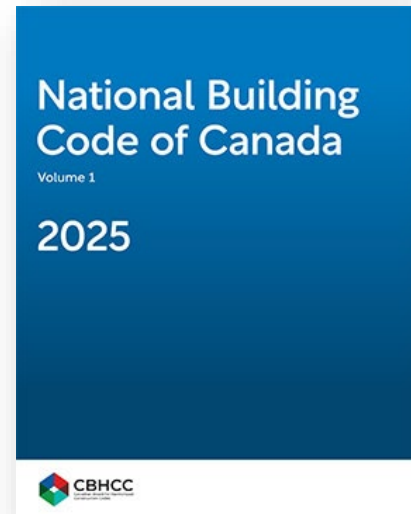


Protection of Foam Plastic Insulation Under the 2025 National Building Code of Canada

Did you know?

The 2025 National Building Code of Canada (NBC) has brought changes to the protection of foam plastic insulation. These changes impact the current approvals of protective thermal barrier materials evaluated to CAN/ULC S124:2006, a method that evaluates proposed thermal barriers based on thermal transmission across the protective medium to the foam surface, based on changes in CAN/ULC S124:2018. At the same time, the code updates create opportunities for new alternative materials to be used in the protection of foam plastic, based on in-service type testing to the CAN/ULC S145:2018 Full Scale Room Test, similar to evaluations done for alternative thermal barriers under the International Building Code (IBC) *Special Approval process*.



Combustible Construction and Part 9 Structures

For combustible construction, Section 3.1.4.2(1)(d) of the 2025 NBC allows a thermosetting foam plastic insulation to be protected by a covering that meets either of the following:

- The 10-minute classification per CAN/ULC S145 Full Scale Room Test
- Any protection method compliant with Section 3.1.5.15(2), Protection of Foam Plastics in Non-Combustible Construction

For structures governed by Part 9 of the 2025 NBC, Section 9.10.17.10 allows protection of foamed plastic materials to be any of the following:

- Any prescriptive material outlined in Sections 9.29.4 through 9.29.9
- A metal with a melt temperature greater than 650 degrees Celsius and a minimum thickness of 0.38 mm that is mechanically secured
- A material meeting Section 3.1.5.15(2), Protection of Foam Plastics in Non-Combustible Construction

A material that complies with the 10-minute classification per CAN/ULC S145 Full Scale Room Test, as referenced in Section 3.1.4.2(1)(d) where protecting thermosetting foam



SECTION CHANGES CAN/ULC S124:2006 → CAN/ULC S124:2018

Changes to the method and uses per the 2025 NBC are present depending on installation goals. Past CAN/ULC S124:2006 may no longer be sufficient for showing compliance.

CAN/ULC S145 and In-Service Evaluation

The CAN/ULC S145 Full Scale Room Test allows the evaluation of the foam plastic with its protective covering is a installed room corner module. This is a new approach to foam plastic protection compared to the past CAN/ULC S124 temperature-rise method, which limited many protection types from evaluation. Specifically, S124 excluded systems that activated or reacted to provide protection at temperatures rises above 140 degrees Celsius average, even though many of those systems have been proven effective at foam protection under the IBC for years, where they were evaluated in the installed condition as required by IBC Section 2603.9 Special Approval.

It is worth noting that while the CAN/ULC S145 method evaluates a room corner module condition in a manner similar to the approach followed under IBC Section 2603.9 *Special Approval*, the exposures and methodology of CAN/ULC S145 and the 2025 NBC allowances differ from the IBC methodology. Evaluation to the Canadian code requirements is therefore necessary to meet 2025 NBC requirements.

How can QAI help?

QAI routinely evaluates products for compliance with the methods outlined in Part 3 of the NBC, including CAN/ULC S145, CAN/ULC S124, and CAN/ULC S101 full-scale assemblies.

Contact us at info@qai.org or 1.888.540.4024 with any questions related to the protection of foam plastics.

