

# Prescriptive Compliance Path for Residential Buildings

**Project**

Permit Number		Jurisdiction	
Plan Check Number		Compliance Path	
Location			
<input type="checkbox"/> Approved <input type="checkbox"/> Approved as noted <input type="checkbox"/> Not Approved <input type="checkbox"/> See Notes			

**House Size Limited**

Heated Floor Area (up to 1,500 sq. ft.)	Total Window Area (sq. ft.)	Percent Windows (up to 12 per cent of floor area)	Compliance Path											
			1	2	3	4	5	6	7	8	9			

**Sun Tempered House**

Street Orientation (within 30° of East-West)	Total Window Area (sq. ft.)	South Facing Window Area (sq. ft.)	Percent South Facing Windows (50% or greater)	Compliance Path										
				1	2	3	4	5	6	7	8	9		

**Basic House**

No limit on window area, floor area or orientation	Compliance Path								
	1	2	3	4	5	6	7	8	9

**Windows**

include doors with more than 2.5 sq. ft. of glass Such as sliding Glass and patio Doors.

Window Class	Window Manufacturer	Glazing and Frame Types	Tested U-Value	Compliance Path										
				1	2	3	4	5	6	7	8	9		
U-0.40														
U-0.50														
U-0.60														
SIGMA Class A glazing		3/8" Air Space and low-e coating	Site Built											
			Wood Frame											
Architectural Glass		Single Pane (up to 1% floor area)												

**Skylight**

Skylight Class	Skylight Manufacturer	Glazing and Frame Types	Area (up to 2% of floor area)	Compliance Path										
				1	2	3	4	5	6	7	8	9		
U-0.50														
U-0.40			No limit on area											

# Prescriptive Compliance Path for Residential Buildings

## Main Entry Door

Main door area must not exceed 24 sq. ft.

If it does, use The "Other Doors" category

Door Class	Manufacturer	Core	Tested U-Value	Compliance Path										
				1	2	3	4	5	6	7	8	9		
U-0.20														
U-0.54														
Manufactured steel door with thermal break		Polyurethane core, wood frame												
		Solid urethane foam core												
Manufactured steel door, without thermal break		Polystyrene core												
		Polyurethane core												
Manufactured wood door		Panel door												
		Hollow core flush												
		Solid core flush												

## Other Doors

Include all doors Between the Heated and the Unheated space.

Door Class	Manufacturer	Core	Tested U-Value	Compliance Path										
				1	2	3	4	5	6	7	8	9		
U-0.20														
U-0.54														
Manufactured steel door with thermal break		Polyurethane core, wood frame												
		Solid urethane foam core												

## Ceilings

Insulation	Building Component	Compliance Path								
		1	2	3	4	5	6	7	8	9
R-38	Conventional framing									
R-49	Conventional framing									
	Advanced framing									

## Vaulted Ceilings

\*Limited to Domers, bay windows, and similar areas.

Insulation	Framing	Area	Compliance Path								
			1	2	3	4	5	6	7	8	9
R-21*	Conventional framing (limited to 150 sq. ft.)										
R-30	Conventional framing (up to 50% of the heated area)										
R-38	Conventional framing										

## Base-Ment Walls

Insulation	Building Component	Compliance Path								
		1	2	3	4	5	6	7	8	9
R-21	Interior Insulation									
	Exterior Rigid Insulation									

# Prescriptive Compliance Path for Residential Buildings

## Walls

Include all walls between the heated and the unheated space, such as attic walls, house/garage walls and others.

Nominal Insulation	Sheathing Insulation	Framing	Compliance Path										
			1	2	3	4	5	6	7	8	9		
None	None	3-1/2" solid log or timber wall											
R-11	R-3.5	Conventional/2 x 4 wood studs											
	R-7	Conventional/2 x 4 wood studs											
R-13	R-5	Advance/2 x 4 wood studs											
		Conventional/2 x 4 wood studs											
	R-7	Conventional/2 x 4 wood studs											
R-15	R-0	Advance/2 x 4 wood studs											
		Conventional/2 x 4 wood studs											
	R-3.5	Advance/2 x 4 wood studs											
		Conventional/2 x 4 wood studs											
R-19	R-0	Advance/2 x 6 wood studs											
		Conventional/2 x 6 wood studs											
	R-3.5	Conventional/2 x 6 wood studs											
R-21	R-0	Advance/2 x 6 wood studs											
		Conventional/2 x 6 wood studs											
	R-3.5	Advance/2 x 6 wood studs											
		Conventional/2 x 6 wood studs											
R-5	Conventional/2 x 6 wood studs												
R-24	R-0	Advance/2 x 6 wood studs											

## Floors

Insulation	Building Component	Compliance Path											
		1	2	3	4	5	6	7	8	9			
R-21	Conventional framing												
R-25	Conventional framing												
R-30	Conventional framing												

## Slab-on-grade

Insulation	Construction	Position	Compliance Path										
			1	2	3	4	5	6	7	8	9		
R-15	Thicken Slab	Top of slab to the bottom of the thicken slab											
	Exterior Insulation	Top of slab downward for 24 inches											
	Interior Insulation	Thermal break and beneath for 24 inches											

## Table 53-P: Prescriptive Compliance Paths For Residential Buildings

This pamphlet is one in a series that describe residential energy conservation requirements of the Oregon One and Two Family Dwelling Code and the Structural Specialty Code for multifamily buildings three stories and less. Revisions to Energy Code Chapter 53 are effective January 1, 1992 and will continue in effect until such time as amendments are made. Other pamphlets in this series may be obtained from local code authorities or from Oregon Building Codes Agency.

**TABLE NO. 53-P**  
**PRESCRIPTIVE COMPLIANCE PATHS FOR RESIDENTIAL BUILDINGS<sup>1, 2, 3</sup>**

Building Components	PATH 1	PATH 2 Sun Tempered <sup>4</sup>	PATH 3	PATH 4 Sun <sup>7</sup> Tempered <sup>4</sup>	PATH 5	PATH 6 Sun Tempered <sup>4</sup>	PATH 7 Sun Tempered <sup>4</sup>	PATH 8 House Size Limited <sup>5</sup>	PATH 9 Log Homes/ Solid Timber
Maximum Allowable Window Area <sup>6</sup>	No Limit	No Limit	No Limit	No Limit	No Limit	No Limit	No Limit	12%	No Limit
Window Class <sup>7</sup>	U=0.40	U=0.40	U=0.50	U=0.50	U=0.60	U=0.60	U=0.60	U=0.40	U=0.40
Doors, Other than Main Entry	U=0.20	U=0.20	U=0.20	U=0.20	U=0.20	U=0.20	U=0.20	U=0.20	U=0.54
Main Entry Door, maximum 24 sq. ft.	U=0.54	U=0.54	U=0.20	U=0.20	U=0.20	U=0.20	U=0.54	U=0.20	U=0.54
Wall Insulation <sup>8</sup>	R-21 <sup>9</sup>	R-15	R-21A	R-15A	R-24A	R-21A	R-21A	R-15	<u>    </u> <sup>3</sup>
Underfloor Insulation	R-25	R-21	R-25	R-21	R-30	R-21	R-25	R-21	R-30
Flat Ceilings <sup>8</sup>	R-38	R-49	R-49A	R-38	R-49A	R-49A	R-49A	R-49	R-49
Vaulted Ceilings <sup>10, 11</sup>	R-30	R-30	R-30	R-38	R-38	R-38	R-38	R-38	R-38
Skylight Class <sup>7</sup>	U=0.50	U=0.50	U=0.50	U=0.50	U=0.50	U=0.50	U=0.50	U=0.50	U=0.50
Skylight Area	<2%	<2%	<2%	<2%	<2%	<2%	<2%	<2%	<2%
Basement Walls	R-21	R-21	R-21	R-21	R-21	R-21	R-21	R-21	R-21
Slab Floor Edge Insulation	R-15	R-15	R-15	R-15	R-15	R-15	R-15	R-15	R-15
Forced Air Duct Insulation	R-8	R-8	R-8	R-8	R-8	R-8	R-8	R-8	R-8

**Notes:**

- <sup>1</sup> Path 1 is based on cost-effectiveness. Paths 2-7 are based on energy equivalence with Path 1. Cost-effectiveness of Paths 2-9 not evaluated.
- <sup>2</sup> As allowed in current Chapter 5303(b), thermal performance of a component may be adjusted provided that overall heat loss does not exceed the total resulting from conformance to the required U-value standards. Calculations to document equivalent heat loss shall be performed using the procedure and approved U-values contained in Table No. 53-0.
- <sup>3</sup> MINIMUM COMPONENT REQUIREMENTS: Walls R-15; Floors R-21; Flat Ceilings R-38; Vaults R-21; Basement Walls R-21; Slab Edge R-10; Duct Insulation R-8. R-values used in this table are nominal, for the insulation only and not for the entire assembly. Window and skylight U-values shall not exceed 0.65 (CL65). Door U-values shall not exceed 0.54 (Nominal R-2). The minimum wall component for Path 9 shall be an average solid log or timber wall thickness of 3.5 inches.
- <sup>4</sup> The sun-tempered house shall have one lot line which borders on a street oriented within 30 degrees of true east-west and 50 percent or more of the total glazing area for the heated space on the south elevation.
- <sup>5</sup> Path 8 applies only to homes with less than 1,500 sq. ft. heated floor space AND glazing area less than 12 percent of heated space floor area.
- <sup>6</sup> Reduced window area may not be used as a trade-off criterion for thermal performance of any component, except as noted in Table No. 53-0.
- <sup>7</sup> Window and skylight U-values shall not exceed the number listed. U-values may also be listed as "class" on some windows and skylights (i.e. CL40 is same as U=0.40).
- <sup>8</sup> A=advanced frame construction as defined in Section 5303(c) (3) for walls and Section 5303(c) (4) for ceilings.
- <sup>9</sup> R-19 Advanced Frame or 2 x 4 wall with exterior rigid insulation may be substituted if total nominal insulation R-value is 18.5 or greater.
- <sup>10</sup> Partially vaulted ceilings and ceilings totaling not more than 150 square feet in area for dormers, bay windows or similar architectural features may be reduced to not less than R-21. When reduced, the cavity shall be filled (except for required ventilation spaces), and a 0.5 perm (dry cup) vapor retarder installed.
- <sup>11</sup> Where ceiling/vault insulation upgrades are part of a prescriptive or trade-off path, vaulted area, unless insulated to R-38, may not exceed 50 percent of the total heated space floor area. This does not apply to Path 9, Log/Solid timber construction.