celbar spray-on systems®

Section 09530
Celbar Material
Specification Guide

PART 1 - GENERAL

1.01 Section Includes

A. Sprayed cellulose thermal [and acoustical] insulation.

1.02 Related Items

A. All rough plumbing, electrical, telephone and data lines must be first completed by other trades prior to the application.

1.03 Submittals

A. Submit product data and manufacturer's certificate that the product meets or exceeds specified requirements.
B. Manufacturer's written certification that product contains no asbestos, fiberglass or other man-made mineral fibers, and free of ammonium based additives.
C. Copy of manufacturer's ISO 9001:2008 Certification.

1.04 Quality Assurance

A. Manufacturer must be ISO 9001:2008 Certification.
B. Manufacturer must subscribe to independent laboratory follow-up inspection services of Underwriters Laboratories. Each bag shall be labeled accordingly.

1.05 Delivery, Storage and Handling

A. Deliver in original, unopened containers bearing name of manufacturer, product identification and reference to U.L. testing.
B. Store materials dry, off ground, and under cover.

PART 2 - PRODUCTS

2.01 Acceptable Manufacturers

A. International Cellulose Corporation
12315 Robin Boulevard
Houston, Texas 77045
(713) 610-4719 or (800) 444-1252
FAX: (713) 610-4759

2.02 Materials

A. Celbar Spray-On Systems.
1. Thermal Resistance values: R=3.8 per inch
2. The sprayed insulation must have been tested in sprayed form by U.L. and have each bag labeled with the reference to U.L. test results according to ASTM E-84/U.L. 723:
a. Tested at a minimum of 4" thickness, Class 1 (A)
b. Flame Spread: 15
c. Smoke Developed: 0
3. Comply with local Building Code Requirements.
4. Celbar wall spray has been tested in wall assemblies using the ASTM E-119 Full Scale Test Procedure.
5. Complies with ASTM C-1149 type II

PART 3 – EXECUTION

3.01 Examination

A. Examine surfaces scheduled to receive insulation for voids, projections, and foreign substances on surfaces, lack of caulking at plates, or other items, which might interfere with integrity of complete wall system. Examine surfaces and report unsatisfactory conditions in writing. Do not proceed until unsatisfactory conditions are corrected.
B. Assure that rough plumbing, electrical conduit and boxes, and other items required to penetrate the sprayed soundproofing are installed before applying soundproofing.
C. Spray-force material into all cracks, holes, seams; seal around electrical receptacles, telephone/ television jacks, ducts and plumbing.

3.02 Preparation

A. Provide masking, drop cloths or other satisfactory coverings for materials/surfaces that are not to receive insulation to prevent damage from over-spray.
B. Coordinate installation of the sprayed cellulose fiber with work of other trades.

3.03 Installation

A. Install spray applied insulation according to manufacturer's recommendations. Apply material with specially designed nozzle using pressure recommended by the manufacturer.
B. Install Celbar wall spray _____inches in the wall assembly for an STC of _____.
C. Cure insulation with continuous natural or mechanical ventilation.
D. Remove and dispose of over-spray.

3.04 Protection

A. Protect finished installation under provisions of Division 1.

INTERNATIONAL CELLULOSE CORPORATION®
MANUFACTURER OF INSULATION SYSTEMS

12315 ROBIN BLVD.
HOUSTON, TX 77045
Office: (800) 444-1252 or (713) 610-4719
Fax: (713) 433-2029
E-mail: icc@spray-on.com
www.celbar.com

Professionally installed by:

Celbar® is manufactured with:
Minimum 80% recycled content

PRINTED IN USA 12/09:

10% TOTAL RECOVERED FIBER
ALL POST-CONSUMER FIBER

Mixed Sources
Product group from well-managed forests, controlled sources and recycled wood or fiber
www.fsc.org Cert no. SW-COC-001530
© 1996 Forest Stewardship Council

celbar spray-on systems®

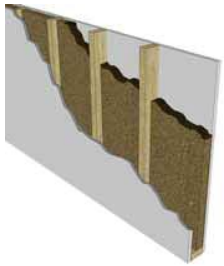
Thermal & Sound Attenuating Material

The Natural Choice®

INTERNATIONAL CELLULOSE CORPORATION®
MANUFACTURER OF INSULATION SYSTEMS

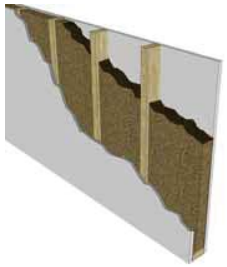
Wood Studs

STC 50



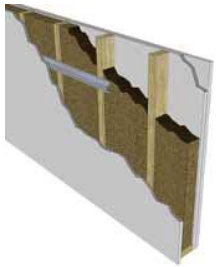
2”x4” wood studs, 1 layer 5/8” gypsum board on each side, 2” Celbar Spray

STC 51



2”x4” wood studs, 1 layer 5/8” gypsum board on each side, 3 1/2” Celbar Spray

STC 57

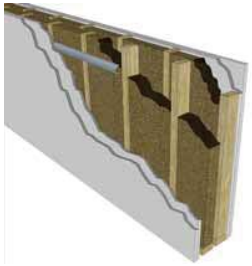


2”x4” wood studs, 2 layer 5/8” gypsum board one side, gypsum board & resilient furring other side, 5 1/2” Celbar Spray

STC 54

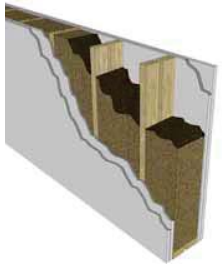
2”x4” staggered wood studs, 2 layer 5/8” gypsum board one side, 1 layer gypsum board other side, 5 1/2” Celbar Spray

STC 62



2”x4” staggered wood studs, 2 layer 5/8” gypsum board one side, gypsum board & resilient furring other side, 5 1/2” Celbar Spray

STC 67



2”x4” wood studs, 2 layer 5/8” gypsum board on each side, 8” Celbar Spray

These assemblies have been tested by Riverbanks Laboratories and industry testing

The Celbar Spray is a cellulose insulation recognized under IBC Section 719 and IRC Section R316. Celbar Spray is a spray-on thermal insulation material and may be used as a component of nonload-bearing, one-hour fire-resistance-rated walls.

ICC Evaluation Service, INC
ESR-2110

LEED Points

Strong emphasis has been placed lately on a construction product’s contribution to the overall LEED rating of a project. International Cellulose’s products can contribute in the following areas.

1 Point MR Credit 3.1:Materials Reuse: 5%

Celbar Wallspray Insulation is salvaged and re-used so that there is no waste-material on job site.

Intent:
Reuse building materials and products in order to reduce demand for virgin materials and to reduce waste, thereby reducing impacts associated with the extraction and processing of virgin resources.

1 Point in addition to MR Credit 3.1 MR Credit 3.2: Materials Reuse: 10%

1 Point MR Credit 4.1: Recycled Content: 10%

Intent:
Increase demand for building products that incorporate recycled content materials, thereby reducing impacts resulting from extraction and processing of virgin materials.

Celbar: 80% Consumer

1 Point in Addition to MR Credit 4.1 MR Credit 4.2: Recycled Content: 20%

Celbar: 80% Consumer

1 Point MR Credit 5.1: Regional Materials: 10% Extracted, Processed & Manufactured Regionally

Intent:
Increase demand for building materials and products that are extracted and manufactured within the region, thereby supporting the use of indigenous resources and reducing the environmental impacts resulting from transportation.

Celbar is manufactured in Houston, TX

1 Point in Addition to MR Credit 5.1MR Credit 5.2: Regional Materials: 20% Extracted, Processed & etc.

1 Point EQ Credit 4.1: Low- Emitting Materials: Adhesives & Sealants

Intent:
Reduce the quantity of indoor air contaminants that are odorous, irritating and/or harmful to the comfort and well-being of installers and occupants.

Celbar’s adhesive VOC Content is < 1 ppm

1 Point EQ Credit 4.2: Low- Emitting Materials: Paints & Coatings

Intent:
Reduce the quantity of indoor air contaminants that are odorous, irritating and/or harmful to the comfort and well-being of installers and occupants.

Celbar’s VOC Content is < 1 ppm

1 Point EQ Credit 4.4: Low- Emitting Materials: Composite Wood & Agrifiber Products

Intent:
Reduce the quantity of indoor air contaminants that are odorous, irritating and/or harmful to the comfort and well-being of installers and occupants.
Celbar does not contain any added urea-formaldehyde resins

Cellulose takes less energy to make than any other insulation material. This is known as embodied energy and includes the total energy required to transport raw materials, manufacture and distribute the product. Fiberglass has up to 10 times more embodied energy than cellulose and foam products up to 64 times.

Cellulose has the highest level of recycled content in the insulation industry - up to 80%. Cellulose insulation is made with recycled paper, paper that might otherwise end up in a landfill. Fiberglass has a maximum of 40% recycled content and foam products little or none.

Go Green

LOW EMBODIED ENERGY

According to the Construction Specifier, March 1994, cellulose is the least energy intensive product when compared to vitreous [glassy] materials. To assess the efficiency of any product, the embodied energy must be first factored. This energy factor is the amount of energy required to produce, transport, and install any product.

Unlike cellulose, vitreous fiber insulation is produced by melting sand, slag or rock in a hot furnace that burns fossil fuels, releasing those spent gasses into our air as pollution. To maintain their extreme high temperatures, the furnace operates continually, never shutting down for the weekend.

CLEAN MANUFACTURING

Celbar Insulation is processed in a clean, efficient, electrically-driven mill that requires relatively little amounts of energy. At the end of the production day, on weekends, and holidays, the mill shuts-down totally. Information supplied to the Canadian Standards Association by a vitreous manufacturer indicated it required 59 times more energy than cellulose on a pound for pound basis.

Type	Installation Methods	R-value per inch (RSI/m)	Raw Materials	Pollution From Manufacture	Indoor Air Quality Impacts	Comments
Celbar	Loose-fill, wall-spray (damp), dense pack, stabilized	3.8	Old Newspapers, cardboard, borates	Negligible	Fibers and chemicals can be irritants	High recycled content and very low embodied energy
Fiberglass	Batts, Loose-fill, semi-rigid board	3.0-4.0 (15-28)	Silica sand, limestone, boron, recycled glass, PF resin or acrylic resin	Formaldehyde emissions and high energy use during manufacture	Fibers can be irritants	High embodied energy
Mineral Wool	Loose-fill, batts, semi-rigid or rigid board	2.8-3.7 (19-26)	Iron ore blast furnace slag, natural rock, PF binder	Formaldehyde emissions and high energy use during manufacture	Fibers can be irritants	High embodied energy; Rigid board can be an excellent foundation drainage and insulator
Cotton	Batts	3.0-3.7 (21-26)	Cotton and polyester mill scraps (especially denim)	Negligible	Considered safe	Two producers, so transportation pollution is higher than other insulation
Closed-cell spray polyurethane foams	Spray-in cavity-fill or spray-on roofing	5.8-6.8 (40-47)	Fossil fuels; HFC-24.5fa blowing agent; non-brominated flame retardant	High energy use during manufacture; global warming potential from HFC blowing agent	Quite toxic during installation (respirators or supplied air required); allow several days of airing out prior to occupancy	Very High embodied Energy
Open-celled, low-density polyurethane foam (Soy)	Spray-in cavity-fill	3.6-3.8 (25-27)	Fossil fuels and soybeans; water as blowing agent; non-brominated flame retardant	High energy use during manufacture	Quite toxic during installation (respirators or supplied air required); allow several days of airing out prior to occupancy	Very High embodied Energy

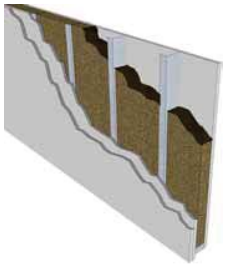
Cellulose insulation, by utilizing recycled paper, helps prevent the release of the greenhouse gas methane which would result if that same paper were sent to a landfill to decompose.

Cellulose insulation scrap is recovered and recycled on-site. Fiberglass and foam residue go to a landfill, and don't decompose.

Cellulose insulation is regionally produced. Using local recycling programs and independent recyclers, and servicing communities close to home, brings new meaning to the slogan "Think Globally, Act Locally."

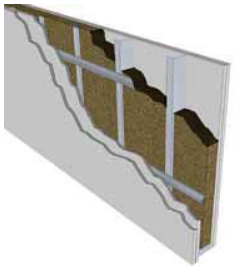
Metal Studs

STC 55



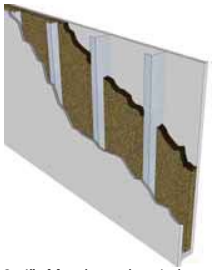
2x4" Metal studs, 2 layer 5/8" gypsum board one side, 1 layer gypsum board other side, 2 1/2" Celbar Spray

STC 62



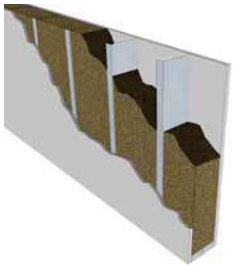
2x4" Metal studs, 2 layer 5/8" gypsum board each side, resilient furring one side, 3 1/2" Celbar Spray

STC 51



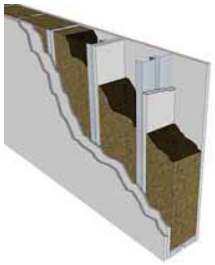
2x4" Metal studs, 1 layer 5/8" gypsum board each side, 1 1/2" Celbar Spray

STC 55 Option #2



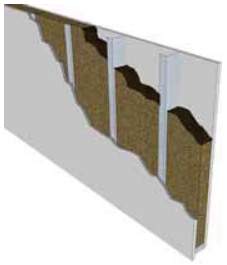
2x6" Metal studs, 1 layer 5/8" on each side, 6" Celbar Spray

STC 62 Option #2



2 2x4" Metal studs, 2 layer 5/8" gypsum board one side, 1 layer gypsum board other side, gypsum board gussets, 8" Celbar Spray

STC 53



3 5/8" Metal studs, 1 layer 5/8" gypsum board each side, 2" Celbar Spray

These assemblies have been tested by Riverbanks Laboratories and industry testing

celbar spray-on systems®

STEP ONE: A unique spray application that fully insulates around plumbing and wiring, reducing air infiltration and creating a comfortable environment.

Celweb provides a backing for all assemblies in which the drywall has not yet been constructed, allowing for the application of Celbar WallSpray for faster construction.

STEP TWO: Applied just beyond the studs ensuring maximum coverage, Celbar is planed flat creating an even, complete thermal barrier

PERFORMANCE WHERE IT COUNTS

Celbar provides superior sound transfer control demanded by building designers, owners and occupants. Celbar assemblies perform closer to lab tested STC ratings in the field than do other conventional batt and sound board systems. This is due to the complete coverage and the sealing action of Celbar.

YOU CHOOSE

An insulation that simply takes up space, or an insulation that completely protects the wall?
Yellow ovals denote sources of air infiltration and poor detailing. Celbar's monolithic seal performs better than fiberglass

SYSTEM DESCRIPTION

Celbar is a blend of specially prepared cellulose fibers, organic in nature, treated with adhesive and fire resistant chemicals. When sprayed in place, the interlocking fibers result in a mass that produces excellent sound and thermal properties.

Celbar is pneumatically spray-applied in wall and floor/ceiling cavities to form a monolithic coating. This process seals cracks and holes in the wallboard, around plumbing and electrical outlets, vent ducts and other irregularities. There are no compressed areas or voids to allow sound leaks, R-value reduction, or air infiltration.

celbar spray-on systems®

THERMAL PERFORMANCE

The purpose of insulation is to reduce the flow of temperature from one space to another. The higher the temperature resistance (R- value) of the material, the greater the insulating power . However, high R-values are not the only measure of superior thermal performance

Celbar wall insulation effectively reduces sound transmission from walls or ceilings adjacent to entertainment centers, surround sound systems, bathrooms, and bedrooms to other rooms. The high-density insulation fills voids and creates a monolithic seal resulting in a quieter, more peaceful home. Celbar also provides a very high R-value making a home more energy efficient. Celbar is classified as a green building material. Celbar has always been formulated with 100% Borate additives and is free of all Ammonia additives.

REDUCE NOISE BETWEEN FLOORS

Celbar Wall Spray, applied between floors of multilevel dwellings helps reduce airborne noise such as voices, radios, televisions and other annoying sounds. In combination with resilient channels, Celbar Wall Spray reduces the impact or foot-fall noises very common in today's homes.

INSULATION IS A NECESSITY

The insulation you select is an important decision. The comfort and maintenance of your home and building, the cost of your monthly heating/cooling bill, and many more factors are directly related to the performance of insulation.