



ENERGY STAR® Fenestration Specification and Windows Most Efficient Criteria Review of Stakeholder Comments and Path Forward

In March, 2018, Natural Resources Canada (NRCan) proposed new requirements for the ENERGY STAR Fenestration Specification and Windows Most Efficient Criteria based on feedback from an industry survey and on a subsequent technical analysis. The proposed increase in stringency is in support of the Pan-Canadian Framework on Clean Growth and Climate Change, of which increased energy efficiency is a key element.

1. **ENERGY STAR Residential Fenestration Specification:** The proposed levels were a modified version of current ENERGY STAR Fenestration Zone 3 levels. It was proposed that the levels would apply to all of Canada with an implementation date of January 1, 2020.
2. **ENERGY STAR Windows Most Efficient Criteria:** In anticipation of the 2020 implementation date for the ENERGY STAR Residential Fenestration specification, the Most Efficient Windows specification was to be at similar levels, with an implementation date of January 1, 2019. This advance release was intended to help prepare the market.

NRCan received 22 written comments about the proposal, which were focused in five key areas:

1. The elimination of the climate zones and the application of the current Zone 3 criteria to all of Canada.
2. Whether a U-factor maximum on the Energy Rating (ER) path of compliance was appropriate.
3. Whether the proposed reduction of the ER minimum on the U-factor path of compliance was appropriate.
4. The increase in stringency to the levels for skylights.
5. The timing of the changes to the Windows Most Efficient criteria, and adding more products to the category.

Zone 3 Criteria / Elimination of Climate Zones

The elimination of the climate zones and the application of one criteria to all of Canada was widely accepted and seen as a welcome simplification of the program. While using the current Zone 3 criteria was accepted by some, others were concerned that fenestration products would be more expensive with less choice in styles, that there would be more Insulating Glass (IG) seal failures and a possible increase in hardware failure.

NRCan believes that these issues can be overcome as the industry adapts to the new ENERGY STAR criteria and to the market transformation initiative currently underway. Therefore, the current Zone 3 criteria dual compliance paths of ER 34 or alternate U-factor of 1.20 W/m² forms the basis of the criteria for all of Canada in the draft fenestration specification.

Maximum U-factor

The need for adding a U-factor maximum on the ER path of compliance was questioned in some of the comments received. Although there were a few strenuous arguments in favour of not adding a maximum, there was little if any technical analysis to support this point of view.

NRCan feels that there is enough feedback from builders and manufacturers to warrant the introduction of a maximum U-factor to help protect the integrity of the ENERGY STAR brand by reducing the risk of condensation and thermal discomfort in colder weather. Therefore a U-factor maximum of 1.48 W/m² (0.26 (Btu/h·ft²·°F)) on the ER path of compliance is included in the draft fenestration specification.

Minimum Energy Rating

A number of comments questioned the proposed minimum ER reduction. The need for a minimum ER on the U-factor path of compliance for ENERGY STAR was established by NRCan for Version 3 of the fenestration specification published in 2010. The minimum was put in place as a way to compensate for very low solar gain windows by requiring lower U-factors.

It is NRCan's position that adjusting the minimum ER downwards by 2 ER points allows for more flexibility in the selection of glazing at the U-factor compliance requirement of 1.20 W/m² while still retaining a reasonable amount of solar gain. At a U-factor of 1.20 W/m², the current minimum ER of 24 allows for a minimum Solar Heat Gain Coefficient (SHGC) of about 0.21. The proposed minimum ER of 22 for the same U-factor allows a minimum SHGC of about 0.17. Therefore, a minimum ER of 22 is included in the draft specification. It should also be noted that SHGC values lower than 0.17 are possible as the U-factor falls below 1.20 W/m². Lastly, a guidance document for the proper use of solar gain was suggested and NRCan is considering this idea for a later date.

Skylights

There were comments from the skylight industry that the proposed level of 2.10 W/m² was too stringent and would make ENERGY STAR certified skylights too expensive. The comments also noted that not enough analysis had been done to support the proposed level, even though the proposed level is the Zone 3 of the current specification.

NRCan will do further analysis to respond to industry's request. Therefore, the draft specification shows that the skylight criteria is "under review". This will not prevent NRCan from publishing a final specification by the end of May 2018. The skylight criteria will be added later in 2018. The implementation date of the skylight criteria will be part of the review process, but it is currently anticipated that it will remain January 1, 2020.

Most Efficient Criteria

Some felt that the increased level of stringency for the ENERGY STAR Most Efficient Windows specification for January 1, 2019 did not give the industry time to prepare for the changes proposed.

NRCan is now proposing that the Most Efficient specification changes will take effect January 1, 2020. In the interim, however, NRCan has decided to add a U-factor maximum of 1.42 W/m² to the ER path of compliance effective January 1, 2019. NRCan is also considering adding sliding glass doors to the Most Efficient specification either in 2019 or 2020.

Comments

Comments on the draft fenestration specification and the Windows Most Efficient criteria should be received by **May 11, 2018**. Please address any comments to:

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