

## Preface

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# ***Cellulose Fibre Insulation (CFI) For Buildings***

## Scope

These Evaluation Listings apply to treated, wood-based, cellulose fibre intended for use as thermal insulation (cellulose fibre insulation, CFI) in new and existing buildings. The continuous use temperature range is within  $-60^{\circ}\text{C}$  to  $90^{\circ}\text{C}$ . The proponent has demonstrated that the product meets at least one of the following standards:

- CAN/ULC-S703-01 (including Amendment 1), “Standard for Cellulose Fibre Insulation (CFI) for Buildings.”
- CAN/ULC-S703-09, “Standard for Cellulose Fibre Insulation (CFI) for Buildings.”

The standard describes two types of CFI. They are defined in CAN/ULC-S703-09 as follows:

- Type 1 is intended for pneumatic application into open areas with slopes up to 4.5:12, or injection application into closed cavities, such as walls, floors, and cathedral ceilings. Type 1 may also be manually applied (poured application).
- Type 2 is intended for spray application with water or liquid adhesive into open areas regardless of slope (eg. attics), exposed surfaces (eg. walls or ceilings) and/or into any open cavity (eg. wall, floor, or ceiling cavities) that may be closed later. This product may also contain internal binders to increase the adhesive/cohesive capabilities of the sprayed fibres in order to reduce settlement and/or ensure it remains in place.

## Standard (2001 and 2009 Versions)

**Table 1. Performance Requirements for Physical Properties of CFI (Type 1 and Type 2)**

Property	Unit	Requirement
Thermal resistivity	m·K/W	Minimum 18.5
Open flammability	W/cm <sup>2</sup>	Minimum 0.12
Open flammability permanency	W/cm <sup>2</sup>	Minimum 0.12
Surface burning characteristics <sup>(1)</sup>	FSI	Maximum 150 (Type 1) Maximum 25 (Type 2)
Smoulder resistance	%	Maximum 15
Moisture vapour sorption	%	Maximum 20
Corrosiveness	–	No perforations
Fungi resistance	–	Fungal growth shall not exceed that of the comparative item
Separation of chemicals	%	Maximum 1.5
Design density	kg/m <sup>3</sup>	As determined

**Table 2. Additional Requirements for Type 2 Product**

Property	Unit	Requirement
Added water <sup>(1)</sup>	%	Maximum 20
Design Moisture <sup>(2)</sup>	%	Maximum 20
Settlement – open spaces	%	Maximum 5
Cohesion/adhesion exposed surfaces <sup>(2)</sup>	–	Minimum 5 times the mass of the material under the test plate

### Notes to Tables 1 & 2:

- (1) Requirement in CAN/ULC-S703-01 version only.
- (2) Requirement in CAN/ULC-S703-09 version only.

## Labelling

The standard requires that each bag of insulation be identified with the following information:

- manufacturer's name and address;
- trade name of the product;
- generic product name;
- material type and sub-type (i.e. Type 1 (open spaces) and/or Type 2 (closed cavities));
- package mass;
- standard number CAN/ULC-S703;
- day/month/year of manufacture or traceable code number;
- coverage table(s) providing the information described in the appropriate Subsection of the standard; and
- a cautionary note as follows:
  - “CAUTION: Maintain building, electrical, gas and oil safety code required clearances between the insulation and heat-emitting devices, such as fuel-burning appliances, chimney pipes, ducts and vents to these appliances (at least 50 mm) and recessed light fixtures (at least 75 mm) unless approved for insulation contact.”

## **National Building Code of Canada (NBC)**

### *NBC References*

The CAN/ULC-S703-01 standard is referenced in Clause 9.25.2.2. (1)(e) and Table 5.10.1.1. of Division B of the NBC 2010,

The CAN/ULC-S703-09 standard is not referenced in the NBC 2010.



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### ***Type 1 Natural Fibre Insulation***

#### ***1. Evaluation***

The product conforms to CAN/ULC-S703-09, “Cellulose Fibre Insulation (CFI) for Buildings.” The evaluation of this product is based solely on its certification and listing by Underwriters Laboratories Inc. to CAN/ULC S703, Type 1.

#### ***2. Description***

A cellulose fibre thermal building insulation made from recycled newspapers and treated with fire-retardant additives.

#### ***3. Standard and Regulatory Information***

See the [Preface](#) and the standard for explanation.

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