

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 135-136, Table 2. Energy Efficiency Requirements for Doors

Subject: ENERGY STAR® Program Requirements Product Specification for Residential Windows, Doors, and Skylights Eligibility Criteria Draft 1 Version 6.0, lines 135-136

Table 2. Energy Efficiency Requirements for Doors		
Glazing Level	U-Factor	SHGC
Opaque	≤ 0.17	No Rating
≤ ½-Lite	≤ 0.23	≤ 0.25
> ½-Lite	≤ 0.30	≤ 0.25

The proposed 0.23 U-Factor for Energy Star for the ½ lite is not consistent with the 0.17 opaque door and the 0.30 full lite.

Need: Ensure consistency between opaque door, ½ lite, and full lite Energy Star thermal ratings, i.e., if an opaque door meets Energy Star, and a full lite is placed in that door that also meets Energy Star, then a ½ lite of the same IG construction in that same door needs to meet Energy Star.

Idea: To ensure Energy Star U-Factor consistency among opaque door, full lite, and ½ lites . . . replace ½ lite U-Factor of 0.23 with 0.25. Result would be Energy Star 2014 U-Factors as follows:

- 0.17 Opaque Door
- 0.30 Full Lite
- 0.25 ½ Lite

Benefits:

1. ½ lite U-Factor of 0.25 avoids the need to use different technologies for ½ lite and full lite insulated glass units to achieve Energy Star
2. ½ lite U-Factor of 0.25 avoids the potential of different tint color glass on insulated glass units installed next to each other on a house
3. ½ lite U-Factor of 0.25 prevents “penalizing” consumer, i.e., to match construction and color of a ½ lite meeting Energy Star, the consumer would need to purchase a higher performing door slab and/or full lite glazing to meet the proposed 0.23 ½ lite requirement
4. ½ lite U-Factor of 0.25 ensures consistency, i.e., an ES opaque door at 0.17, can use the same technology glazing for full lite and ½ lite to meet Energy Star U-Factor requirements

Evidence

Examples exist throughout the extensive NFRC Certified Product Directory database to support the following:

- 0.17 Opaque door – meets proposed 2014 ES
 - 0.30 Full lite IG in the above opaque door – meets proposed 2014 ES
 - 0.25 ½ lite, same IG construction and same door – does not meet proposed 2014 ES
- Note: soft coat & argon required for ½ lite to achieve 0.23

The table on the next page provides specific examples within one manufacturers' CPD listing of several different IG constructions in which a full lite and a ½ lite of the same construction meet 0.30 and 0.25, respectively. The ½ lite construction does not meet the proposed 2014 ES U-Factor of 0.23, but does meet the recommended 0.25 U-Factor.

Different IG constructions include:

- Low E differences
- Spacer differences
- Grids and no grids
- Dual and triple pane

NFRC Certified Product Directory excerpts, indicating 0.17 opaque; 0.30 full lite; 0.25 ½ lite

CPD #	Manufacturer Product Code	U-factor	SHGC	Glazing Layers	Low-E	Gap Widths	Spacer	GapFill	Grid	Divider	Tint
JEL-M-759-00536-00001	Embossed	0.17	0	0			N		N	NA	OT
JEL-M-759-00576-00001	TIAC40-CL FL	0.3	0.18	2	0.04122781(2)	0.749998	A1-S	Fill 1: AIR (100)	N	NA	LE
JEL-M-759-00574-00001	TIAC40-CL 1/2L	0.25	0.1	2	0.04122781(2)	0.749998	A1-S	Fill 1: AIR (100)	N	NA	LE
JEL-M-759-00536-00001	Embossed	0.17	0	0			N		N	NA	OT
JEL-M-759-00588-00001	TIAC40-CL FL	0.3	0.16	2	0.04122781(2)	0.749998	A1-S	Fill 1: AIR (100)	G	0.75	LE
JEL-M-759-00586-00001	TIAC40-CL 1/2L	0.25	0.09	2	0.04122781(2)	0.749998	A1-S	Fill 1: AIR (100)	G	0.75	LE
JEL-M-759-00536-00001	Embossed	0.17	0	0			N		N	NA	OT
JEL-M-759-00651-00001	EPS-CL FL	0.3	0.28	2	0.1476264(2)	0.749998	A1-S	Fill 1: AIR (100)	N	NA	CL
JEL-M-759-00649-00001	EPS-CL 1/2L	0.25	0.16	2	0.1476264(2)	0.749998	A1-S	Fill 1: AIR (100)	N	NA	CL
JEL-M-759-00536-00001	Embossed	0.17	0	0			N		N	NA	OT
JEL-M-759-00655-00001	EPS-CL FL	0.3	0.25	2	0.1476264(2)	0.749998	A1-S	Fill 1: AIR (100)	G	0.75	CL
JEL-M-759-00653-00001	EPS-CL 1/2L	0.25	0.14	2	0.1476264(2)	0.749998	A1-S	Fill 1: AIR (100)	G	0.75	CL
JEL-M-759-00536-00001	Embossed	0.17	0	0			N		N	NA	OT
JEL-M-759-00689-00001	EPS-CL FL	0.3	0.28	2	0.1476264(2)	0.757998	CU-D	Fill 1: AIR (100)	N	NA	CL
JEL-M-759-00687-00001	EPS-CL 1/2L	0.25	0.16	2	0.1476264(2)	0.757998	CU-D	Fill 1: AIR (100)	N	NA	CL
JEL-M-759-00536-00001	Embossed	0.17	0	0			N		N	NA	OT
JEL-M-759-00697-00001	EPS-CL FL	0.3	0.25	2	0.1476264(2)	0.757998	CU-D	Fill 1: AIR (100)	G	0.75	CL
JEL-M-759-00695-00001	EPS-CL 1/2L	0.25	0.14	2	0.1476264(2)	0.757998	CU-D	Fill 1: AIR (100)	G	0.75	CL
JEL-M-759-00536-00001	Embossed	0.17	0	0			N		N	NA	OT
JEL-M-759-00824-00001	TRINITY CL-CL-CL G FL	0.3	0.28	3		0.312999374, 0.312999374	A5-S	Fill 1: AIR (100), Fill 2: AIR (100)	G	0.75	CL
JEL-M-759-00822-00001	TRINITY CL-CL-CL G 1/2L	0.25	0.16	3		0.312999374, 0.312999374	A5-S	Fill 1: AIR (100), Fill 2: AIR (100)	G	0.75	CL

Customers require windows to match appearance throughout their homes. Matching appearance requires same spacer construction and same window tint color, i.e., different low e materials have different colors. If ½ lites are not changed from 0.23 to 0.25 U-Factor, consumers will be required to purchase dissimilar products, or pay a cost penalty to buy over-performing full lites to match a 0.23 U-Factor ½ lite.

When the previous Energy Star ratings were established for full lites and ½ lites, this same issue occurred. When the issue was communicated and understood . . . 0.32 kept for full lite, ½ lite changed to 0.27

Conclusion

To ensure consistency among opaque door, ½ lite, and full lite Energy Star thermal ratings, the ½ lite U-Factor needs changed from 0.23 to 0.25

Action

If there is agreement that technologies and tints of glazing should be consistent and compatible across full lite and ½ lite U-Factor requirements, then the following revision needs made to ENERGY STAR® Program Requirements Product Specification for Residential Windows, Doors, and Skylights Eligibility Criteria Draft 1 Version 6.0, lines 135-136

Glazing Level	U-Factor	SHGC
Opaque	≤ 0.17	No Rating
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