Form 3a BUILDING	Project Name: Pag	e:
Check all boxes that apply.	 Exceptions (Section 1312) No Envelope Components. The building plans do not call for new or altered building envelope components, e.g., walls, floors or roof/ceilings. A Non-conditioned Building. The proposed structure has no spaces heated or cooled by an HVAC system. 	
Exceptions Discussion of qualifying exceptions in instructions section.	 Exception. All new or altered building envelope components do not comply with the requirements, Section 1312, but qualify for Exception:12345 Portions of the building that qualify: 	
Plans/Specs Show compliance by including a drawing sheet, detail number, specification section and/or subparagraph.	The plans/specs show compliance in the following locations: 2. Air Leakage (Section 1312.1.1) Complies. Plans require penetrations in building envelope are sealed and windows and doors are caulked, gasketed or weatherstripped.	
	Suspended Ceiling (Section 1312.1.2.1) Complies. Building plans do not show suspended ceilings used to separate conditioned space from unconditioned space. No executions permitted	
	 4. Recessed Light Fixtures (Section 1312.1.2.2) Complies. The building plans do not show recessed light fixtures installed in ceilings separating conditioned spaces from unconditioned spaces. Exception. The building plans require that fixtures installed in direct contact with insulation be insulation coverage (IC) rated. The plans/specs show compliance in the following locations: 	-
	 5. Moisture Control (Section 1312.1.4) Complies. A one-perm vapor retarder is installed on the warm side (in winter) of all exterior floors, walls and ceilings, and a ground cover installed in the crawl space of both new and existing buildings where insulation is installed. The plans/specs show compliance in the following locations: 	
	 Exception. All new or altered building envelope components do not comply with the vapor retarder requirements of the code, but qualify for an exception. Note applicable exception. Section 1312.1.4, Exception: 1 -1 -2 Portions of the building that comply: 	
Climate Zones	 6. Climate Zones Zone 1 - A building site is in Climate Zone 1 if its elevation is less than 3000 feet above sea level and it is in one of the following counties: Benton, Columbia, Clackamas, Clatsop, Coos, Curry, Douglas, Jackson, Josephine, Lane, Lincoln, Linn, Marion, Multnomah, Polk, Tillamook, Yamhill, or Washington Zone 2 - Building sites not in Zone 1, or where construction site elevation is 3000 feet or higher in Zone 1, are in Zone 2. 	-

Project Name:

Page: Part 1 of 4

				CLIMAT	E			
			Zone	🗋 -1 or 🔲 -2	2 (select one	e)		
				Exterior Wall	-			
	V	Vindow Area	a	Area		Glazing	Maxim	um Glazing
	(tota	rough fram	e ft2)	(gross ft2)		%	Fractio	n Complies
lazing	Conditioned		÷		X 100 =			
ercent	Space] -				L	
alc-	Semi-		1					
lation	Conditioned		÷		X 100 =			
e instruction	Space]				ļ	
ction for a	Conditioned		7				Γ	
azing percent	Mechanical		÷		X 100 =			
lculation.	Penthouse							
Vindows	Window	Мах	Minimum		Windo	w	Shading	Minimum
om Work-	(from Worksheet 3d)	U-Factor ¹	Assembly		(from Works	heet 3d)	Coefficient ²	Assembly
eet 30, place e highest								
verall Window	U-Value Complies		•		SC Com	plies		
ghest Center-	Required			-		-		
-Glass SC. Or	Minimum				Required M	linimum		
sembly and	Assembly (Fixed Windows)				Assem	ibly		
entify window.	Required Mini-			-				
	mum Assembly							
	(Operable Windows and							
	Curtainwall)							
	Curtainwall)	show window		in the following	locations:			
	Curtainwall)	show window	/ compliance	in the following	locations:			
	Curtainwall) The plans/specs s	show window	/ compliance	in the following	locations:			
lotes	Curtainwall) The plans/specs s	show window ace the highest O	v compliance	in the following	locations:	ee "Window Ra	equirements" in tab	ole on the
lotes	Curtainwall) The plans/specs s	show window ace the highest O ic MA requiremen ace the highest "c	verall Window U-fr ts. Excel version v	in the following actor or check (Minim will automatically inse	locations:	ee "Window Rebly requirement	equirements" in tat nts or greatest U-v	ble on the alue from
otes	Curtainwall) The plans/specs s The plans/specs s	show window ace the highest O ic MA requiremen ace the highest "c ing table for spec	verall Window U-fr ts. Excel version center-of-glass" sh ffic MA requirement	in the following actor or check (Minim will automatically inse ading coefficient (SC its. Excel version wil	locations: num Assembly). Se ert minimum assem) for glass or check I automatically inse	ee "Window Re bly requirement MA (Minimum as	equirements" in tat nts or greatest U-v n Assembly). See sembly requireme	ole on the alue from "Window nts or greatest
otes	Curtainwall) The plans/specs s	show window ace the highest O ic MA requiremen ace the highest "c ing table for speci Shading Coefficie also be used to c	verall Window U-fr ts. Excel version v center-of-glass" sh ffic MA requiremen nt (SC) can be cal locument SC.	in the following actor or check (Minim will automatically inse ading coefficient (SC its. Excel version wil culated from Solar He	locations: hum Assembly). Se ert minimum assem) for glass or check I automatically inse eat Gain Coefficien	ee "Window Re bly requirement MA (Minimum rt minimum as t using the equ	equirements" in tab nts or greatest U-v n Assembly). See isembly requireme jation: SC = SHG0	ole on the value from "Window nts or greatest C ÷ 0.87.
otes	Curtainwall) The plans/specs s The plans/specs s 1.From Worksheet 3d, pla following page for specifi 2.From Worksheet 3d, pla Require-ments" in followi SC from Worksheet 3d, S Manufacturers data may	show window ace the highest O ic MA requiremen ace the highest "c ing table for spec Shading Coefficie also be used to c	/ compliance verall Window U-f ts. Excel version center-of-glass" sh fic MA requiremen nt (SC) can be cal locument SC.	in the following actor or check (Minim will automatically inse ading coefficient (SC hts. Excel version will culated from Solar He	locations: hum Assembly). Se ert minimum assem) for glass or check I automatically inse eat Gain Coefficien B-Value	ee "Window Re bly requirement MA (Minimum ast minimum as t using the equ	equirements" in tab nts or greatest U-v n Assembly). See esembly requireme uation: SC = SHG0	ole on the alue from "Window nts or greatest C ÷ 0.87.
otes Valls	Curtainwall) The plans/specs s The plans/specs s ^{1.} From Worksheet 3d, pla following page for specifi ^{2.} From Worksheet 3d, pla Require-ments" in followi SC from Worksheet 3d, S Manufacturers data may	show window ace the highest O ic MA requiremen ace the highest "o ing table for spec Shading Coefficie also be used to c Wall / Insu	verall Window U-fr ts. Excel version center-of-glass" sh ffic MA requiremen nt (SC) can be cal locument SC.	in the following actor or check (Minim will automatically inse ading coefficient (SC its. Excel version wil culated from Solar He	Iocations: num Assembly). Se ert minimum assem) for glass or check I automatically inse eat Gain Coefficien R-Value Insulation Only	ee "Window Re bly requirement MA (Minimum rt minimum as t using the equ	equirements" in tat nts or greatest U-v a Assembly). See sembly requireme Jation: SC = SHGC U-Factor ³	ole on the ralue from "Window nts or greatest C ÷ 0.87.
otes Valls	Curtainwall) The plans/specs s The plans/specs s	show window ace the highest O ic MA requiremen ace the highest "c ing table for spec Shading Coefficie also be used to c Wall / Insu	verall Window U-f ts. Excel version v center-of-glass" sh ific MA requiremen nt (SC) can be cal locument SC.	in the following actor or check (Minim will automatically inse ading coefficient (SC its. Excel version wil culated from Solar He	Iocations: hum Assembly). Se ert minimum assem) for glass or check I automatically inse eat Gain Coefficien R-Value Insulation Only	ee "Window Rebly requirements MA (Minimum And Minimum as t using the equination or	equirements" in tat nts or greatest U-v n Assembly). See sembly requireme uation: SC = SHG0 U-Factor ³	ble on the alue from "Window nts or greatest C ÷ 0.87.
otes Valls re discussion wall require-	Curtainwall) The plans/specs s The plans/specs s	show window ace the highest O ic MA requiremen ace the highest "c ing table for speci Shading Coefficie also be used to c Wall / Insu	verall Window U-fr ts. Excel version center-of-glass" sh ffic MA requiremen nt (SC) can be cal locument SC.	in the following actor or check (Minim will automatically inse ading coefficient (SC hts. Excel version will culated from Solar He	Iocations: hum Assembly). Se ert minimum assem) for glass or check I automatically inse eat Gain Coefficien R-Value Insulation Only	ee "Window Re bly requirement MA (Minimum ast minimum as t using the equ or or	equirements" in tab nts or greatest U-v n Assembly). See sembly requireme uation: SC = SHG0 U-Factor ³	ole on the alue from "Window nts or greatest C ÷ 0.87.
Totes Talls ee instructions r a discussion wall require- ents.	Curtainwall) The plans/specs s The plans/specs s ^{1.} From Worksheet 3d, pla following page for specifi ^{2.} From Worksheet 3d, pla Require-ments" in followi SC from Worksheet 3d, S Manufacturers data may	show window ace the highest O ic MA requiremen ace the highest "c ing table for spec Shading Coefficie also be used to c Wall / Insu	v compliance verall Window U-fr ts. Excel version v center-of-glass" sh ffic MA requiremen nt (SC) can be cal locument SC.	in the following actor or check (Minim will automatically inse ading coefficient (SC its. Excel version wil culated from Solar He	locations: num Assembly). Se ert minimum assem) for glass or check I automatically inse eat Gain Coefficien R-Value Insulation Only	ee "Window Re bly requirement MA (Minimum ert minimum as t using the equ Or Or	equirements" in tat nts or greatest U-v n Assembly). See sembly requireme Jation: SC = SHGC U-Factor ³	ole on the ralue from "Window nts or greatest C ÷ 0.87.
Totes Talls Pre instructions r a discussion wall require- ents.	Curtainwall) The plans/specs s The plans/specs s	show window ace the highest O ic MA requiremen ace the highest "c ing table for spec Shading Coefficie also be used to c Wall / Insu	/ compliance verall Window U-f ts. Excel version v center-of-glass" sh fifc MA requiremer nt (SC) can be cal locument SC.	in the following actor or check (Minim will automatically inse ading coefficient (SC its. Excel version wil culated from Solar He	Iocations: hum Assembly). Se ert minimum assem) for glass or check I automatically inse eat Gain Coefficien R-Value Insulation Only	ee "Window Rebly requirements MA (Minimurn ert minimum as t using the equination or or or	equirements" in tab hts or greatest U-v h Assembly). See isembly requireme uation: SC = SHGC U-Factor ³	ble on the alue from "Window nts or greatest C ÷ 0.87.
Totes Talls Per instructions r a discussion wall require- ents.	Curtainwall) The plans/specs s The plans/specs s	show window ace the highest O ic MA requiremen ace the highest "c ing table for speci Shading Coefficie also be used to c Wall / Insu	verall Window U-fr ts. Excel version center-of-glass" sh ffic MA requiremen nt (SC) can be cal locument SC.	in the following actor or check (Minim will automatically inse ading coefficient (SC nts. Excel version wil culated from Solar He	Iocations: hum Assembly). Se ert minimum assem) for glass or check I automatically inse eat Gain Coefficien R-Value Insulation Only	ee "Window Re bly requirement MA (Minimum ert minimum as t using the equ or or or or	equirements" in tab nts or greatest U-v n Assembly). See isembly requireme juation: SC = SHG0 U-Factor ³	ole on the alue from "Window nts or greatest C ÷ 0.87.
Totes Talls the instructions r a discussion wall require- ents.	Curtainwall) The plans/specs s The plans/specs s ^{1.} From Worksheet 3d, pl following page for specifi 2 [.] From Worksheet 3d, pl Require-ments" in followi SC from Worksheet 3d, S Manufacturers data may	show window ace the highest O ic MA requiremen ace the highest "c ing table for spec Shading Coefficie also be used to c Wall / Insu	v compliance verall Window U-fr ts. Excel version v eenter-of-glass" sh ffic MA requiremen nt (SC) can be cal locument SC.	in the following actor or check (Minim will automatically inse ading coefficient (SC its. Excel version wil culated from Solar He	Iocations: hum Assembly). Se ert minimum assem) for glass or check I automatically inse eat Gain Coefficien R-Value Insulation Only	ee "Window Re bly requirement MA (Minimum as t using the equ or or or or or	equirements" in tab ints or greatest U-v n Assembly). See isembly requireme jation: SC = SHG0 U-Factor ³	ole on the ralue from "Window nts or greatest C ÷ 0.87.
otes Valls ee instructions r a discussion wall require- ents.	Curtainwall) The plans/specs s ^{1.} From Worksheet 3d, pli following page for specifi ^{2.} From Worksheet 3d, pli Require-ments" in followi SC from Worksheet 3d. S Manufacturers data may	show window ace the highest O ic MA requiremen ace the highest "c ing table for spec Shading Coefficie also be used to c Wall / Insu	verall Window U-f ts. Excel version center-of-glass" sh fic MA requiremer nt (SC) can be cal locument SC.	in the following actor or check (Minim will automatically inse ading coefficient (SC nts. Excel version wil culated from Solar He	Iocations: hum Assembly). Se ert minimum assem) for glass or check I automatically inse eat Gain Coefficien R-Value Insulation Only	ee "Window Rebly requirements MA (Minimum as t using the equination or or or or or or or	equirements" in tab ints or greatest U-v a Assembly). See usembly requirement uation: SC = SHGC U-Factor ³	ole on the alue from "Window nts or greatest C ÷ 0.87.
Valls ee instructions r a discussion wall require- ents.	Curtainwall) The plans/specs s The plans/specs s ^{1.} From Worksheet 3d, pla following page for specifi ^{2.} From Worksheet 3d, pla Require-ments" in followi SC from Worksheet 3d, S Manufacturers data may	show window ace the highest O ic MA requiremen ace the highest "c ing table for speci Shading Coefficie also be used to c Wall / Insu	verall Window U-fr ts. Excel version v center-of-glass" sh ffic MA requirement (SC) can be cal locument SC.	in the following actor or check (Minim will automatically inse ading coefficient (SC nts. Excel version wil culated from Solar He	Iocations: hum Assembly). Se ert minimum assem) for glass or check I automatically inse eat Gain Coefficien R-Value Insulation Only	ee "Window Rebly requirements MA (Minimum as to using the equination of the optimal of the equination	equirements" in tab hts or greatest U-v h Assembly). See isembly requireme uation: SC = SHGO U-Factor ³	ole on the alue from "Window nts or greatest C ÷ 0.87.
Valls ee instructions r a discussion wall require- ents.	Curtainwall) The plans/specs s The plans/specs s ^{1.} From Worksheet 3d, pla following page for specifi ^{2.} From Worksheet 3d, pla Require-ments" in follow SC from Worksheet 3d. S Manufacturers data may	show window ace the highest O ic MA requiremen ace the highest "C ing table for spec Shading Coefficie also be used to c Wall / Insu	v compliance	in the following actor or check (Minim will automatically inse ading coefficient (SC its. Excel version wil culated from Solar He	Iocations: hum Assembly). Se ert minimum assem) for glass or check I automatically inse eat Gain Coefficien R-Value Insulation Only R-Value R-Value	ee "Window Rebby requirements MA (Minimum as to using the equivalent of the equivale	equirements" in tab ints or greatest U-v a Assembly). See isembly requireme jation: SC = SHGC U-Factor ³	ble on the alue from "Window nts or greatest C ÷ 0.87.
Iotes Valls ee instructions ir a discussion wall require- ents. elow- trade Walls	Curtainwall) The plans/specs s The plans/specs s The plans/specs s The plans/spect sector The pla	show window ace the highest O ic MA requirement ace the highest "c ing table for speci Shading Coefficie also be used to c Wall / Insu	v compliance	in the following actor or check (Minim will automatically inse ading coefficient (SC hts. Excel version wil culated from Solar He	Iocations: hum Assembly). Se ert minimum assem) for glass or check I automatically inse eat Gain Coefficien R-Value Insulation Only Min, R-7.5)	ee "Window Re bly requirement MA (Minimum ast t using the equ or or or or or or or	equirements" in tab hts or greatest U-v Assembly). See isembly requireme uation: SC = SHGO U-Factor ³ U-Factor ³ (Max. 0.11)	ole on the alue from "Window nts or greatest C ÷ 0.87.
Fotes Valls ee instructions r a discussion wall require- ents. elow- rade Walls ee instructions r a discussion o	Curtainwall) The plans/specs s ^{1.} From Worksheet 3d, pl following page for specifi ^{2.} From Worksheet 3d, pl Require-ments" in followi SC from Worksheet 3d. S Manufacturers data may	show window ace the highest O ic MA requiremen ace the highest "c ing table for speci Shading Coefficie also be used to c Wall / Insu Below-G	verall Window U-ft ts. Excel version v eenter-of-glass" sh ffic MA requiremer nt (SC) can be cal locument SC. Ilation Type	in the following actor or check (Minim will automatically inse ading coefficient (SC nts. Excel version wil culated from Solar He	Iocations: hum Assembly). Se ert minimum assem) for glass or check I automatically inse eat Gain Coefficien R-Value Insulation Only R-Value Insulation Only (Min. R-7.5)	ee "Window Rebly requirements MA (Minimum as to using the equination of the optimal of the equination	equirements" in tab hts or greatest U-v h Assembly). See isembly requireme jation: SC = SHGO U-Factor ³ U-Factor ³ (Max. 0.11)	ole on the alue from "Window nts or greatest C ÷ 0.87.

Code Requirements - Zone 1

Discussion of these requirements in the instruction section.

ZONE 1									
		Wall	Requirements	Window Red	quirements				
Max. Glazing Fraction ⁴	Wall / Insulation Type	R-Value Insulation Only		U-Factor	Max. U- Factor	Max. Shading Coefficient			
Lin to 15%	CMU 'Masonry ⁵ , w/integral loose fill ⁶ insulation	N/A	or	0.300	0.5407	0.577			
Op to 15%	Masonry or concrete ⁵ , w/cont. exterior insulation	1.4	or	0.300	0.540	0.57			
	CMU Masonry ⁵ , w/integral rigid ⁸ fill insulation	N/A	or	0.210					
	Masonry or concrete ⁵ , w/interior insulation	11	or	0.130		0.57 ⁷			
Up to 30%	Masonry or concrete ⁵ , w/cont. exterior insulation	2.8	or	0.210	0.5407				
001000	Frame ⁹ (wood or metal framing)	13	or	0.130	0.040	0.57			
	Other (provide short description)	13	or	0.130					
	CMU Masonry ⁵ , w/integral rigid ⁸ fill insulation	N/A	or	0.210					
	Masonry or concrete ⁵ , w/interior insulation	11	or	0.130					
Up to 40%	Masonry or concrete ⁵ , w/cont. exterior insulation	2.8	or	0.210	0.370 ¹⁰	0.35 ¹⁰			
	Frame ⁹ (wood or metal framing)	13	or	0.130		0.00			
	Other (provide short description)	13	or	0.130					

Code Requirements - Zone 2

Discussion of these requirements in the instruction section.

	Z	ONE 2					
		Wall	Requirements		Window Red	quirements	
Max. Glazing Fraction ⁴	Wall / Insulation Type	R-Value Insulation Only		U-Factor	Max. U- Factor	Max. Shading Coefficient	
Up to 15%	CMU 'Masonry ⁵ , w/integral loose fill ⁶ insulation	N/A	or	0.300	0.500 ¹¹	0 EZ ¹¹	
00101378	Masonry or concrete ⁵ , w/cont. exterior insulation	1.8	or	0.270	0.500	0.57	
	CMU Masonry ⁵ , w/integral rigid ⁸ fill insulation	N/A	or	0.160			
	Masonry or concrete ⁵ , w/interior insulation	13	or	0.090			
Up to 25%	Masonry or concrete ⁵ , w/cont. exterior insulation	4.3	or	0.160	0.500 ¹¹	0.57 ¹¹	
00102070	Frame ⁹ (wood or metal framing)	19	or	0.090	0.000	0.07	
	Other (provide short description)	19	or	0.090			
	CMU Masonry ⁵ , w/integral rigid ⁸ fill insulation	N/A	or	0.160			
	Masonry or concrete ⁵ , w/interior insulation	13	or	0.090			
Up to 33%	Masonry or concrete ⁵ , w/cont. exterior insulation	4.3	or	0.160	0.370 ¹²	0.43 ¹²	
	Frame ⁹ (wood or metal framing)	19	or	0.090	0.070	0.40	
	Other (provide short description)	19	or	0.090			

Notes

⁴ The Simplified Trade-off Approach must be used if glazing fraction exceeds allowable percentages.

5 Minimum weight of masonry and concrete walls = 45 lb/ft2 of wall face area

- ⁶ All cores to be filled. At least 50% of cores must be filled with vermiculite or equivalent fill insulation.
- ⁷ Prescriptive MA (Minimum Assembly) For Fixed Windows: double-glazed window with a 0.5 inch air space, low-e coating and aluminum frame. MA shading coefficient description is a tinted outboard pane of glass. For **Operable Windows or Curtainwall:** double-glazed window with a 0.5 inch air space, low-e coating and thermally broken frame. MA shading coefficient description is a tinted outboard pane of glass.
- ⁸ All cores except bond beams must contain rigid insulation inserts approved for use in reinforced masonry walls

⁹ Batt insulation installed in metal or wood frame walls shall be insulated to the full depth of the cavity, up to 6 inches in depth.

¹⁰ Prescriptive MA (Minimum Assembly) - For Fixed Windows: double-glazed window with a 0.5 inch argon filled space, low-e coating (e<= 0.05) and thermal break frame. For Operable Windows or Curtainwall: only use Max U-Factor. MA shading coefficient description is a 0.25-inch thick glass with low-e coating (e<= 0.05) with a tinted outboard pane.
 ¹¹ Prescriptive MA (Minimum Assembly) - For Fixed Windows: double-glazed window with a 0.5 inch air space, low-e coating and aluminum



frame. For **Operable Windows or Curtainwall**: double-glazed window with a 0.5 inch air space, low- e coating (e<= 0.1) and thermally broken frame. MA maximum shading coefficient description is a tinted outboard pane of glass.
 ¹² Prescriptive MA (Minimum Assembly) - For **Fixed Windows**, a double-glazed window with a 0.5 inch argon filled space, low-e coating (e<= 0.05) and thermal break frame. For **Operable Windows or Curtainwall**, only use Max U-Factor. MA shading coefficient description is a 0.25-inch thick glass with low-e coating (e<= 0.05).

Project Name:

Page: Part 3 of 4

Deefs /					R-Value]
Coilings			11		Insulation Only		U-Factor ¹²	
See instructions		Roof / C	Ceiling''		(Min. R-19)		(Max. 0.050)	
for a dicussion of roofs/ceilings.						or		
Notes	¹¹ Write-in a short de ¹² Submit Worksheet	scription for assem	bly with the lowe ated roof/ceiling a	st insulation R-value of assembly U-factor.	or the highest asse	mbly U-factor		
	(tota	Skylight Area al rough frame	ft2)	Roof Area (gross ft2)		Skylight % ¹³	Maxin Fracti	num Skylight on Complies
Skylights Includes glazed	Conditioned Space		÷		X 100 =			
smoke vents. See instructions for a dicussion of	Semi- Conditioned Space		÷		X 100 =			
skylights.	Conditioned Mechanical		÷		X 100 =			
	T entitouse	Skylight Area (total rough frame ft2)		Roof/Ceiling Area (gross ft2)		Skylight Percent ¹³	J	
				-				
Skylights From Worksheet	Skylights (from Worksheet 3d)	Max U-Factor ¹⁴	Minimum Assembly		Skylig (from Worksh	hts eet 3d)	Shading Coefficient ¹⁵	Minimum Assembly
Overall Vertical								
Window U-factor and highest	U-Value Complies			-	SC Com	nlies		
Center-of-Glass SC.	Required Minimum Assembly	d Required Ass			Required M Assem	uired Minimum Assembly		
	The plans/spec	s show window	compliance in	the following loca	tions:			
Code	Compliance		Thermal	Performance		5	hading Coeffic	ient
Require-	Performance	U-1.230 for ove	overall V erall assembly	errical U-Factor in overhead plane	9	SC-0.47 c	Center of Glass S enter-of-alass	
ments	Min. Assembly (MA)	Double glazed,	0.5-inch airsp	ace	N/A			
Notes	 ¹³ Skylight percentag not exceed 6 perc fraction exceeds a ¹⁴ From Worksheet 3 above for specific ¹⁵ From Worksheet 3 	le area is based on ent of total roof/ceil llowable percentag Id, place the highes MA requirements. He, place the highes	total skylight and ing area in condit es. st Overall Vertical st "center-of-glass	d smoke vent rough fr tioned building space. U-factor or write-in N s" shading coefficient	ame area divided b The Simplified Tr IA (Minimum Asser (SC) for glass. Se the Solar Heat Ga	by total conditi ade-off Appro mbly). See "S e "Skylight Re in Coefficient	oned roof area. Pe ach must be used i kylight Requiremer quirements" in tabl	ercentage must f glazing nts" in table e above for

Project Name:

Part 4 of 4

Floors See instructions for a dicussion				
1 X / I / I / X / I X / I X I X I X I X / I I	Floors over Unconditioned Spaces ¹⁶	R-Value Insulation Only		U-Factor
of floors.			or	
	Heated Concrete Slab Edge	R-Value Insulation Only		
	Heated Slab-on-Grade (Section 1312.1.2.4)	downward from	the top of	the slab a m
	distance of 24 inches or downward and under the s	lab for a combine	ed minimu	im distance o
	Inches or to the bottom of the thickened edge of the	OT SIADS USED AS	a founda	tion.
		0113.		
Notes	¹⁶ Write-in a short description for assembly with the lowest insulation R-val ¹⁷ Submit Worksheet 3c for each calculated floor assembly Lifactor	ue or the highest assen	nbly U-factor.	
	 ¹⁸ Write-in a short description for Heated Slab, which has heat, integrated 	into slab such as hydror	nic heat. If m	ore than one
	floor type, enter the lowest insulation R-value or the highest component	U-factor of any floor.		
Code		Compl	iance Opti	ons
Require-	Component	Min. R-Value		Max. U- Factor
nents	Floor over Unconditioned Spaces	11	or	0.070
	Component	Climate		Climate
	Heated Concrete Slab Edge, Min. R-Value	7.5	or	10.0
Doors		5 V I		U-Factor
See instructions	Doors ¹⁹	R-Value Insulation Only		Center-of- Panel
	opaque, with leaf width greater than 4'	(Min. R-5)		(Max. 0.20)
ors.			or	
loors.			01	
Notes	19 Write-in a short description for Doors. It more than one door type, enter	the lowest insulation R-	value or the	highest center-of-

Worksheet 3a		Project Name:		Page:
Wall U-fac	ctors			
See Tables 3	a through 3d f	or R-Values of building mat	erials	
	Wall	Assembly 1 - ID		
		(5)		(4)
	(a) Laver	(B) Description	Detail	(a) R-value
•	Exterior	Moving Air		0.17
•	A			
	в			
	C			
	→ E			
•	F			
	G			
	н			
	•• J	Ostill Aire		0.00
				0.08
	1. TOTALCOIL			
	2. Assembly	y U-factor (Invert the amoun	t in line 1)	
	Wall	Assambly 2 - ID		
	(a)	(b)	(c)	(d)
•	Layer Exterior	Moving Air	Detail	R-value
•	A			0.11
	C C			
	D			
	- E			
•	F			
	G			
	◆ J			
	Interior	Still Air		0.68
	1. Total colu	umn (d)		
A CONTRACTOR	2. Assembly	y U-factor (Invert the amoun	t in line 1)	
1859				

ctors	Project Name:		Faye
3a through 3d f	or R-Values of building mate	erials	
Roof	Assembly 1 - ID		
(a)	(b)	(c)	(d)
Layer	Description	Detail	R-value
Exterior	Moving Air		0.17
A			
B			
С			
D			
E			
F			
G			
н			
			0.61
Interior	Still All		0.01
1 Total colu	imn (d)		
1. Total colu	umn (d)	tin lina 1)	
 Total colu Assembly 	umn (d) / U-factor (Invert the amoun	t in line 1)	
1. Total colu 2. Assembly Roof	umn (d) γ U-factor (Invert the amoun Assembly 2 - ID	t in line 1)	
1. Total colu 2. Assembly Roof a	umn (d) / U-factor (Invert the amoun Assembly 2 - ID (b)	t in line 1)	(d)
1. Total colu 2. Assembly Roof J Layer	umn (d) γ U-factor (Invert the amoun Assembly 2 - ID (b) Description	t in line 1) (c) Detail	(d) R-value
1. Total colu 2. Assembly Roof A (a) Layer Exterior	umn (d) / U-factor (Invert the amoun Assembly 2 - ID (b) Description Moving Air	t in line 1) (c) Detail	(d) R-value 0.17
1. Total colu 2. Assembly Roof A Layer Exterior A	umn (d) y U-factor (Invert the amoun Assembly 2 - ID (b) Description Moving Air	t in line 1) (c) Detail	(d) R-value 0.17
1. Total colu 2. Assembly Roof A Layer Exterior A B	umn (d) y U-factor (Invert the amoun Assembly 2 - ID (b) Description Moving Air	t in line 1) (c) Detail	(d) R-value 0.17
1. Total colu 2. Assembly Roof A Layer Exterior A B C	umn (d) y U-factor (Invert the amoun Assembly 2 - ID (b) Description Moving Air	t in line 1) (c) Detail	(d) R-value 0.17
1. Total colu 2. Assembly Roof A Layer Exterior A B C D	umn (d) y U-factor (Invert the amoun Assembly 2 - ID (b) Description Moving Air	t in line 1) (c) Detail	(d) R-value 0.17
1. Total colu 2. Assembly Roof A (a) Layer Exterior A B C D F	umn (d) y U-factor (Invert the amoun Assembly 2 - ID (b) Description Moving Air	t in line 1) (c) Detail	(d) R-value 0.17
1. Total colu 2. Assembly Roof A Layer Exterior A B C D E	umn (d) y U-factor (Invert the amoun Assembly 2 - ID (b) Description Moving Air	t in line 1) (c) Detail	(d) R-value 0.17
1. Total colu 2. Assembly Roof Layer Exterior A B C D E F	umn (d) y U-factor (Invert the amoun Assembly 2 - ID (b) Description Moving Air	t in line 1) (c) Detail	(d) R-value 0.17
1. Total colu 2. Assembly Roof A Exterior A B C D E F G	umn (d) y U-factor (Invert the amoun Assembly 2 - ID (b) Description Moving Air	t in line 1) (c) Detail	(d) R-value 0.17
1. Total colu 2. Assembly Roof Layer Exterior A B C D E F G H	umn (d) y U-factor (Invert the amoun Assembly 2 - ID (b) Description Moving Air	t in line 1) (c) Detail	(d) R-value 0.17
1. Total colu 2. Assembly Roof A Exterior A B C D E F G H I	umn (d) y U-factor (Invert the amoun Assembly 2 - ID (b) Description Moving Air	t in line 1) (c) Detail	(d) R-value 0.17
1. Total colu 2. Assembly Roof J Layer Exterior A B C D E F G H J J	umn (d) y U-factor (Invert the amoun Assembly 2 - ID (b) Description Moving Air	t in line 1) (c) Detail	(d) R-value 0.17
1. Total colu 2. Assembly Roof Layer Exterior A B C D E F G H I J Interior	umn (d) y U-factor (Invert the amoun Assembly 2 - ID (b) Description Moving Air	t in line 1) (c) Detail	(d) R-value 0.17
1. Total colu 2. Assembly Roof A Exterior A B C D E F G H I J Interior 1. Total colu	umn (d) y U-factor (Invert the amoun Assembly 2 - ID (b) Description Moving Air 	t in line 1) (c) Detail	(d) R-value 0.17
1. Total colu 2. Assembly Roof Layer Exterior A B C D E F G H I J Interior 1. Total colu 2. Assembly	umn (d) y U-factor (Invert the amoun Assembly 2 - ID (b) Description Moving Air 	t in line 1) (c) Detail	(d) R-value 0.17

3a through 3d f	or R-Values of building materials		
Floor	Assembly 1 - ID		
(a)	(b)	(c)	(d)
Layer	Description	Detail	R-valu
	Still Air		0.92
В			
C			
- D			
E			
F			
G			
н			
- Exterior	Moving Air		0.17
Exterior 1. Total colu 2. Assembly	Moving Air Imn (d) ' U-factor (Invert the amount in line 1)		0.17
Exterior 1. Total colu 2. Assembly Floor	Moving Air Imn (d) 7 U-factor (Invert the amount in line 1) Assembly 2 - ID		0.17
Exterior 1. Total colu 2. Assembly Floor (a)	Moving Air Imn (d) / U-factor (Invert the amount in line 1) Assembly 2 - ID (b) Description	(c)	(d)
Exterior 1. Total colu 2. Assembly Floor (a) Layer Interior	Moving Air Imn (d) r U-factor (Invert the amount in line 1) Assembly 2 - ID (b) Description Still Air	(c) Detail	0.17
Exterior 1. Total colu 2. Assembly Floor (a) Layer Interior A	Moving Air Imn (d) / U-factor (Invert the amount in line 1) Assembly 2 - ID (b) Description Still Air	(c) Detail	0.17
Exterior 1. Total colu 2. Assembly Floor (a) Layer Interior A B	Moving Air Imn (d) / U-factor (Invert the amount in line 1) Assembly 2 - ID (b) Description Still Air	(c) Detail	0.17
Exterior 1. Total colu 2. Assembly Floor (a) Layer Interior A B C	Moving Air umn (d) r U-factor (Invert the amount in line 1) Assembly 2 - ID (b) Description Still Air	(c) Detail	0.17
Exterior 1. Total colu 2. Assembly Floor (a) Layer Interior A B C D	Moving Air Imn (d) IU-factor (Invert the amount in line 1) Assembly 2 - ID (b) Description Still Air	(c) Detail	(d) R-valu
Exterior 1. Total colu 2. Assembly Floor (a) Layer Interior A B C D	Moving Air Imn (d) I U-factor (Invert the amount in line 1) Assembly 2 - ID (b) Description Still Air	(c) Detail	(d) R-valu 0.92
Exterior 1. Total colu 2. Assembly Floor (a) Layer Interior A B C D E	Moving Air umn (d) ¹ U-factor (Invert the amount in line 1) Assembly 2 - ID (b) Description Still Air	(c) Detail	(d) R-valu 0.92
Exterior 1. Total colu 2. Assembly Floor (a) Layer Interior A B C D E F	Moving Air Imn (d) I U-factor (Invert the amount in line 1) Assembly 2 - ID (b) Description Still Air	(c) Detail	(d) R-valu 0.92
Exterior 1. Total colu 2. Assembly Floor (a) Layer Interior A B C D E F G	Moving Air Imm (d)	(c) Detail	0.17 (d) R-valu 0.92
Exterior 1. Total colu 2. Assembly Floor (a) Layer Interior A B C D E F G H	Moving Air Imn (d) IU-factor (Invert the amount in line 1) Assembly 2 - ID (b) Description Still Air	(c) Detail	(d) R-valu 0.92
Exterior 1. Total colu 2. Assembly Floor (a) Layer Interior A B C D E F G H I I	Moving Air Imn (d) I U-factor (Invert the amount in line 1) Assembly 2 - ID (b) Description Still Air	(c) Detail	(d) (d) R-valu 0.92
Exterior 1. Total colu 2. Assembly Floor (a) Layer Interior A B C D E F G H I J	Moving Air Imm (d) I U-factor (Invert the amount in line 1) Assembly 2 - ID (b) Description Still Air	(c) Detail	(d) R-valu 0.17
Exterior 1. Total colu 2. Assembly Floor (a) Layer Interior A B C D E F G H I J Exterior	Moving Air Imm (d) I U-factor (Invert the amount in line 1) Assembly 2 - ID (b) Description Still Air	(c) Detail	0.17
Exterior 1. Total colu 2. Assembly Floor (a) Layer Interior A B C D E F G H I J Exterior 1. Total colu	Moving Air Imm (d) IU-factor (Invert the amount in line 1) Assembly 2 - ID (b) Description Still Air	(c) Detail	0.17 0.17 0.17 0.92 0.92 0.92 0.92 0.92 0.17

Worksheet 3d Window Schedule

Project Name

Page:

(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(I)	(j)	(k)
Name	Documentation Source	Manufact- urer's Model / No.	Window Type/Class	Frame Type	Glass Tint	Glass Thick- ness	Other (# panes, air space, argon, low E)	Center of Glass U-factor	Overall Window U-factor	Cente of Gla: SC

Column Instructions

(a) Enter the name of the window product. It is recommended that you choose a name that corresponds with that used on project plans and specifications.

(b) Provide documentation source.

Write-in "NFRC" if window is rated through NFRC 100-97 Procedure for Determining Fenestration Product Thermal Performance. Enter all columns except (i).

Write-in "ASHRAE Default W/Mfg COG" if Center-of-Glass U-factor and Shading Coefficient is available from glass manufacturer. Enter all columns. Columns (i) and (k) from manufacturer's data sheet.

Write-in "ASHRAE Default" if only descriptive parameters of window are known. Enter all columns. Columns (i), (j), and (k) from ASHRAE default table.

(c) If Document Source is either "NFRC" or "ASHRAE Default W/Mfg COG," enter the manufacturer's model number.

(d) Choices are Fixed, Operable, or Curtain Wall.

(e) Choices are wood, vinyl, reinforced vinyl, aluminum clad, insulated fiberglass, aluminum, aluminium w/thermal break (see definitions for thermal break requirements.)

(f) Enter glass tint. Write "clear" if there is no tint.

(g) Enter glass thickness

(h) Include window properties such as argon fill, low-e coating, insulating spacers, etc.

(i) COG U-factor from manufacture's data or ASHRAE 2001 Fundamentals Handbook, Chapter 30, Table 4. For NFRC rated products leave blank.

(j) Overall U-factor from NFRC rating or ASHRAE 2001 Fundamentals Handbook, Chapter 30, Table 4. For skylights value must be for horizontal position.

(k) COG Shading Coefficient from manufacture's data or ASHRAE 2001 Fundamentals Handbook, Chapter 30, Table 4. For NFRC rated products SHGC is provided. To convert SHGC to SC. SC = SHGC/0.87.



Worksheet 3e Skylight Schedule

Project Name:

Page:

(k)

Center of Glass SC

ht Schedule												
Skylight Properties - List All Skylight Types in Project												
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(I)	(j)			
Name	Documentation Source	Manufact- urer's Model / No.	Skylight Type/Class	Frame Type	Glass Tint	Glass Thickness	Other (# panes, air space, argon, low E	Center of Glass U-factor	Overall Skylight U-factor			

Column Instructions

(a) Enter the name of the window product. It is recommended that you choose a name that corresponds with that used on project plans and specifications.

(b) Provide documentation source.

Write-in "NFRC" if window is rated through NFRC 100-97 Procedure for Determining Fenestration Product Thermal Performance. Enter all columns except (i).

Write-in "ASHRAE Default W/Mfg COG" if Center-of-Glass U-factor and Shading Coefficient is available from glass manufacturer. Enter all columns. Columns (i) and (k) from manufacturer's data sheet.

Write-in "ASHRAE Default" if only descriptive parameters of window are known. Enter all columns. Columns (i), (j), and (k) from ASHRAE default table.

(c) If Document Source is either "NFRC" or "ASHRAE Default W/Mfg COG," enter the manufacturer's model number.

(d) Choices are Manufactured or Site Built.

(e) Choices are wood, vinyl, reinforced vinyl, aluminum clad, insulated fiberglass, aluminum, aluminium w/thermal break (see definitions for thermal break requirements.)

(f) Enter glass tint. Write "clear" if there is no tint.

(g) Enter glass thickness

(h) Include skylight properties such as argon fill, low-e coating, insulating spacers, etc.

(i) COG U-factor from manufacture's data or ASHRAE 2001 Fundamentals Handbook, Chapter 30, Table 4. For NFRC rated products leave blank.

(j) Overall U-factor from NFRC rating or ASHRAE 2001 Fundamentals Handbook, Chapter 30, Table 4. For skylights value must be for horizontal position.

(k) COG Shading Coefficient from manufacture's data or ASHRAE 2001 Fundamentals Handbook, Chapter 30, Table 4. For NFRC rated products SHGC is provided. To convert SHGC to SC. SC = SHGC/0.87.

