

ENVELOPE COMPLIANCE SUMMARY

2021 WSEC Compliance Forms for Commercial Buildings including Group R2, R3 & R4 over 3 stories and all R1

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Project & Applicant Information	Project Title	WSF-International Village - 2021 WSEC	For Building Department Use: <div>PRCNC20241090 - Revision #4</div>	Date: Mar 19, 2025 
	Project Address	110 9TH AVE SW Puyallup, WA 98371		
	Applicant Name	Song Cho		
	Applicant Phone	509-432-4651		
	Applicant Email	songyi.cho@hotmail.com		
For questions about this report, contact WSEC Commercial Technical Support at 360-539-5300 or via email at com.techsupport@waenergycodes.com				

General Occupancy	All Commercial	General Building Use Type(s)	Dining, Restaurant/Bar	Building Cond. Floor Area	9,205
Project Scope	New Building	Space Conditioning Categories	Fully Conditioned Walk-in Cooler Walk-in Freezer	Project Cond. Floor Area	9,205
				Floors Above Grade	2
				Compliance Method	General Prescriptive
Envelope Project Description	Demo existing building and construct a new building				

Envelope Compliance Scope and Method	Scope	Space Conditioning Category	Compliance Method	WWR/SRR per Category	UA Calculation Adjustment	Fenestration Alternates	Compliance Verification
	New Building	Walk-in Freezer	Prescriptive	NA	No Calculation Adjustments allowed	NA	COMPLIES
	New Building	Walk-in Cooler	Prescriptive	NA	No Calculation Adjustments allowed	NA	COMPLIES
	New Building	Fully Conditioned	Component performance	0.22% / 0%	None selected	No alternates selected	COMPLIES

Additional Energy Efficiency (AEC) Measures Included	No envelope or miscellaneous additional energy efficiency measures included in project	Load Management (LDM) Measures Included	No envelope or miscellaneous load management measures included in project
Air Barrier Testing	Standard building thermal envelope test	Air Barrier Comments	

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Scope & Space Conditioning	NEW BUILDING - WALK-IN FREEZER				Compliance Verification	COMPLIES
Window-to-wall Ratio	NA	Skylight-to-roof-ratio	NA	Vertical Fenestration Alternate	NA	

Opaque Envelope Assemblies								
				Insulation R-Values				
Roof/Ceiling	Location in Documents	Assembly ID	Assembly Location	Cavity	Continuous (% penetration)	2nd Layer (MB Roof)	U-Factor	Net Area (SF)
Walk-in freezer ceiling	K Sheet	K Sheet	Interior partition		R-32 (< 0.04%)			223
	Envelope assembly type:			U-Factor Source:				
	U-Factor Source Description:							
Walls	Location in Documents	Assembly ID	Assembly Location	Cavity	Continuous (% penetration)	Insulated Wall Furring	U-Factor	Net Area (SF)
Walk-in freezer wall	K Sheet	K Sheet	Interior partition		R-32 (< 0.04%)			490
	Envelope assembly type:			U-Factor Source:				
	U-Factor Source Description:							
Floors and Edges	Location in Documents	Assembly ID	Assembly Location	Cavity	Continuous (% penetration)		U-Factor	Net Area (SF)
Walk-in freezer integral floor	K Sheet	K Sheet	Interior partition		R-28 (< 0.04%)			223
	U-Factor Source:			U-Factor Source Description:				
Fenestration & Opaque Door Assemblies								
				Insulation R-Values				
Opaque Doors	Location in Documents	Assembly ID	Assembly Location	Door Insulation			U-Factor	Rough Opening (SF)

Walk-in freezer door	K Sheet	K Sheet	Interior partition	R-32				21
	U-Factor Source:			U-Factor Source Description:				
	Does opaque freezer door have glazing?: No							

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Scope & Space Conditioning	NEW BUILDING - WALK-IN COOLER				Compliance Verification		COMPLIES	
Window-to-wall Ratio	NA	Skylight-to-roof-ratio		NA	Vertical Fenestration Alternate		NA	

Opaque Envelope Assemblies								
				Insulation R-Values				
Roof/Ceiling	Location in Documents	Assembly ID	Assembly Location	Cavity	Continuous (% penetration)	2nd Layer (MB Roof)	U-Factor	Net Area (SF)
Walk-in cooler ceiling	K Sheet	K Sheet	Interior partition		R-25 (< 0.04%)			290
	Envelope assembly type:			U-Factor Source:				
	U-Factor Source Description:							
Walls	Location in Documents	Assembly ID	Assembly Location	Cavity	Continuous (% penetration)	Insulated Wall Furring	U-Factor	Net Area (SF)
Walk-in cooler wall	K Sheet	K Sheet	Interior partition		R-25 (< 0.04%)			520
	Envelope assembly type:			U-Factor Source:				
	U-Factor Source Description:							
Floors and Edges	Location in Documents	Assembly ID	Assembly Location	Cavity	Continuous (% penetration)		U-Factor	Net Area (SF)
Walk-in cooler integral floor	K Sheet	K Sheet	Interior partition		R-25 (< 0.04%)			290
	U-Factor Source:			U-Factor Source Description:				
Slab-on-grade Floors	Location in Documents	Assembly ID	Assembly Location	Slab Edge	Under Slab		F-Factor	Perimeter Length (SF)
Walk-in cooler slab-on-grade floor	K Sheet	K Sheet						
	Applying slab-on-grade floor exception?: No							

Fenestration & Opaque Door Assemblies								
				Insulation R-Values				
Opaque Doors	Location in Documents	Assembly ID	Assembly Location	Door Insulation			U-Factor	Rough Opening (SF)
Walk-in cooler door	K Sheet	K Sheet	Interior partition	R-25				21
	U-Factor Source:			U-Factor Source Description:				
	Does opaque cooler door have glazing?: No							

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Scope & Space Conditioning	NEW BUILDING - FULLY CONDITIONED				Compliance Verification		COMPLIES	
Window-to-wall Ratio	0.22%	Skylight-to-roof-ratio		0%	Vertical Fenestration Alternate		No alternates selected	

Opaque Envelope Assemblies								
				Insulation R-Values				
Roof/Ceiling	Location in Documents	Assembly ID	Assembly Location	Cavity	Continuous (% penetration)	2nd Layer (MB Roof)	U-Factor	Net Area (SF)
Metal building (purlins)	Main Kitchen + 2nd floor	1/A4.1	Exterior	R-13	R-16 (< 0.04%)	R-0	U-0.040	7,085
	Thermal Spacer Block R-Value: R-0			U-Factor Source:				
	U-Factor Source Description:			Roof Framing Depth (Inches):				
	Roof Framing Spacing (OC):			Is liner system included?: No				
Metal building (purlins)	2nd Floor Deck	2/A4.1	Exterior	R-13	R-16 (< 0.04%)	R-0	U-0.040	2,543
	Thermal Spacer Block R-Value: R-0			U-Factor Source:				
	U-Factor Source Description:			Roof Framing Depth (Inches):				

	Roof Framing Spacing (OC):			Is liner system included?: No				
Walls	Location in Documents	Assembly ID	Assembly Location	Cavity	Continuous (% penetration)	Insulated Wall Furring	U-Factor	Net Area (SF)
Steel-framed - Commercial	E03-Main Kitchen + 2nd floor	1/A4.1	Exterior	R-21	R-10 (< 0.04%)		U-0.050	7,252
	U-Factor Source:			U-Factor Source Description:				
	Framing Depth:			Other Framing Depth:				
	Framing Spacing (OC):							
Steel-framed - Commercial	E01-Satellite Kitchen	A4.1~4.2	Exterior	R-21	R-10 (< 0.04%)		U-0.050	4,347
	U-Factor Source:			U-Factor Source Description:				
	Framing Depth:			Other Framing Depth:				
	Framing Spacing (OC):							
Steel-framed - Commercial	A2.1 - BATHROOM WALL & A4.2	A4.2	Exterior	R-21	R-10 (< 0.04%)		U-0.050	2,053
	U-Factor Source:			U-Factor Source Description:				
	Framing Depth:			Other Framing Depth:				
	Framing Spacing (OC):							
Mass (precast concrete) - Commercial	6" Stem wall above FF	1/A4.1	Exterior & above grade		R-10 (< 0.04%)	No	U-0.07	2,053
	Does assembly include insulated wall furring?: No			Other Framing Depth:				
	Framing Spacing (OC):			U-Factor Source:				
	U-Factor Source Description:							
Floors and Edges	Location in Documents	Assembly ID	Assembly Location	Cavity	Continuous (% penetration)		U-Factor	Net Area (SF)
Wood-framing/joist	A2.2 & A4.3 - Hall 215	2/A4.3	Exterior	R-38	(< 0.04%)		U-0.026	208
	U-Factor Source:			U-Factor Source Description:				
	Floor Framing Type (Joist, Post & Beam):			Framing Depth:				
	Other Framing Depth:			Framing Spacing (OC):				
Wood-framing/joist	A2.2 & 2/A4.3 - Str 211	2/A4.3	Exterior	R-38	(< 0.04%)		U-0.026	20
	U-Factor Source:			U-Factor Source Description:				
	Floor Framing Type (Joist, Post & Beam):			Framing Depth:				
	Other Framing Depth:			Framing Spacing (OC):				
Slab-on-grade Floors	Location in Documents	Assembly ID	Assembly Location	Slab Edge	Under Slab		F-Factor	Perimeter Length (SF)
Unheated slab	A4	A4	At grade level	R-10			F-0.56	707
	Slab Insulation Method: 2 ft vertical (from top of slab downward)			F-Factor Source:				
	F-Factor Source Description:							
Fenestration & Opaque Door Assemblies								
				Insulation R-Values				
Opaque Doors	Location in Documents	Assembly ID	Assembly Location	Door Insulation			U-Factor	Rough Opening (SF)
Swinging	A7	A7	Exterior				U-0.30	378
	What percentage of this opaque door is glazing?: 50% or less			U-Factor Source:				
	U-Factor Source Description:			Is this a public entrance door?:				
Vertical Fenestration	Location in Documents	Assembly ID	Assembly Location		Shading (PF)	Fenestration SHGC	Fenestration U-Factor	Rough Opening (SF)
Fixed - All other types	A2	A7	Exterior		PF < 0.2	SHGC-0.38	U-0.26	35
	U-Factor & SHGC Source:			U-Factor Source Description:				

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U x A Calculation		NEW BUILDING - FULLY CONDITIONED				COMPLIES		
Opaque Envelope Assemblies			PROPOSED			TARGET		
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	
Metal building (purlins)	1/A4.1	0.040	7,085.0	283.4	0.031	7,085.0 (1)	219.6	
Metal building (purlins)	2/A4.1	0.040	2,543.0	101.7	0.031	2,543.0 (1)	78.8	
Walls	Assembly ID	Wall Assembly U-factor	Net Area (SF)	U x A	Wall Assembly U-factor	Net Area (SF)	U x A	
Steel-framed - Commercial	1/A4.1	0.050	7,252.0	362.6	0.055	7,252.0 (1)	398.9	
Steel-framed - Commercial	A4.1~4.2	0.050	4,347.0	217.4	0.055	4,347.0 (1)	239.1	
Steel-framed - Commercial	A4.2	0.050	2,053.0	102.7	0.055	2,053.0 (1)	112.9	
Mass (precast concrete) - Commercial	1/A4.1	0.07	2,053.0	143.7	0.104	2,053.0 (1)	213.5	
Floors and Edges	Assembly ID	Floor Assembly U-Factor	Net Area (SF)	U x A	Floor Assembly U-Factor	Net Area (SF)	U x A	
Wood-framing/joist	2/A4.3	0.026	208.0	5.4	0.029	208.0 (1)	6.0	
Wood-framing/joist	2/A4.3	0.026	20.0	0.5	0.029	20.0 (1)	0.6	
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	A4	0.56	707.0	395.9	0.54	707.0 (1)	381.8	
Fenestration Assemblies		PROPOSED			TARGET			
Opaque Doors	Assembly ID	Door Assembly U-Factor	Assembly Rough Opening (SF)	U x A	Door Assembly U-Factor	Assembly Rough Opening (SF)	U x A	
Swinging	A7	0.30	378.0	113.4	0.37	378.0 (1)	139.9	
Vertical Fenestration	Assembly ID	Fenestration U-Factor	Assembly Rough Opening (SF)	U x A	Fenestration U-Factor	Assembly Rough Opening (SF)	U x A	
Fixed - All other types	A7	0.26	35.0	9.1	0.26	35.0 (1)	9.1	
	Proposed Area		Proposed UxA		Target Area		Target UxA	
Project Totals	26,681		1,736		26,681		1,800	

Project Title	WSF-International Village - 2021 WSEC					Date	Mar 19, 2025	
SHGC x A Calculation		NEW BUILDING - FULLY CONDITIONED				COMPLIES		
Fenestration Assemblies			PROPOSED			TARGET		
Vertical Fenestration	Assembly ID	PF	Fenestration SHGC	Assembly Rough Opening (SF)	SHGC x A	Fenestration SHGC	Assembly Rough Opening (SF)	SHGC x A
Fixed - All other types	A7	PF < 0.2	0.38	35.0	13.3	0.38	35.0 (1)	13.3
	Proposed Area		Proposed SHGC x A			Target Area		Target SHGC x A
Project Totals	35		13			35		13