

XPSA BULLETIN - LTTR COMPLIANCE



NOVEMBER, 2017

FAQs: XPS Compliance to the 2015 Canadian National Building Code (NBC)

1) What are the new product requirements for XPS in the 2015 NBC?

CAN/ULC S701-11 is the updated product standard for both extruded and expanded polystyrene insulation in the 2015 NBC.

- a. CAN/S701-11 lists two methods for thermal resistance:
 - i. R-value (ASTM C518 or ASTM C177) – with CAN/ULC S701-11 conditioning requirements
 - ii. Long-term thermal resistance (LTTR) per CAN/ULC-S770 – a new requirement
- b. The long-term thermal resistance (LTTR) values represent the 15-year time weighted average R-value, equivalent to 5-year storage at standard laboratory conditions.
- c. CAN/ULC S701-11 specifies a minimum LTTR value of 1.68 RSI. XPS products equal or exceed this value.

2) Which thermal resistance value is intended for design?

CAN/ULC S701-11 states that the LTTR value, measured at 50 mm (1.97 inches), shall be the design thermal resistance value.

3) What are the minimum thermal resistance values in CAN/ULC S701-11?

Type	CAN/ULC S701-11 Min. R-value Thermal Resistance @ 25 mm (0.98 inch)	CAN/ULC S701-11 Min. Long-Term Thermal Resistance (LTTR) @ 50 mm (1.97 inch)
2	RSI - 0.70 (R - 3.97)	RSI - 1.68 (R - 9.54)
3	RSI - 0.74 (R - 4.20)	RSI - 1.68 (R - 9.54)
4	RSI - 0.86 (R - 4.88)	RSI - 1.68 (R - 9.54)

4) What labeling changes are triggered by CAN/ULC S701-11 in 2015 NBC?

- a. CAN/ULC S701-11 requires the product to be labeled with its LTTR value.
- b. XPS products are labelled with an R-value tested per ASTM C518 and LTTR that is equal to or above the minimum requirements of the product standard. The LTTR value is confirmed by a CCMC report or a recognized third-party evaluation agency report or listing.
- c. The R-value and LTTR values are located either on the product or unit label.

5) What is the current version of the national model code in each province/territory and the corresponding product label requirements according to CAN/ULC S-701-11? (As of Aug., 2017)

Province/ Territory	NBC Adoption	S701 Version	Product Label
BC (*)	2010	S701-05	R-value
AB	2010	S701-05	R-value
SK	2010	S701-05	R-value
MB	2010	S701-05	R-value
ON	2010	S701-05	R-value
QC	2010	S701-05	R-value
NB	2010	S701-05	R-value
NS	2015	S701-11	LTTR(**)
PEI	2010	S701-05	R-value
NI & LAB	2010	S701-05	R-value
NWT	2015	S701-11	LTTR(**)
YT	2015	S701-11	LTTR(**)

* City of Vancouver also has its own building regulations, similar to BCBC

** Manufacturers may elect to report R-value in addition to LTTR

6) Where can I learn more about the in-service factors that affect the RSI thermal resistance of either XPS or EPS insulation?

See the *XPSA Bulletin – RSI Design Values* for further information on the effect of temperature, bulk moisture, long-term aging and air/vapor-permeability on rigid foam insulation R-values.