

ODL's formal and further follow-up comments regarding ENERGY STAR® Program Requirements Product Specification for Residential Windows, Doors, and Skylights Eligibility Criteria Draft 1 Version 6.0, specifically lines 29-32, i.e., 29.8 percent glazing as defining a ½ lite.

Subject: ENERGY STAR® Program Requirements Product Specification for Residential Windows, Doors, and Skylights Eligibility Criteria Draft 1 Version 6.0, lines 29-32

ii) ≤ ½-lite: A door with ≤ 29.8 percent glazing (based on NFRC 100-2010). Includes ¼- and ½-lite doors.

iii) > ½-lite: A door with > 29.8 percent glazing (based on NFRC 100-2010). Includes ¾-lite and fully glazed doors.

Need: Ensure short and long term consistency of thermal ratings designated by the NFRC and avoid confusion in the industry and with the consumers

Idea: Replace use of 29.8% glazing as size designation with sizes defined by current and future NFRC 100 designations

Benefits:

1. Avoids confusion of creating and communicating another measurement criteria for a very diverse industry
2. Using NFRC designation for ½ lites ensures continued adherence to the accepted, current and future rating and simulation procedures and protocols in the fenestration industry
3. Virtually impossible to determine consistent labeling requirements for 29.8% glazing, as glazing options may meet 29.8% in selective widths and heights of doors

Evidence

1. Avoids confusion of creating another measurement criteria: Eligibility Criteria Draft 1 Version 6.0, lines 29-32 list the 29.8% glazing as being based on NFRC 100-2010
 - A search of the NFRC 100-2010 document finds no reference to 29.8, 29.8%, or 29.8 percent
 - Calculations, using potential ½ lite and door sizes do not duplicate the 29.8% number, see below:

Swing Door w/Frame: NFRC 100, pg. 27&40		1meter x 2meter standard door	
960	Door width (mm)	1,000	Door width (mm)
2,090	Door height (mm)	2,000	Door height (mm)
2,006,400	Door area (mm ²)	2,000,000	Door area (mm ²)
512,400	1/2 lite area (560x915) mm ²	512,400	1/2 lite area (560x915) mm ²
25.5%	% glazing	25.6%	% glazing
3' X 6'8" standard door		3' X 6'8" standard door	
36	Door width (in)	36	Door width (in)
80	Door height (in)	80	Door height (in)
2,880	Door area (in ²)	2,880	Door area (in ²)
900	1/2 lite area (NFRC std.) in ²	792	1/2 lite area (22x36) in ²
31.3%	% glazing	27.5%	% glazing

Note: if someone directly involved in this process cannot ascertain the 29.8 percent value, the fenestration industry nor its consumers will be very confused by the designation

2. Using NFRC designation ensures continued adherence to procedures and protocols in the fenestration industry
 - Current: NFRC currently designates specific values of door glazing volume ranges and glazing sizes for ¼, ½, ¾, and full glazings, reference NFRC 100-2010, page 40
 - Future: NFRC 100 Door DLO ballot, to be voted on at the Fall 2012 NFRC Membership Meeting, changes the specific values of door glazing volume ranges and glazing sizes for ¼, ½, ¾, and full glazings

Evidence (continued)

- 3. Virtually impossible to determine consistent labeling requirements for 29.8% glazing
 - For example, it appears as if a 20X48” doorglass unit in an 3’ X 8’ door would be less than 29.8%; however, it would not in a 3’ X 6’8” door
 - In the above example, a 20X48” doorglass unit would be less than the 29.8% threshold; but, a 22X48 would not
 - Differences would also occur in the various widths of doors for the various door heights

Combinations meeting 29.8* percent glazing
*assumes some metric to imperial conversion "error"

Glass			Door			
Width (in.)	Height (in.)	Area (in2)	34" X 6'8"	36" X 6'8"	34" X 8'0"	36" X 8'0"
22	36	792	29.1%	27.5%	24.3%	22.9%
20	36	720	26.5%	25.0%	22.1%	20.8%
22	48	1056	38.8%	36.7%	32.4%	30.6%
20	48	960	35.3%	33.3%	29.4%	27.8%
22	64	1408	51.8%	48.9%	43.1%	40.7%
20	64	1280	47.1%	44.4%	39.2%	37.0%

Conclusion

To ensure short and long term consistency of thermal ratings designated by the NFRC, and to avoid confusion in the industry and with the consumers, the proposed new metric of “29.8% glazing” as designation for ½ lites needs replaced by the NFRC’s existing designations for ½ lites (reference page 40 of NFRC 100 -2010 document).

Action

If there is agreement that consistency and clarity will be maintained by continued use of NFRC glazing size definitions, then lines 29-32 of ENERGY STAR® Program Requirements Product Specification for Residential Windows, Doors, and Skylights Eligibility Criteria Draft 1 Version 6.0 should be changed, as follows

- ii) ≤ ½-lite: A door with ~~≤ 29.8 percent glazing (based on NFRC 100-2010).~~ glazing sizes as defined in the NFRC 100 Technical Document. Includes ¼- and ½-lite doors.
- iii) > ½-lite: A door with ~~> 29.8 percent glazing (based on NFRC 100-2010).~~ glazing sizes as defined in the NFRC 100 Technical Document. Includes ¾-lite and fully glazed doors.