XPSA
EXTRUDED POLYSTYRENE FOAM ASSOCIATION

1280 National Press Building
529 14th Street, NW
Washington, DC 20045
Phone: (202) 591-2466
Fax: (202) 591-2445
Website: www.xpsa.com

XPSA BULLETIN - LTTR COMPLIANCE

MARCH 2021

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 S701.1 is the most recent product standard for both extruded and expanded polystyrene insulation in the 2015 NBC.

a. CAN/S701.1-17 is referenced in the most recently published 2015 NBC, and lists two methods for thermal resistance:
   i. R-value (ASTM C518 or ASTM C177) – with CAN/ULC S701.1 conditioning requirements
   ii. Long-term thermal resistance (LTTR) per CAN/ULC-S770
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 S701.1 specifies minimum LTTR values for the different Types of XPS. XPS products equal or exceed this value.

2) Which thermal resistance value is intended for design?

CAN/ULC S701.1 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 S701.1-17?

Type	CAN/ULC S701.1-17 Min. R-value Thermal Resistance @ 25 mm (0.98 inch)	CAN/ULC S701.1-17 Min. Long-Term Thermal Resistance (LTTR) @ 50 mm (1.97 inch)
2	RSI - 0.70 (R - 3.97)	RSI - 1.62 (R -9.20)
3	RSI - 0.74 (R - 4.20)	RSI - 1.62 (R -9.20)
4	N/A	RSI - 1.66 (R-9.43)

4) What labeling changes are triggered by CAN/ULC S701.1 in 2015 NBC?

a. CAN/ULC S701.1 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? (As of Feb. 2021)

Province/ Territory	NBC Adoption	S701 / S701.1 Version(*)	Product Label
BC (**)	2010	S701-11	LTTR(***)
AB	2010	S701.1-17	LTTR(***)
SK	2010	S701-11	LTTR(***)
MB	2010	S701-05	R-value
ON	2010	S701-11	LTTR(***)
QC	2010	S701-05	R-value
NB	2010	S701-05	R-value
NS	2015	S701.1-17	LTTR(***)
PEI	2010	S701.1-17	LTTR(***)
NL	2010	S701.1-17	LTTR(***)
NWT	2015	S701-11	LTTR(***)
YT	2015	S701-11	LTTR(***)

* CAN/ULC S701 was revised to CAN/ULC S701.1 with the 2017 edition of the standard
** 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.