

# The City of Moraine Building Department

## Prescriptive Energy Analysis <sup>1</sup>

Based upon the 2003 IECC, HDD 5708

Job Name \_\_\_\_\_ Date \_\_\_\_\_

Job Address \_\_\_\_\_ City \_\_\_\_\_

**Step 1.** Determine percent of glass in the exterior wall envelope:

A= Gross exterior wall area, including window and door rough openings. A= \_\_\_\_\_ Sq. Ft.

B= Total area of windows, skylights and glass doors rough openings. B= \_\_\_\_\_ Sq. Ft.

Formula to determine percent of window area =  $(B \div A) \times 100$

Example:  $\frac{B}{A} = \frac{300}{1500} = .2 \times 100 = 20\%$

**Step 2.** Highlight the line for the prescriptive envelope requirement based upon percent of windows from the following table.

One and Two family Dwellings							
Percent of glass	Maximum	Minimum Insulation R-Value					
	Glazing U Factor	Ceiling R Value	Exterior Wall R Value <sup>2</sup>	Floor R Value	Basement Wall R Value <sup>5</sup>	Slab perimeter R value <sup>4</sup>	Crawlspace wall R- value
8	.45	R-38	R-13	R-19	R-9	R-7	R-16
12	.45	R-38	R-17	R-19	R-9	R-6	R-16
15	.40	R-38	R-18	R-21	R-10	R-9	R-19
18	.37	R-38	R-19	R-19	R-10	R-8	R-17
20	.33	R-49	R-20	R-19	R-10	R-7	R-17
25	.27	R-38	R-19	R-21	R-10	Note 3	R-22
Townhouses and use groups R-2 and R-4							
20	.50	R-30	R-13	R-11	R-5	R-0	R-6
25	.51	R-30	R-13	R-11	R-6	R-0	R-6
30	.44	R-38	R-13	R-19	R-10	R-8	R-18
Room Additions less than 500 Sq. Ft.							
=< 40	.40	R-38	R-18	R-21	R-10	R-9	R-19
>40 <sup>6</sup>	.50	R-19	R-13	R-21	R-10	R-9	R-19

**Step 3.** Submit verification of window U values from the window manufacturer when better than .40 and make sure your drawings show insulation values that meet the minimum insulation guidelines selected above including wall and subsiding insulation values.

Prepared by \_\_\_\_\_ Phone \_\_\_\_\_

1. This form can be used for buildings of wood frame construction with a window area up to 25 percent for one and two family dwellings, or up to 30 percent for Townhouses and use groups R-2 and R-4, and for additions up to 500 Sq. Ft. This form also assumes a maximum U-factor of .35 for all doors without glazing.

2. Exterior wall r-value includes insulation in wall and exterior continuous sheathing.

3. This component may not be used to demonstrate compliance in our climate range.

4. Slab perimeter insulation depth is 2' minimum, from the top of the slab.

5. Basement wall insulation must extend from the top of the foundation wall to 10' below grade or to the floor.

6. When using the >40% category the sunroom must be thermally isolated from the rest of the house, cannot be used for kitchens or sleeping rooms and shall be served by a separate heating or cooling system, or be thermostatically controlled as a separate zone of the existing system

4/15/05