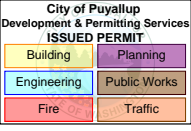
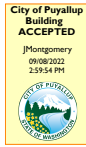


ENVELOPE COMPLIANCE SUMMARY

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

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Project & Applicant Information 	Project Title	Pierce College New STEM Building - 2018 WSEC	For Building Department Use: THE APPROVED CONSTRUCTION PLANS, DOCUMENTS AND ALL ENGINEERING MUST BE POSTED ON THE JOB AT ALL INSPECTIONS IN A VISIBLE AND READILY ACCESSIBLE LOCATION. FULL SIZED LEDGIBLE COLOR PLANS ARE REQUIRED TO BE PROVIDED BY THE PERMITEE ON SITE FOR INSPECTION		Date: Jun 30, 2022
	Project Address	1601 39th Ave SE Puyallup, WA 98374			
	Applicant Name	Sara Wilder			
	Applicant Phone	206-250-8721			
	Applicant Email	swilder@integrusarch.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	Education, College/University	Building Cond. Floor Area	53,997
Project Scope	New Building	Space Conditioning Categories	Fully Conditioned	Project Cond. Floor Area	53,997
				Floors Above Grade	3
				Compliance Method	Compliance Method 1 - General
Envelope Project Description	54,000 SF building with labs, classrooms, faculty and student spaces.				

Envelope Compliance Scope and Method	Scope	Space Conditioning Category	Compliance Method	WWR/SRR per Category	UA Calculation Adjustment	Fenestration Alternates	Compliance Verification
	New Building	Fully Conditioned	Component performance	25.47% / 0.85%	Enhanced envelope option (UA 15% lower than WSEC target)	No alternates selected	COMPLIES

Air Barrier Testing	Air barrier testing included in project scope	Air Barrier Comments	
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Project Title	Pierce College New STEM Building - 2018 WSEC				Date	Jun 30, 2022
Scope & Space Conditioning	NEW BUILDING - FULLY CONDITIONED				Compliance Verification	COMPLIES
Window-to-wall Ratio	25.47%	Skylight-to-roof-ratio	0.85%	Vertical Fenestration Alternate	No alternates selected	

Opaque Envelope Assemblies								
Roof/Ceiling	Location in Documents	Assembly ID	Assembly Location	Cavity	Insulation R-Values		U-Factor	Net Area (SF)
					Continuous (% penetration)	2nd Layer (MB Roof)		
Insulation entirely above deck	Plans: A104, Types: A011	R1	Exterior		R-94.4 (< 0.04%)		U-0.010	15,580
	U-Factor Source: WSEC Appendix A			U-Factor Source Description: calculated via components from table A101.5 & assumes JohnsManville flat energy 3 polyisocyanurate r				
	Is this assembly exterior or interior?: Exterior							
Insulation entirely above deck	Plans: A104, Types: A011	R2 - tapered	Exterior		R-94 (< 0.04%)		U-0.006	4,037
	U-Factor Source: WSEC Appendix A			U-Factor Source Description: calculated per section C402.1.4 and Equation d. under table A102.2.6.1				
	Is this assembly exterior or interior?: Exterior							
Walls	Location in Documents	Assembly ID	Assembly Location	Cavity	Continuous (% penetration)	Insulated Wall Furring	U-Factor	Net Area (SF)
Steel-framed - Commercial	Plans: A100 - A103, Types: A011	S8.CB	Exterior	R-25	R-12 (< 0.04%)		U-0.063	482
	U-Factor Source: Computed			U-Factor Source Description: Per calculation method for steel framed walls C402.1.5.1 method #6				
	Framing Depth: 2x8			Framing Spacing: 16" O.C.				
	Is this assembly exterior or interior?: Exterior							
Steel-framed - Commercial	Plans: A100 - A103, Types: A011	S8.MP-1 (S8.MP-2 & S8.MV-1 Similar)	Exterior	R-25	R-12 (< 0.04%)		U-0.046	26,220
	U-Factor Source: Computed			U-Factor Source Description: Per calculation method for steel framed walls C402.1.5.1 method #6				
	Framing Depth: 2x8			Framing Spacing: 16" O.C.				
	Is this assembly exterior or interior?: Exterior							

Steel-framed - Commercial	Plans: A122, Types: A011	S1 - Soffit assembly similar to S8.MP-1	Exterior	R-25	R-12 (< 0.04%)		U-0.048	1,147
	U-Factor Source: WSEC Appendix A			U-Factor Source Description: Per calculation method for steel framed walls C402.1.5.1 method #6 & Exception 1 of C402.2.5.				
	Framing Depth: 2x8			Framing Spacing: 16" O.C.				
	Is this assembly exterior or interior?: Exterior							
Steel-framed - Commercial	Plans: A100 - A103, Types: A011	S6.MP-1	Exterior	R-21	R-12 (< 0.04%)		U-0.047	270
	U-Factor Source: Computed			U-Factor Source Description: Per calculation method for steel framed walls C402.1.5.1 method #6				
	Framing Depth: 2x6			Framing Spacing: 16" O.C.				
	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	Plan A100-A101 & S100 -S101, Details: A351 & 3/S021	4" CONCRETE SLAB-ON-GRADE	At grade level	R-10	R-0		F-0.48	703
	Slab Insulation Method: 4 ft vertical (from top of slab downward)			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	Plans: A100 - A101, Types: A600, Schedule: A601, Details: A611	Hollow Metal Doors	Exterior	R-2.78			U-0.36	98
	What percentage of this opaque door is glazing?: 50% or less			U-Factor Source: Other U-Factor Source				
	U-Factor Source Description: NFRC 102-2014			Is this assembly exterior or interior?: Exterior				
	Is this a public entrance door?: No							
Vertical Fenestration	Location in Documents	Assembly ID	Assembly Location	Orientation	Shading (PF)	Fenestration SHGC	Fenestration U-Factor	Rough Opening (SF)
Fixed - Class AW or site built	Plans: A100 - A103, Types: A621, Details: A631	Type 1	Exterior	South/East/West Facing	PF < 0.2	SHGC-0.250	U-0.348	9,525
	U-Factor & SHGC Source: Other Source			U-Factor Source Description: Window Technician Calculation				
	Is this assembly exterior or interior?: Exterior							
Glazed Doors	Location in Documents	Assembly ID	Assembly Location	Orientation	Shading (PF)	Fenestration SHGC	Fenestration U-Factor	Rough Opening (SF)
Swinging entrance door	Plans: A101, Type: A600, Schedule: A601, Details: A611	Storefront Door (S101.1)	Exterior	South/East/West Facing	PF < 0.2	SHGC-0.19	U-0.580	24
	U-Factor & SHGC Source: NFRC Rating			U-Factor Source Description:				
	Is this assembly exterior or interior?: Exterior			Is this a public entrance door?: No				
Swinging entrance door	Plans: A100 - A101, Types: A600, Schedule: A601, Details: A611	Storefront Doors (V101.1, V101.2, V102)	Exterior	South/East/West Facing	PF < 0.2	SHGC-0.190	U-0.580	94
	U-Factor & SHGC Source: NFRC Rating			U-Factor Source Description: Guardian Glass w/ single low e coating on #2 surface + Kawneer 260 Insulclad thermal entrances.				
	Is this assembly exterior or interior?: Exterior			Is this a public entrance door?: Yes				
	Door enclosed within a vestibule?: Yes							
Skylights	Location in Documents	Assembly ID	Assembly Location			Fenestration SHGC	Fenestration U-Factor	Rough Opening (SF)
All types	Plans: A104, Details: A361	Skylights	Exterior			SHGC-0.025	U-0.420	168
	U-Factor & SHGC Source: NFRC Rating			U-Factor Source Description: Fakro deck mounted fixed skylight FX G3				
	Is this assembly exterior or interior?: Exterior							

Project Title		Pierce College New STEM Building - 2018 WSEC			Date	Jun 30, 2022		
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	
Insulation entirely above deck	R1	0.010	15,579.6	155.8	0.027	15,579.6 (1)	420.6	
Insulation entirely above deck	R2 - tapered	0.006	4,036.7	24.2	0.027	4,036.7 (1)	109.0	
Walls		Wall Assembly U-factor	Net Area (SF)	U x A	Wall Assembly U-factor	Net Area (SF)	U x A	
Steel-framed - Commercial	S8.CB	0.063	482.0	30.4	0.055	482.0 (1)	26.5	
Steel-framed - Commercial	S8.MP-1 (S8.MP-2 & S8.MV-1 Similar)	0.046	26,219.8	1,206.1	0.055	26,219.8 (1)	1,442.1	
Steel-framed - Commercial	S1 - Soffit assembly similar to S8.MP-1	0.048	1,146.8	55.0	0.055	1,146.8 (1)	63.1	
Steel-framed - Commercial	S6.MP-1	0.047	270.0	12.7	0.055	270.0 (1)	14.9	
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	4" CONCRETE SLAB-ON-GRADE	0.48	703.0	337.4	0.54	703.0 (1)	379.6	
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	Hollow Metal Doors	0.36	97.9	35.3	0.37	97.9 (1)	36.2	
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	Type 1	0.348	9,524.5	3,314.5	0.38	9,524.5 (1)	3,619.3	
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	Storefront Door (S101.1)	0.580	24.0	13.9	0.60	24.0 (1)	14.4	
Swinging entrance door	Storefront Doors (V101.1, V101.2, V102)	0.580	93.5	54.2	0.60	93.5 (1)	56.1	
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	Skylights	0.420	168.0	70.6	0.50	168.0 (1)	84.0	

	Proposed Area	Proposed UxA	Target Area	Target UxA	Target UxA with Adjustment
Project Totals	58,346	5,310	58,346	6,266	5,326
NOTE: Enhanced envelope credit applied - 0.85 multiplier has been applied to the Total Target UxA for exterior areas only. Refer to Target UxA with Adjustment.					

Project Title	Pierce College New STEM Building - 2018 WSEC					Date	Jun 30, 2022		
SHGC x A Calculation		NEW BUILDING - FULLY CONDITIONED				COMPLIES			
Fenestration and Opaque Door Assemblies			PROPOSED			TARGET			
Glazed Doors - South/East/West Facing	Assembly ID	PF	Glazed Door SHGC	Rough Opening (SF)	SHGC x A	Glazed Door SHGC	Rough Opening (SF)	SHGC x A	
Swinging entrance door	Storefront Door (S101.1)	PF < 0.2	0.19	24.0	4.6	0.38	24.0 (1)	9.1	
Swinging entrance door	Storefront Doors (V101.1, V101.2, V102)	PF < 0.2	0.190	93.5	17.8	0.38	93.5 (1)	35.5	
Horizontal	Assembly ID	PF	Skylight SHGC	Rough Opening (SF)	SHGC x A	Skylight SHGC	Rough Opening (SF)	SHGC x A	
Skylights	Skylights		0.025	168.0	4.2	0.35	168.0 (1)	58.8	
Vertical Fenestration - South/East/West Facing	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	Type 1	PF < 0.2	0.250	9,524.5	2,381.1	0.38	9,524.5 (1)	3,619.3	
Project Totals		Proposed Area	Proposed SHGC x A		Target Area	Target SHGC x A			
Project Totals		9,810	2,408		9,810	3,723			