PRESCRIPTIVE BUILDING ENVELOPE REQUIREMENTS, ONE- AND TWO-FAMILY DETACHED DWELLINGS, BASED UPON TABLES 502.2.4(3) – 502.2.4(6), 2003 INTERNATIONAL ENERGY CONSERVATION CODE (IECC).

GLAZING AS PERCENT (%) OF GROSS WALL AREA	SHGC	MAXIMUM	MINIMUM			
	Lower is better.	Glazing *U*-factor	Ceiling *R*-value	Exterior wall *R*-value	Floor *R*-value	Crawl space *R*-value
15%	0.40	0.75 or less	R-19	R-11	R-11	R-5
18%	0.40	0.70 or less	R-26	R-13	R-11	R-5
20%	0.40	0.70 or less	R-30	R-13	R-11	R-5
25%	0.40	0.55 or less	R-30	R-13	R-11	R-5

SOLAR HEAT GAIN COEFFICIENT (SHGC): All glazing must have a solar heat gain coefficient of 0.40 or less.

AIR LEAKAGE: Joints, penetrations, and all other such openings in the building envelope that are sources of air leakage shall be sealed. Recessed lights are to be Type IC, or, if non-IC, installed inside an air-tight assembly.

DUCT INSULATION: R-5 minimum for unconditioned space, R-8 outside of building, vapor retarder required.

DUCT CONSTRUCTION: All joints and seams shall be sealed with welds, mastics or gaskets or approved tapes. Duct tape is not permitted. HVAC systems must provide a means for balancing air and water.

TEMPERATURE CONTROLS: A manual or automatic means to partially restrict or shut off heating and/or cooling input to each zone or floor is to be provided.

WATER HEATERS: Heat traps are required on both inlet and outlet unless the water heater has an integral heat trap or is part of a circulating system.

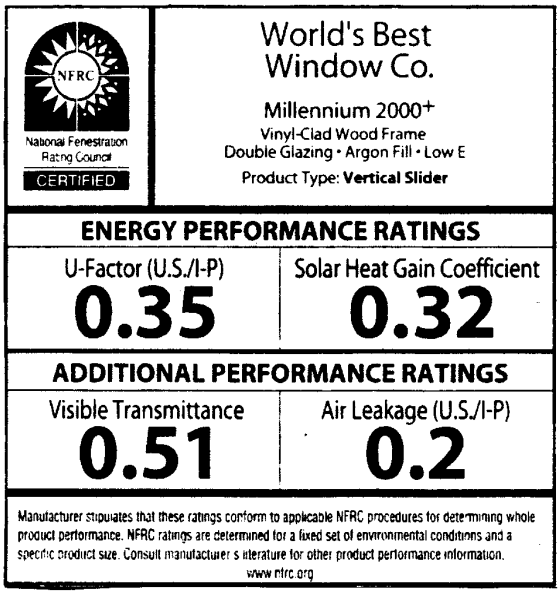
POOLS: All heated pools must have an on/off heater switch and require a cover unless 20% of the heating is from non-depletable sources. Pool pumps require a time clock.

HVAC PIPING INSULATION: Cooling systems chilled water, refrigerant, and brine with fluid temp 40-55° F., ½" insulation for up to 1" pipe; ¾" insulation for pipe 1 ¼" - 2" diameter. Double insulation thickness if fluid temp below 40° F.

ONE PERCENT (1%) OF WINDOW AREA EXEMPT. One percent of the total window area computed is exempt from the glazing *U*-factor. Butt glazing may be used if its area is one percent (1%) or less of the total exterior wall area.

ACTUAL WINDOW AREA, AS A PERCENTAGE OF WALL AREA, MUST BE CALCULATED ON A WORKSHEET (SEE BACK OF THIS SHEET FOR EXAMPLE). INCLUDE SKYLIGHTS, ABOVE GRADE WINDOWS, AND, IF BASEMENTS ARE CONDITIONED SPACE, BASEMENT WINDOWS.

SAMPLE WINDOW STICKER:



ADDITIONAL OPTIONS: Other methods of meeting requirements are available, including IECC Chapter 4, Systems Analysis; Chapter 5, Component Performance; or RES*check*™ compliance software, which is available for FREE download at: http://www.energycodes.gov/rescheck/download.stm

Effective Feb. 9, 2004

GLAZED AREA PERCENTAGE WORKSHEET:

JOB NAME _____ **ADDRESS:** _____ **PERMIT #** _____

WINDOWS	GLAZING IN DOORS	SKYLIGHTS
FRONT	FRONT	ROOF
		TOTAL AREA
REAR	REAR	
		EXAMPLE: GLAZED OPENING AREA DIVIDED BY TOTAL WALL AREA: 500 SQ. FT. OF GLAZED OPENINGS DIVIDED BY GROSS WALL AREA OF 2000 SQ. FT. = 500 / 2000 = .25 X 100 = 25%
		GROSS OPENING AREA
SIDES	SIDES	
		GROSS WALL AREA
		PERCENT OF OPENINGS
TOTAL AREA	TOTAL AREA	