

## ENVELOPE COMPLIANCE SUMMARY

2018 WSEC Compliance Forms for Commercial Buildings including Group R2, R3 & R4 over 3 stories and all R1

Administered by: ©2024 NEEA, All rights reserved

<b>Project &amp; Applicant Information</b>	<b>Project Title</b>	Freeman Logistics - Bld B - 2018 WSEC	For Building Department Use:	<b>Date:</b> Jan 17, 2024
	<b>Project Address</b>	4801 FREEMAN RD E Puyallup, WA 98371		
	<b>Applicant Name</b>	Randy Brown		
	<b>Applicant Phone</b>	206-228-8000		
	<b>Applicant Email</b>	Randy.Brown@Synthesispllc.com		
For questions about this report, contact WSEC Commercial Technical Support at 360-539-5300 or via email at com.techsupport@waenergycodes.com				

<b>General Occupancy</b>	All Commercial	<b>General Building Use Type(s)</b>	Warehouse, General Storage	<b>Building Cond. Floor Area</b>	255,580
<b>Project Scope</b>	New Building	<b>Space Conditioning Categories</b>	Semi-heated	<b>Project Cond. Floor Area</b>	255,580
				<b>Floors Above Grade</b>	1
				<b>Compliance Method</b>	Compliance Method 1 - General
<b>Envelope Project Description</b>	New semi-heated building: Wood sheathed roof with rigid insulation entirely above deck, concrete tilt walls, concrete slab floor. Higher R value overhead doors.				

Envelope Compliance Scope and Method	Scope	Space Conditioning Category	Compliance Method	WWR/SRR per Category	UA Calculation Adjustment	Fenestration Alternates	Compliance Verification
	New Building	Semi-heated	Component performance	4.73% / 1.20%	None selected	No alternates selected	COMPLIES

<b>Air Barrier Testing</b>	Air barrier testing included in project scope	<b>Air Barrier Comments</b>
----------------------------	---	-----------------------------

<b>Project Title</b>	Freeman Logistics - Bld B - 2018 WSEC	<b>Date</b>	Jan 17, 2024		
<b>Scope &amp; Space Conditioning</b>	NEW BUILDING - SEMI-HEATED		<b>Compliance Verification</b>	COMPLIES	
<b>Window-to-wall Ratio</b>	4.73%	<b>Skylight-to-roof-ratio</b>	1.20%	<b>Vertical Fenestration Alternate</b>	No alternates selected

Opaque Envelope Assemblies								
				Insulation R-Values				
Walls - Semi-heated Space	Location in Documents	Assembly ID	Assembly Location	Cavity	Continuous (% penetration)	Insulated Wall Furring	U-Factor	Net Area (SF)
Mass wall - Commercial	A2.1 & A2.2		Yes		()		U-0.104	85,667
Roof/Ceiling	Location in Documents	Assembly ID	Assembly Location	Cavity	Continuous (% penetration)	2nd Layer (MB Roof)	U-Factor	Net Area (SF)
Insulation entirely above deck	A4.2, A4.3 & A4.4	Insulation Entirely Above Deck	Exterior		R-32 (< 0.04%)		U-0.031	253,399
U-Factor Source: WSEC Appendix A				U-Factor Source Description: TABLE A102.2.6(1)				
Is this assembly exterior or interior?: Exterior								
Slab-on-grade Floors	Location in Documents	Assembly ID	Assembly Location	Slab Edge	Under Slab		F-Factor	Perimeter Length (SF)
Unheated slab	A2.1	uninsulated slab on grade	At grade level	R-0	R-0		F-0.73	2,491
Slab Insulation Method: Uninsulated slab				F-Factor Source: WSEC Appendix A				
F-Factor Source Description: Table A106.1								

Fenestration & Opaque Door Assemblies								
				Insulation R-Values				
Opaque Doors	Location in Documents	Assembly ID	Assembly Location	Door Insulation			U-Factor	Rough Opening (SF)
Swinging	A2.1 & A3.1	All man doors 21(3x7) +2(3x8)	Exterior	R-0			U-0.37	558
What percentage of this opaque door is glazing?: 50% or less				U-Factor Source: WSEC Appendix A				
U-Factor Source Description: Table A107.1(1)				Is this assembly exterior or interior?: Exterior				
Is this a public entrance door?: No								

Garage, Sectional	A2.1, A3.1	All Dock Doors 40(9x10)	Exterior	R-16			U-0.062	3,600
	What percentage of this opaque door is glazing?: 50% or less			U-Factor Source: Other U-Factor Source				
	U-Factor Source Description: Manufacturer			Is this assembly exterior or interior?: Exterior				
Garage, Sectional	G1.1, A2.1,A3.1	Grade Doors 2(12x14)	Exterior	R-16			U-0.063	336
	What percentage of this opaque door is glazing?: 50% or less			U-Factor Source: Other U-Factor Source				
	U-Factor Source Description: Manufacturer			Is this assembly exterior or interior?: Exterior				
<b>Vertical Fenestration</b>	<b>Location in Documents</b>	<b>Assembly ID</b>	<b>Assembly Location</b>	<b>Shading (PF)</b>	<b>Fenestration SHGC</b>	<b>Fenestration U-Factor</b>	<b>Rough Opening (SF)</b>	
Fixed - Class AW or site built	A2.1 & A3.1	North Facing	Exterior		PF < 0.2	SHGC-0.38	U-0.35	818
	U-Factor & SHGC Source: Other Source			U-Factor Source Description: Manufacturer				
	Is this assembly exterior or interior?: Exterior							
Fixed - Class AW or site built	A2.1, A2.2 & A3.1	East, West & South Facing	Exterior		PF < 0.2	SHGC-0.38	U-0.35	3,564
	U-Factor & SHGC Source: Other Source			U-Factor Source Description: Manufacturer				
	Is this assembly exterior or interior?: Exterior							
<b>Glazed Doors</b>	<b>Location in Documents</b>	<b>Assembly ID</b>	<b>Assembly Location</b>	<b>Shading (PF)</b>	<b>Fenestration SHGC</b>	<b>Fenestration U-Factor</b>	<b>Rough Opening (SF)</b>	
Swinging entrance door	A2.1, A3.1	North Facing	Exterior		PF < 0.2	SHGC-0.38	U-0.6	48
	U-Factor & SHGC Source: Other Source			U-Factor Source Description: Manufacturer				
	Is this assembly exterior or interior?: Exterior			Is this a public entrance door?: Yes				
	Door enclosed within a vestibule?: No vestibule							
Swinging entrance door	A2.1 & A3.2	South Facing door	Exterior		PF < 0.2	SHGC-0.38	U-0.6	48
	U-Factor & SHGC Source: Other Source			U-Factor Source Description: Manufacturer				
	Is this assembly exterior or interior?: Exterior			Is this a public entrance door?: Yes				
	Door enclosed within a vestibule?: No vestibule							
<b>Skylights</b>	<b>Location in Documents</b>	<b>Assembly ID</b>	<b>Assembly Location</b>			<b>Fenestration SHGC</b>	<b>Fenestration U-Factor</b>	<b>Rough Opening (SF)</b>
All types	A2.3	96(4*8)	Exterior			SHGC-0.35	U-0.35	3,072
	U-Factor & SHGC Source: Other Source			U-Factor Source Description: Manufacturer				
	Is this assembly exterior or interior?: Exterior							

Project Title					Date		
Freeman Logistics - Bld B - 2018 WSEC					Jan 17, 2024		
U x A Calculation		NEW BUILDING - SEMI-HEATED			COMPLIES		
Opaque Envelope Assemblies		PROPOSED			TARGET		
Walls - Semi-heated Space	Assembly ID	Default U-Factor	Net Area (SF)	U x A	Default U-Factor	Net Area (SF)	U x A
Mass wall - Commercial		0.104	85,667.0	8,909.4	0.104	85,667.0 (1)	8,909.4
Roof/Ceiling	Assembly ID	Roof/Ceiling Assembly U-Factor	Net Area (SF)	U x A	Roof/Ceiling Assembly U-Factor	Net Area (SF)	U x A
Insulation entirely above deck	Insulation Entirely Above Deck	0.031	253,399.0	7,855.4	0.027	253,399.0 (1)	6,841.8
Slab on Grade Floors		PROPOSED			TARGET		
Slab-on-grade Floors	Assembly ID	F-Factor	Perimeter Length (LF)	U x A	F-Factor	Perimeter Length (LF)	U x A
Unheated slab	uninsulated slab on grade	0.73	2,490.5	1,818.1	0.54	2,490.5 (1)	1,344.9
Fenestration and Opaque Door Assemblies		PROPOSED			TARGET		
Opaque Doors	Assembly ID	Door Assembly U-Factor	Rough Opening (SF)	U x A	Door Assembly U-Factor	Rough Opening (SF)	U x A
Swinging	All man doors 21(3x7) +2(3x8)	0.37	558.0	206.5	0.37	558.0 (1)	206.5
Garage, Sectional	All Dock Doors 40(9x10)	0.062	3,600.0	223.2	0.31	3,600.0 (1)	1,116.0
Garage, Sectional	Grade Doors 2(12x14)	0.063	336.0	21.2	0.31	336.0 (1)	104.2
Vertical Fenestration	Assembly ID	Fenestration Assembly U-Factor	Rough Opening (SF)	U x A	Fenestration Assembly U-Factor	Rough Opening (SF)	U x A
Fixed - Class AW or site built	North Facing	0.35	818.0	286.3	0.38	818.0 (1)	310.8
Fixed - Class AW or site built	East, West & South Facing	0.35	3,564.0	1,247.4	0.38	3,564.0 (1)	1,354.3
Glazed Doors	Assembly ID	Door Assembly U-Factor	Rough Opening (SF)	U x A	Door Assembly U-Factor	Rough Opening (SF)	U x A
Swinging entrance door	North Facing	0.6	48.0	28.8	0.60	48.0 (1)	28.8
Swinging entrance door	South Facing door	0.6	48.0	28.8	0.60	48.0 (1)	28.8
Skylights	Assembly ID	Skylight Assembly U-Factor	Rough Opening (SF)	U x A	Skylight Assembly U-Factor	Rough Opening (SF)	U x A
All types	96(4*8)	0.35	3,072.0	1,075.2	0.50	3,072.0 (1)	1,536.0
Project Totals		Proposed Area	Proposed UxA	Target Area	Target UxA		
		353,601	21,700	353,601	21,781		



Project Title		Freeman Logistics - Bld B - 2018 WSEC					Date	Jan 17, 2024	
SHGC x A Calculation		NEW BUILDING - SEMI-HEATED					COMPLIES		
Fenestration and Opaque Door Assemblies					PROPOSED			TARGET	
Glazed Doors	Assembly ID	PF	Glazed Door SHGC	Rough Opening (SF)	SHGC x A	Glazed Door SHGC	Rough Opening (SF)	SHGC x A	
Swinging entrance door	South Facing door	PF < 0.2	0.38	48.0	18.2	0.38	48.0 (1)	18.2	
Swinging entrance door	North Facing	PF < 0.2	0.38	48.0	18.2	0.51	48.0 (1)	24.5	
Horizontal					PROPOSED			TARGET	
	Assembly ID	PF	Skylight SHGC	Rough Opening (SF)	SHGC x A	Skylight SHGC	Rough Opening (SF)	SHGC x A	
Skylights	96(4*8)		0.35	3,072.0	1,075.2	0.35	3,072.0 (1)	1,075.2	
Vertical Fenestration					PROPOSED			TARGET	
	Assembly ID	PF	Fenestration SHGC	Rough Opening (SF)	SHGC x A	Fenestration SHGC	Rough Opening (SF)	SHGC x A	
Fixed - Class AW or site built	East, West & South Facing	PF < 0.2	0.38	3,564.0	1,354.3	0.38	3,564.0 (1)	1,354.3	
Fixed - Class AW or site built	North Facing	PF < 0.2	0.38	818.0	310.8	0.51	818.0 (1)	417.2	
		Proposed Area		Proposed SHGC x A		Target Area		Target SHGC x A	
Project Totals		12,028		4,478		12,028		4,704	