

A440-98 grants condensation protection choice to window consumers

Some of the most important changes to the condensation section of the Canadian Standards Association's 1998 window's upgrade, CSA A440-98, are found in the user information which explains to homeowners and architects how best to factor relative humidity and condensation resistance into their window selection or product specification.

Highlighting this particular section is a name change, necessitated by using more accurate test values in determining what was previously called the Temperature Index. To prevent market-place confusion, it has been renamed a Temperature Factor — an explanation of which, plus charts, can be found in Appendix G of the new standard.

An innovation featured in the '98 version is a more concise way of determining the appropriate indoor relative humidity (RH) to be used where levels are not specifically controlled — which happens to be the case for the majority of residential buildings.

As revealed by recent Canada Mortgage and Housing Corp.'s mold studies (See page 1), humidity can vary in houses in the same location from 20% RH to 70% RH — so this is indeed an important task to get correct.

By reviewing a series of independent monitoring reports and consulting with leading building scientists throughout Canada, the CSA A440 condensation sub-committee was

able to identify typical residential RH levels for different winter design temperatures (See Chart 1).

These typical RH levels, lower on the cold, dry Prairies and higher in mild, damp Maritime regions, are then paired with local winter design temperatures, so that the

appropriate window Temperature Factor (TF) can then be selected (See Chart 2).

For window selection, Temperature Factor use is not mandatory, nor is it a complete guarantee that condensation will not form. Instead, the idea is to provide consumers the opportunity to select windows with sufficient condensa-

tion protection to ensure that the occasional occurrence of fogging would never be enough to support mold growth or lead to other negative impacts.

In variable-RH residences or buildings that are condensation sensitive, it is interesting to note

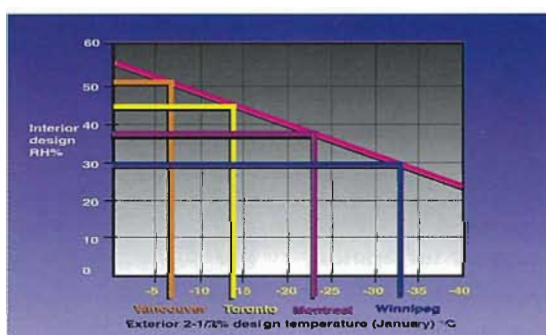


George Casselman,
CSA A440 Chairman

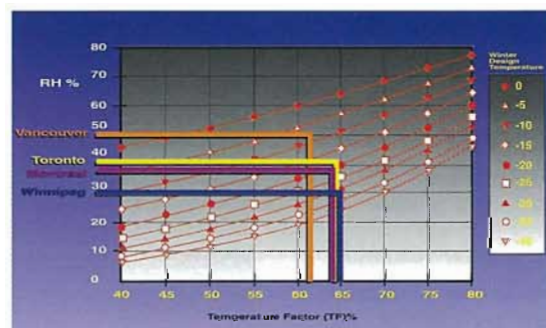
that almost everywhere in Canada a window TF of 65 is required, except for the mildest areas of B.C. (See Chart 2).

The CSA's A440 chairman, George Casselman, is a strong believer in getting this kind of consumer-friendly information out to the public. "The ability to have a system that defines whether a product is going to work in my house or not, is something I think is very important."

"It's also important to remember," he notes, "that while U-Value and energy efficiency are strongly promoted to consumers these days, condensation is still one of the main complaints by end-users."



CSA A440-98: Suggested interior humidity levels for variable-RH buildings



CSA A440-98: Suggested Temperature Factors for variable-RH buildings

Edgetech
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Edgetech IG Inc.
800 Cochran Avenue
Cambridge, OH 43725
Tel. 1-740-439-2338
Fax. 1-740-439-0121

(Toll free in North America)
1-800-233-4383

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