Exterior Insulation Orientation of building assembly (or R _{si}) Adjacent to (or R _{se}) Area section 1 4" Concrete 2" EPS type ii 2" EPS type ii Percentage of sec. 1:	- Slab 3-Floor 2-Ground \(\lambda \text{[W/(mK)]}\) 2.300 0.036 0.036	Area section 2 (optional) Percentage of sec. 2:	λ [W/(mK)]	Interio U-value suppleme Area section 3 (optional) Percentage of sec. 3	Assembly (r insulation? nt [W/(m²K)] λ [W/(mK)]	Thickness 102 51 51

ASSEMBLY VALUES

	U - Value	R - Value	RSI
Wall Assembly	0.249	22.80	4.016
Foundation	0.239	23.76	4.184
Window Header	0.249	22.80	4.016
Slab	0.328	17.31	3.049

NOTES:



Revisions

Notes

1. . 2. . 3.

roject North



Scale

Net-Zero Steel Stud

D1.6
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