Component Performance Path, pg. 1 — ENV-UA

2015 WSEC Compliance Forms for Commercial Buildings including R2, R3, & R4 over 3 stories and all R1 — Revised Oct 2017

Project Title: 1 - Fill this line out on PROJ-SUM	Date 01/01/2017
Target Insulation Allowance — Component Performance Not Selected	For Building Department Use
Calculation Adjustments — None Applied	
Fenestration Area as % gross above-grade wall area — Max. Target: 30.0%	
Skylight Area as % gross roof area — Max. Target: 5.0%	
Vertical Fenestration Alternates: — None Selected on ENV-SUM	

For Stand-alone Projects[13,14] / Existing-to-remain Areas					User Note	
	Vertical Fenestration		Net Wall			
	Skylights		Net Roof			

Building Component					Proposed UA			Target UA		
		Cavity+CI	Plan/Detail #	U-factor Source & Table # [2]	U-factor	x Area (A)	= UA (U x A)	U-factor	x Area (A) =	UA (U x A)
Roofs	Deck	R=						0.027		
		R=						Above Deck Insulation		U-0.027
		R=								
	Mtl Bld	R=						0.031		
		R=						Metal Building		U-0.031
		R=								
	Joist/Rftr	R=						0.027		
		R=						Joist/single rafter		U-0.027
		R=								
	Attic/Oth	R=						0.021		
		R=						Single raft, attic, other		U-0.021
		R=								
Opaque Walls - Above Grade[4,6]	Steel	R=						0.055		
		R=						Steel/metal frame		U-0.055
		R=								
	Mtl Bld.	R=						0.052		
		R=						Metal Building		U-0.052
		R=								
	Wood/Oth	R=						0.054		
		R=						Wood Frame, other		U-0.054
		R=								
	Mass[3]	R=						0.104		
		R=						Mass Wall		U-0.104
		R=								
	Transfer[5]	R=						0.200		
		R=						Mass Transfer Deck		U-0.20
		R=								
Group R	Mass[7]	R=						0.104		
		R=						Group R Mass Wall		U-0.078
		R=								
Below Grade Walls[4,6]	Comm	R=						0.104		
		R=						Assumed to be Mass Wall		U-0.104
		R=								
	Group R	R=						0.104		
		R=						Assumed to be Mass Wall		U-0.078
		R=								
Floors	Mass	R=						0.031		
		R=						Mass Floor		U-0.031
		R=								
	Framed	R=						0.029		
		R=						Joist/Framing		U-0.029
		R=								
						Area[1]	UA		Area[1]	UA
				Page 1 Subtotal						

Component Performance Compliance (UA) — **Component Performance Not Selected**

Component Performance Path, pg. 2 — ENV-UA

2015 WSEC Compliance Forms for Commercial Buildings including R2, R3, & R4 over 3 stories and all R1 — Revised Oct 2017

Project Title:	1 - Fill this line out on PROJ-SUM	Date	01/01/2017
Fenestration Area as % gross above-grade wall area	Max. Target: 30.0%	For Building Department Use	
Skylight Area as % gross roof area	Max. Target: 5.0%		

Building Component

		Ins. R	Plan/Detail #	F-factor Source & Table # [8]	Proposed UA F-factor	x Perimeter	= FP(F x P)	Target UA F-factor	x Perimeter =	UA (U x A)
Slab-on-grade	Unheated	R=						0.540		
		R=						Slab-On-Grade		F-0.54
		R=								
	Heated	R=						0.550		
		R=						Heated Slab-On-Grade		F-0.55
		R=								

		Schedule ID	U-factor Source [9,10]	Proposed UA U-factor	x Area (A)	= UA (U x A)	Target UA U-factor	x Area (A) =	UA (U x A)
Doors [6,9]	Swinging						0.370		
							Opaque Swing Doors		U-0.37
	Other						0.340		
							Opaque rollup & sliding		U-0.34
Vertical Fenestration [6,10]	Non-Metal						0.30		
							Non-Metal Frame		U-0.30
	Metal, fixed						0.38		
							Metal Frame, Fixed		U-0.38
	Metal, op.						0.40		
							Metal Frame, Operable		U-0.40
	Mtl entrance						0.60		
							Metal Entrance Door		U-0.60
Skylights [10]	All Types						0.50		
							All types		U-0.50

Refrigerated Space Freezer Floors

		CI	Plan/Detail #	U-factor Source & Table # [2]	Proposed UA U-factor	x Area (A)	= UA (U x A)	Target UA U-factor	x Area (A) =	UA (U x A)
Freezer Floor		R=								
		R=						Freezer Floor		
		R=								

	Area [1]	UA	Area [1]	UA
Page 2 Subtotal				
Page 1 Subtotal				
Project Total				

TO COMPLY - The Proposed Total UA shall not exceed the Target Total UA.

Component Performance Compliance (UA)

Component Performance Not Selected

Refrigerated Space Windows In Doors [11, 12]

			Plan/Detail #	Description	Cooler / Freezer	Double Pane Glass	Triple Pane Glass	Inert Gas Filled	Heat Reflective Treated Glass
Glazing in Doors	In Door								
	Reach in								

Note 1 *- If vertical fenestration or skylight area exceeds maximum allowed per C402.4.1, then Target Area Adjustment of all applicable envelope elements will be calculated automatically by the compliance form. Refer to Target Area Adjustments worksheet for this calculation.*

Note 2 *- Opaque assembly U-factors shall come from Appendix A or be calculated per approved method as specified in C402.1.5.1.*

Note 3 *- Proposed CMU mass wall in non-Group R that meet Table C402.1.4 Footnote D requirements can enter the target U-value of 0.104.*

Note 4 *- Semi-heated spaces - For spaces eligible for this wall insulation exception, the UA calculation excludes all wall assemblies. However, wall area values are required to run the window-to-wall ratio calculation. Enter into form all wall types in the semi-heated space. Enter the sf area of each wall type and enter "1" for the U-factor.*

Note 5 *- Mass transfer slab edges must be covered with an assembly having an overall U-factor of 0.2.*

Note 6 *- Demising walls, doors, and vertical fenestration separating spaces with different degrees of space conditioning (unconditioned, semi-heated, fully conditioned) shall be included only on the ENV-UA form for the space with the greatest degree of space conditioning.*

Note 7 *- List Group R above grade mass walls here. List all other above grade walls, Commercial and Group R, in the Opaque Walls - Above Grade section.*

Note 8 *- Slab-on-grade F-Factors shall come from Appendix A or calculated per approved method as specified in C402.1.5.1.*

Note 9 *- Opaque door U-factors shall come from Appendix A or calculated per approved method as specified in C402.1.5.1. A door is defined as opaque if less than 50% of the door area has glazing.*

Note 10 *- Fenestration assembly U-Factors shall be the manufacturer's NFRC product rating, which includes the glazing and frame, or shall be the default value per Section C303.1.3.*

Note 11 *- Refrigerated Coolers - Target U-factors for cooler roof, wall and door assemblies are per C410. Enter proposed information under the most similar assembly type. Target F-factors for slab-on-grade floors are per C402. Target U-factors for floors that separate a cooler from a non-cooler space (unconditioned and conditioned) are per C402. Target U-factors for vertical fenestration (not within cooler doors) are per C402. Enter only the opaque portion of refrigerated space doors. Windows within doors and reach-in display case doors shall comply with C410 prescriptive requirements.*

Note 12 *- Refrigerated Freezers - Target U-factors for freezer roof, wall and door assemblies are per C410. Enter proposed information under the most similar assembly type. Target U-factor for insulated freezer floors is per C410. Insulation is required under the entire freezer floor. Enter proposed information in the Freezer Floor section. If the freezer floor assembly rests on top of a standard floor, the vertical edge of the freezer floor shall be entered as a section of freezer wall. If freezer floor insulation is installed as integral to or applied underneath a slab-on-grade or exposed floor, this floor area shall be thermally broken from the surrounding floor. Enter proposed thermal break information in the Freezer Floor section and note it as In-Floor Thermal Break. Enter only the opaque portion of freezer doors. Windows within doors and reach-in display case doors shall comply with C410 prescriptive requirements.*

Note 13 *- Stand alone projects - Enter total existing-to-remain sf areas for net above grade walls (including opaque doors), net roof, vertical fenestration and skylights in section provided at top of ENV-UA form. Enter UA information for new envelope assemblies in Building Components section.*

Note 14 *- Addition + Existing, Alteration + Existing, Addition + Alteration + Existing projects - Enter sf areas and estimated U-factors for all existing-to-remain envelope assemblies in Building Components section. Identify these assemblies as EXISTING in U-factor Source & Table # column. Enter UA information for new addition and altered envelope assemblies in Building Components section. Existing and new information will autofill into the Vertical Fenestration and Skylight Area Calculation section of ENV-SUM as all NEW. Does not affect calculation results.*