



SUBMITTAL FORM All Greenfiber Products

WALL AND ATTIC APPLICATIONS

Submitted To: _____

Submitted By: _____

Job Reference: _____

Job Name: _____

Greenfiber Product Attributes

Fire Safety

All Greenfiber Products meet CPSC Flame Spread (≥ 0.12 Wcm²) and Smolder Combustion ($\leq 15\%$ weight loss) requirements. The ASTM E84 Results for SANCTUARY are Smoke Developed = 0 and Flamespread is at 10. Simulated building test have shown that structures insulated with cellulose insulation can stand up to 60% longer in the event of a fire compared to structures insulated with fiberglass batts'. Greenfiber has a number of proprietary Underwriters Laboratories Fire-Resistance Rated assemblies using various products.

Declare Compliant

All Greenfiber® products are Declare compliant. Declare is a transparency platform that is changing the materials marketplace. It answers the following questions about a product: Where does a product come from? What is it made of? Where does it go at the end of its life?

Declare has been approved as a compliance pathway for the LEED v4 Building Product Disclosure and Optimization Credit, Option. The LEED v4 credit calls for the chemical inventory of a product to at least 1000ppm; Declare labels that achieve a declaration status of "Red List Free" or "Declared" fulfill the credit disclosure requirements.

Additionally, any fully disclosed "LBC Compliant" label and any "LBC Compliant" label using the I10-E4 Proprietary Ingredients Exception, with a minimum disclosure threshold of 99.9%, meets the LEED v4 Building Product Disclosure and Optimization Credit, Option reporting requirements.



Declare certifies that Greenfiber will maintain a minimum of 85% recycled content.



Environmental Attributes

Greenfiber Cellulose Insulation is made from up to 85% recycled paper, and cardboard—higher recycled content than almost any other commonly used building material. This plant-based, or biogenic, material locks carbon into the paper for the life of the product. Couple this with low-energy manufacturing and short-haul transportation, and it's clear why cellulose insulation is the responsible choice for homeowners and the planet.

Selecting low-carbon building material options can dramatically reduce emissions while providing the same level of building performance, or higher. As insulation levels in buildings increase to meet higher energy efficiency requirements, choosing insulation products based on their embodied carbon is crucial. Since cellulose insulation is derived from trees, it sequesters carbon in the walls and ceilings of homes, a feature not seen in other types of insulation products that are commercially available. As a result, Greenfiber Cellulose Insulation has the lowest embodied carbon of any other major insulation product.



Read more from our EPD here

ENERGY STAR Certified

SANCTUARY Blow-In or Spray-Applied Insulation and FRM for SANCTUARY Two-Hour Firewall by Greenfiber are ENERGY STAR certified products, meeting strict energy efficiency specifications set by the U.S. EPA.

View the UL Report that certifies the test results for Loose-Fill Insulation manufactured by Greenfiber as compared to the criteria provided by the Seal and Insulate with ENERGY STAR Insulation Definitions and Testing Requirements for Residential Insulation Version 1.0 and the relevant building and energy codes.



To learn more about the long list of Environmental attributes of all these products, please visit Greenfiber's website at www.greenfiber.com/homeowners/what-is-cellulose.

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Better Sound Control

Greenfiber insulation is engineered to fill the tiny joints, crevices and gaps hidden within your attic, walls, floors and ceilings. Proven to reduce the power of sound by up to 60%, it serves as a scientifically advanced barrier capable of muffling sounds that typically infiltrate and reverberate through our homes.

Underwriters Laboratories Classification

Evaluated by UL for the ICC with AC10 Audits under file ICC- ER- 15890. All Greenfiber products are UL Classified and carry the Classification mark with the relevant properties and other information on the bags. This is true for both the United States and Canada. See a complete listing of UL assemblies at <https://www.greenfiber.com/builders-architect>



Test Requirements

Greenfiber insulation meets all test requirements of ASTM C739-08 (US), CAN/ULC-S703-09 in Canada, CPSC 16 CFR 1209, 400, FTC 16 CFR 460, 1404, and all FHA, VA HUD and building code requirements. Tests include but are not limited to:

- Corrosiveness
- Fungi Resistance
- Surface Burning Characteristics
- Critical Radiant Flux
- Moisture Vapor Sorption
- Thermal Resistance
- Design Density
- Odor Emission
- Open Flammability
- Separation of Chemicals
- Permanency
- Smoldering Combustion

United States – Loose-Fill and Stabilized

Product Type	Product Code	Description	R-Value	Minimum Thickness (Inches)		Applicable Standards/ Specifications
				Installed	Settled	
All-In-1 All Borate Loose-Fill and Spray Applied Insulation	SANCTUARY	Designed for new construction and retrofit. Spray applied wall applications, stabilized attic, loose fill attic and any dry dense-pack applications. Made of 85% recycled paper fibers treated for fire resistance.	R-19	5.7	5.3	Flame spread of 10 and smoke developed of 0
			R-30	8.9	8.3	
			R-38	11.2	10.4	
			R-49	14.3	13.3	
			R-60	17.3	16.1	

United States – Spray Applied

Application	Product Code	R-Value	Wall Framing	Minimum Thickness	Applicable Standards/ Specifications
Spray Applied	SANCTUARY	R-13	(2x4)	3.50	Flame spread of 10 and smoke developed of 0
		R-21	(2x6)	5.50	

United States – Dry Dense Pack

Application	Product Code	R-Value	Wall Framing	Minimum Thickness	Applicable Standards/ Specifications
Dry Dense Pack	SANCTUARY	R-13	(2x4)	3.50	Flame spread of 10 and smoke developed of 0
		R-21	(2x6)	5.50	
		R-28	(2x8)	7.50	

United States – Loose-Fill

Product Type	Product Code	Description	R-Value	Minimum Thickness (Inches)		Applicable Standards/ Specifications
				Installed	Settled	
Cellulose Insulation	Supreme Plus	Cellulosic Fiber Loose-Fill Insulation to be blown dry or with moisture into attics. Made of 100% recycled newsprint treated with Zone Defense insecticide.	R-13	4.3	3.8	CPSC Standard HH-I-515E Federal Regulation 16 CFR 1209, 1404, ASTM C739, ASTM E84
			R-19	5.9	5.3	
			R-22	6.8	6.1	
			R-30	9.1	8.2	
			R-38	11.4	10.3	
			R-49	14.7	13.2	

United States – SANCTUARY Two-Hour Firewall

Application	Product Code	Installed Density and Coverage of FRM – SF PER BAG				Applicable Standards/ Specifications
Spray Applied	FRM100	Target Finished Density (Dry pcf)	8" Cavity	12" Cavity	Minimum Finished Density (Dry pcf)*	Flame spread of 10 and smoke developed at 20
		4.0	12.0	7.5	3.35	

*If any part of the assembly has a dry (10% or less moisture by weight) density less than 3.35 PCF, the wall is no longer an approved UL two hour fire assembly.

Canada

Product Type	Product Code	Description	R-Value	Minimum Thickness (Inches)		Applicable Standards/ Specifications
				Installed	Settled	
All-In-1 All Borate Loose-Fill and Spray Applied Insulation Type 1 Type 2	INSSANC-CAN	Designed for new construction and retrofit. Spray applied wall applications, stabilized attic, loose fill attic and any dry dense-pack applications. Made of 85% recycled paper fibers treated for fire resistance.	R-40	11.9	10.8	CAN/ULC-S703-09 CAN/ULC-S102.2 ASTM S-703
			R-50	14.9	13.5	
			R-60	17.8	16.2	
			R-70	20.8	18.9	
			R-80	23.8	21.6	
Loose-Fill Insulation Type 1 Open	INS553-CAN	Designed for new construction or retrofit loose fill attic and wall applications. Made with up to 85% recycled paper fibers treated for fire resistance.	R-40	12.1	10.8	CAN/ULC-S703-09 CAN/ULC-S102.2 ASTM S-703
			R-50	15.1	13.5	
			R-60	18.2	16.2	
			R-70	21.2	18.9	
			R-80	24.2	21.6	
Loose-Fill Formula Type 1 Open	INS517-CAN	Designed for loose-fill attic and wall applications. Made with up to 85% recycled paper fibers treated for fire resistance.	R-40	11.8	10.5	CAN/ULC-S703-09 CAN/ULC-S102.2 ASTM S-703
			R-50	14.7	13.2	
			R-60	17.7	15.8	
			R-70	20.6	18.4	
			R-80	23.6	21.1	

Definitions:

"Stabilized" in the document refers to blown-in-products that require water to activate an adhesive, for either Stabilized attic or Spray Applied application. "Loose-fill" in the document refers to blown-in-products that do not require water for application, for either loose fill attic or Dry Dense-Pack application.

¹ As demonstrated by The Large Scale Outdoor Fire Test Program comparing the fire performance of three structures:

- (1) an uninsulated structure;
- (2) a structure insulated with R-13 fiberglass batts (wall cavities) and blown-in, loose fill insulation (attic floor); and
- (3) a structure insulated with Greenfiber's cellulose insulation using spray applied cellulose insulation (wall cavities) and blown-in, loose-fill cellulose insulation (attic floor) - Prepared by Steven Winter Associates Inc.

² Estimates based on our raw material usage, <https://www.usi.edu/recycle/paper-recycling-facts/>

³ https://www.cellulose.org/Cellulose-Insulation-2nd.php?pagename=low_embodied_energy_insulation&dirname=CIMA, <https://www.transparencycatalog.com/company/cima-cimac>

