Submittal Form

SANCTUARY® by Greenfiber Insulation

SANCTUARY®
by GREENFIBER®

WALL & 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 (<15% weight loss) requirements. The products are Class A fire blocking material with ASTM E 84 Smoke Development of <35 in cavities.
All products also have ASTM E-84 Flame Spread of <25. 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[1]. Greenfiber has a number of proprietary Underwriters Laboratories Fire-Resistance Rated assemblies using various products.

Environmental Attributes

While carbon reduction is a global challenge, the solutions are found at the local level. Buildings and their construction account for 39% of global carbon dioxide emissions; 28% of emissions that come from operational carbon – or the energy used to power, heat and cool a building. The remaining 11% of carbon emissions are from building materials and construction. This "embodied carbon" can account for half of the total carbon footprint over the lifetime of the building[2]. Choosing the right insulation has a real impact on our environment.

SANCTUARY® Cellulose Insulation by Greenfiber® is the only major insulation product that is proven to actually reduce global warming potential because made from recycled plant fibers which keep carbon locked in for the life of the product. Couple this with low-energy manufacturing and short haul transportation and it's clear why SANCTUARY lowers the carbon footprint of a building, sequestering carbon for its lifetime. The production of our insulation in just one-year locks in carbon that is equivalent to 157,000 acres of forest[3]. Our manufacturing process requires 13 times less energy compared to fiberglass insulation, and we divert 277,000 tons of paper from landfills annually[4].

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.

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

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.

US Greenfiber, LLC
5500 77 Center Drive, Suite 100
Charlotte, NC 28217

www.greenfiber.com

Email: greenfiber.info@greenfiber.com

Toll Free: 800-228-0024
Fax: 704-522-3748

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Better Sound Control

Greenfiber Insulation is two to three times denser than other insulation products and it fills gaps and voids in areas where it is applied. These characteristics help protect your home from unwanted noise.

Underwriters Laboratories Classification

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

All-In-1 All Borate Loose-Fill and Spray Applied Insulation

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.

United States - Loose-Fill and Stabilized

Application	Product Code	R-Value	Minimum Thickness (Inches)		Applicable Standards/ Specifications
			Installed	Settled	
Loose-Fill and Stabilized (Attics)	SANCTUARY	R-13	5.7	5.3	Federal Regulation 16 CFR 1209, 16 CFR 1404, 16 CFR 460. ASTM C- 739, ASTM E-84, Flame Spread Index ≤5, Smoke Developed Index ≤35. UL ER15890-01 Report
		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 (Sidewall)	SANCTUARY	R-13	(2x4)	3.50	Federal Regulation 16 CFR 1209, 16 CFR 1404, 16 CFR 460. ASTM C- 739, ASTM E-84, Flame Spread Index ≤5, Smoke Developed Index ≤35. UL ER15890-01 Report
		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 (Sidewall and Floor)	SANCTUARY	R-13	(2x4)	3.50	Federal Regulation 16 CFR 1209, 16 CFR 1404, 16 CFR 460. ASTM C- 739, ASTM E-84, Flame Spread Index ≤5, Smoke Developed Index ≤35. UL ER15890-01 Report
		R-21	(2x6)	5.50	
		R-28	(2x8)	7.50	

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] Based on "Understanding the Role of Embodied Carbon in Climate Smart Buildings," published by Think Wood, February 2021.
[3] This comparison is based on an R-30 value for a one-square-foot coverage area and includes the production and energy used in the insulation manufacturing process. (Taken from the Sustainability Impact Index, prepared by Principal Partners).

US Greenfiber, LLC
5500 77 Center Drive, Suite 100
Charlotte, NC 28217

www.greenfiber.com

Email: greenfiber.info@greenfiber.com

Toll Free: 800-228-0024
Fax: 704-522-3748