



## GENERAL PRODUCT INFORMATION

### *Cellulose Fibre Insulation (CFI) Products*

Revised JUNE/03

# **WEATHERSHIELD™ Loose-Fill CFI**



## DESCRIPTION

*Weathershield™* is a fibrous loose-fill thermal/acoustical insulation product manufactured from selected recycled paper stock blended with appropriate additives to provide resistance to fire, fungi, corrosion and pests. Each package of *Weathershield™* displays Environment Canada's "EcoLogo" (Environmental Choice Program), classifying it as an "environmentally friendly" or "green" building product.



## APPLICATIONS

Although designed to be pneumatically placed using a blowing machine and delivery hose, *Weathershield™* can also be spray-applied or even hand-poured in certain applications. Machine application is best, ensuring the product is properly conditioned and placed in the most efficient and economical manner.

As a loose-fill, *Weathershield™* is ideal for horizontal or moderately sloped attic spaces up to 4½:12 in pitch. This product is also pneumatically dry-injected to fill enclosed spaces such as the cavities of flat or sloped ceilings, vertical walls and floors. *Weathershield™* is used in both new construction and retrofit applications.

## PERFORMANCE

*Weathershield™* offers greater performance value than other fibrous insulation types. Light density materials such as glass fibre products are susceptible to air infiltration and convective heat loss which can dramatically reduce the rated R-value of these products. In comparison, *Weathershield™*'s high density dramatically reduces air leakage, controlling air and moisture infiltration. Also, *Weathershield™*'s organic fibres are far less susceptible to convective and radiative heat loss and therefore perform better in keeping you both warmer in winter and cooler in summer.

Properly applied, *Weathershield™* will not settle under normal conditions of service. In addition, thermal resistance, acoustical value, fire resistance or any other characteristics are permanent features of the product. These *Weathershield™* benefits will not change with the passage of time.

## LIMITATIONS

CFI products like *Weathershield™* must not be in direct contact with high-temperature heat sources or be installed where the service temperature exceeds 90°C. Maintain building, electrical, gas and oil safety code 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.

Exposure to free water can damage the chemical treatment of CFI products, thus reducing the effectiveness and thermal resistance of the product. CFI products are not recommended for use inside cement block cavities or for filling the cavities of masonry walls.

## COMPARATIVE BENEFIT

In terms of thermal resistance (R-value), *Weathershield™* exhibits a higher R-value and greater stability than common glass fibre products (see "Performance" above). *Weathershield™*'s R-value (per unit thickness) varies little over the full range of densities at which it is installed. In comparison, loose-fill glass fibre products are very density-dependent – if excessively fluffed on installation (which can be easily done), thermal performance is significantly reduced. Glass fibre batts are notoriously difficult to install (especially around obstacles) without leaving voids or gaps that allow heat (and moisture) to escape. *Weathershield™* effectively fills around all obstacles, eliminating any providing more thermal efficiency. In retrofitting attics, the thermal performance of existing batts can be regained by installing two or three inches of *Weathershield™* over top, thereby increasing overall infiltration resistance and reducing convective heat loss in the batts.

In terms of fire resistance, *Weathershield™* is more fire resistant than common glass fibre materials. Under fire conditions, glass fibre shrinks and melts away, exposing the underlying structure to the fire. In comparison, *Weathershield™* will char on the surface exposed to flames but resists further degradation, protecting the structure longer, providing more time for evacuation and more time for fire fighters to save the structure.

In terms of moisture control, *Weathershield*™'s cellulose fibres are capable of dealing with the levels associated with condensation. The fibres absorb incident moisture and transfer it to drier areas of the matrix where it can be dissipated through evaporation. Due to *Weathershield*™'s higher density and resistance to air infiltration, moisture is not allowed to reach dew point (or the dew point is maintained within the material) so condensation problems do not occur. This is why CFI applied without a vapour barrier will function well and not present moisture problems. Glass fibre products do not exhibit this moisture control capability. This is why a well-sealed vapour barrier is necessary when using glass fibre products.

In terms of acoustical control, *Weathershield*™ offers superior performance. Cellulose fibres offer excellent sound absorptive qualities and denser products like *Weathershield*™ tend to perform better by imparting more mass to the structure. Its loose-fill nature also allows it to become an integral part of the structure, filling in around obstacles and sealing up any crevices or gaps in construction. In the same way *Weathershield*™ offers better thermal performance, it also provides better acoustical control.

## TECHNICAL EVALUATION

*Weathershield*™ is manufactured in accordance with the specified requirements of CAN/ULC-S703-01 (*Standard for Cellulose Fibre Insulation (CFI) for Buildings*) under a quality system based on the ISO 9001:2000 quality assurance model.

*Weathershield*™ conforms to the National Building Code of Canada (NBC 1995) and has been evaluated and registered by the Canadian Construction Materials Centre (CCMC # 09218-L).

Thermal Resistivity:	RSI-0.0258 /mm (R-3.72 per inch thickness)		
Design Coverage Density:	(attic)	22.9 kg/m <sup>3</sup>	(1.43 lb/ft <sup>3</sup> )
	(wall)	48.0 kg/m <sup>3</sup>	(3.00 lb/ft <sup>3</sup> )

Under CAN/ULC-S703-01, *Weathershield*™ passes tests for fire resistance that include flame spread, smoulder resistance and open-flammability (with tests for resistance permanency), as well as tests for moisture absorption limits, fungi resistance and corrosion resistance.

*Weathershield*™ provides a Noise Reduction Coefficient (NRC) of 0.75 for a 25mm (1") thickness. Acoustical evaluations for Sound Transmission Class (STC) are available for specific assemblies of walls, floors and ceilings.

*Weathershield*™ complies with CCMC's Technical Guides for "Loose Fill Cellulose Insulation" (Masterformat No. 07215.1) and "Loose Fill Cellulose Insulation System for Walls" (Masterformat No. 07215.5).

Can-Cell Industries Inc. has qualified professionals available to assist and advise. Extensive technical data is available to address specific situations.

## INSTALLATION

*Weathershield*™ is to be installed in accordance with the *General Installation Guidelines for Weathershield*™ Insulation. This Can-Cell document provides detailed information regarding preparatory work, inspection, application methods and installation equipment.

*Weathershield*™ requires no specific maintenance. For attic installations, it is recommended that the building owner periodically inspect the attic to ensure that access traffic has not displaced insulation, disturbed ventilation or permitted insulation to contact heat sources.

Can-Cell Industries Inc. warrants *Weathershield*™ to meet published specifications provided it is properly installed. The applicator must warrant the particular installation.

## PRICING AND AVAILABILITY

*Weathershield*™ is available throughout Canada. Cost will vary due to factors of local labour, shipping (freight), volume (quantities) and unusual conditions. Contact a Can-Cell representative for details on your specific requirements.

***For further information, please visit our website or call toll-free to speak with a Can-Cell representative.***

**[www.can-cell.com](http://www.can-cell.com)**



**1-800-661-5031**