



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°C to 90°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 ²	Minimum 0.12
Open flammability permanency	W/cm ²	Minimum 0.12
Surface burning characteristics ⁽¹⁾	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 ³	As determined

Table 2. Additional Requirements for Type 2 Product

Property	Unit	Requirement
Added water ⁽¹⁾	%	Maximum 20
Design Moisture ⁽²⁾	%	Maximum 20
Settlement – open spaces	%	Minimum 5
Cohesion/adhesion exposed surfaces ⁽²⁾	–	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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Thermal Green Ultra

1. Evaluation

Conforms to CAN/ULC-S703-01. The thermal resistance value is $24.5 \text{ m}^2\cdot\text{KW}^{-1}/\text{m}$ at the design density. This product shall be applied in open spaces and according to the following application chart:

RSI Value ($\text{m}^2\cdot\text{K}/\text{W}$)	Minimum Applied Thickness (mm)	Minimum Settled Thickness (mm)	Mass Per Unit Area (kg/m^2)	Maximum Net Coverage per 13.6-kg Bag (m^2)
1.8	79	71	1.6	8.4
2.1	94	84	1.9	7.2
3.5	157	142	3.2	4.2
5.2	236	211	4.8	2.8
5.5	254	226	5.1	2.6
6.0	277	246	5.6	2.4
7.0	315	282	6.4	2.1
8.7	396	353	8.0	1.7
10.4	475	424	9.6	1.4

2. Description

A Type 1, loose-fill, cellulose-fibre thermal building insulation manufactured from paper and modified with chemical additives. The paper consists of at least 95% used or unused, or a combination of both, newsprint feedstock, with a permissible maximum of 5% of paper obtained from telephone directories, paperback books, and glossy paper (glossy paper shall not exceed 1%). The design density is $22.7 \text{ kg}/\text{m}^3$.

3. Standard and Regulatory Information

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

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