

## ENVELOPE COMPLIANCE SUMMARY

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

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<b>Project &amp; Applicant Information</b>	<b>Project Title</b>	Freeman Logistics - Bld A - 2018 WSEC	For Building Department Use:	<b>Date:</b> Jan 17, 2024
	<b>Project Address</b>	2303 N FREEMAN RD 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>	232,857
<b>Project Scope</b>	New Building	<b>Space Conditioning Categories</b>	Semi-heated	<b>Project Cond. Floor Area</b>	232,857
				<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	5.22% / 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>
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<b>Project Title</b>	Freeman Logistics - Bld A - 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>	5.22%	<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	Mass Walls	Yes		()		U-0.104	72,537
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	G1.1, A4.3, A4.4	Insulation Entirely Above Deck	Exterior		R-32 (< 0.04%)		U-0.031	230,073
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	Field	At grade level	R-0	R-0		F-0.73	2,102
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 18(3x7) +1 (3x8)	Exterior	R-0			U-0.37	459
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	G1.1, A2.1, A3.2	All Dock Doors 28(9x10)	Exterior	R-16			U-0.063	3,060
	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, A3.2	Grade Doors 1(12x14)	Exterior	R-16			U-0.063	168
	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	A4.1, G1.1	East, West & South	Exterior		PF < 0.2	SHGC-0.38	U-0.35	3,334
	U-Factor & SHGC Source: NFRC Rating			U-Factor Source Description: Manufacturer				
	Is this assembly exterior or interior?: Exterior							
Fixed - Class AW or site built	A2.1, A2.2 & A3.2	North window	Exterior		PF < 0.2	SHGC-0.38	U-0.35	772
	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	South main entrance	Exterior		$0.2 \leq PF < 0.5$	SHGC-0.38	U-0.60	48
	U-Factor & SHGC Source: NFRC Rating			U-Factor Source Description: Manufacturer				
	Is this assembly exterior or interior?: Exterior			Is this a public entrance door?: Yes				
	Door enclosed within a vestibule?: Yes							
Swinging entrance door	A2.1	North main entrance door	Exterior		$0.2 \leq PF < 0.5$	SHGC-0.38	U-0.60	48
	U-Factor & SHGC Source: NFRC Rating			U-Factor Source Description: Manufacturer				
	Is this assembly exterior or interior?: Exterior			Is this a public entrance door?: Yes				
	Door enclosed within a vestibule?: Yes							
<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	G1.1, A2.1	87(4*8)	Exterior			SHGC-0.35	U-0.35	2,784
	U-Factor & SHGC Source: NFRC Rating			U-Factor Source Description: Manufacturer				
	Is this assembly exterior or interior?: Exterior							

Project Title					Date		
Freeman Logistics - Bld A - 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	Mass Walls	0.104	72,537.0	7,543.8	0.104	72,537.0 (1)	7,543.8
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	230,073.0	7,132.3	0.027	230,073.0 (1)	6,212.0
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	Field	0.73	2,102.0	1,534.5	0.54	2,102.0 (1)	1,135.1
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 18(3x7) +1 (3x8)	0.37	459.0	169.8	0.37	459.0 (1)	169.8
Garage, Sectional	All Dock Doors 28(9x10)	0.063	3,060.0	192.8	0.31	3,060.0 (1)	948.6
Garage, Sectional	Grade Doors 1(12x14)	0.063	168.0	10.6	0.31	168.0 (1)	52.1
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	East, West & South	0.35	3,334.0	1,166.9	0.38	3,334.0 (1)	1,266.9
Fixed - Class AW or site built	North window	0.35	772.0	270.2	0.38	772.0 (1)	293.4
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	South main entrance	0.60	48.0	28.8	0.60	48.0 (1)	28.8
Swinging entrance door	North main entrance door	0.60	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	87(4*8)	0.35	2,784.0	974.4	0.50	2,784.0 (1)	1,392.0
Project Totals		Proposed Area	Proposed UxA	Target Area	Target UxA		
		315,385	19,053	315,385	19,071		



Project Title		Freeman Logistics - Bld A - 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 main entrance	0.2 ≤ PF < 0.5	0.38	48.0	18.2	0.46	48.0 (1)	22.1	
Swinging entrance door	North main entrance door	0.2 ≤ PF < 0.5	0.38	48.0	18.2	0.56	48.0 (1)	26.9	
Horizontal	Assembly ID	PF	Skylight SHGC	Rough Opening (SF)	SHGC x A	Skylight SHGC	Rough Opening (SF)	SHGC x A	
Skylights	87(4*8)		0.35	2,784.0	974.4	0.35	2,784.0 (1)	974.4	
Vertical Fenestration	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	PF < 0.2	0.38	3,334.0	1,266.9	0.38	3,334.0 (1)	1,266.9	
Fixed - Class AW or site built	North window	PF < 0.2	0.38	772.0	293.4	0.51	772.0 (1)	393.7	
		Proposed Area	Proposed SHGC x A		Target Area	Target SHGC x A			
<b>Project Totals</b>		<b>11,188</b>	<b>4,168</b>		<b>11,188</b>	<b>4,394</b>			