

Surface Burning Characteristics – CAN/ULC-S102 and S102.2 vs. ASTM E84 (UL 723)

MAA members should be aware of the differences between CAN/ULC-S102 *“Test for Surface Burning Characteristics of Building Materials and Assemblies”*, CAN/ULC-S102.2 *“Test for Surface Burning Characteristics of Flooring, Floor Coverings, and Miscellaneous Materials and Assemblies”*, and ASTM E84 *“Test for Surface Burning Characteristics of Building Materials”*.

NBC 2010 – 3.1.12.1 requires flame spread ratings and smoke developed classifications of a material or assembly be determined by tests conducted in conformance with CAN/ULC-S102, S102.2 as applicable, or as permitted by Appendix D. The Canadian standard CAN/ULC-S102 and US standard ASTM E84 (UL 723) utilize the same tunnel apparatus designed to test products mounted in a ceiling position. However, CAN/ULC-S102.2 adapts the apparatus to test certain products in the floor position, depending upon the intended use or composition of the sample. This difference in mounting means that test results on the same material can differ between US and Canada.

Many building products are only tested to ASTM E84 and not to CAN/ULC-S102 or S102.2. Strict adherence with the prescriptive NBC requirements means that materials and assemblies must be tested to CAN/ULC-S102 or S102.2. The proper procedure for determining whether products can be used that do not meet the prescriptive NBC requirements, but that do meet similar international standards (ie. ASTM E84) is by compliance through an alternative solution as per clause 1.2.1.1. (1)(b) of Division A of the 2010 NBC. **The alternative solution needs to be evaluated and accepted by the AHJ to ensure that the objectives of the applicable NBC requirements have been satisfied.**