# TRANSMITTAL - NATIONAL PARK SERVICE

Transmittal No.: 13
Sheet: 1 of: 1

| Park: | Project: | Contract No.: | Pkg. No.: | Date: |
|---|---|---|---|---|
| Florissant Fossil Beds N.M. | Water System | C157410C023 TO P12PD11095 | | 8/3/12 |

| Contractor: | Subcontractor/Supplier: |
|---|---|
| Bairco Construction, Inc. | |

| Item No. | Specification Section No. | Paragraph No. | Description of Item (Size, Type, Name, Manufacturer, Use, Etc.) | No. of Copies Submitted | NPS ACTION: No. of Copies Returned | NPS ACTION: Approved | NPS ACTION: Approved with Notations | NPS ACTION: Disapproved - Resubmit |
|---|---|---|---|---|---|---|---|---|
| 1 | 072100 | 2.1.B | Glass-Fiber Blanket Insulation | 2 | | | | |
| 2 | 072100 | 2.1.C | Glass-Fiber Loose Fill Insulation | 2 | | | | |
| 3 | 072100 | 2.2.A | Vapor Retarder | 2 | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |

Contractor Signature Mark Allphin

Title, Project Manager Date 8/3/12

I hereby certify that this submittal has been reviewed for accuracy, completeness, and compliance with contract requirements (FAR 52.236-21)

Recommended by

Title

Date

Review Comments

Action By

Contracting Officer's Representative

Date

Approval of this submittal is subject to the provisions of the contract drawings and specifications. This action is for general concurrence only and the Government is not responsible for errors or omission.

SUBMITTAL LOG DATES: From contractor [ ], To reviewer [ ], From reviewer [ ], To Contractor [ ]

Distribution: ( ) Contractor ( ) DSC File ( ) COR ( ) A/E ( ) DSC Interim ( ) COR Interim ( ) Contractor Interim

CM-16Rev. 4/00 (Formerly DSC-1(CS)

2010 Edition

# SUBMITTAL FORM

Residential and Commercial Building Insulation Materials

GUARDIAN

Date: 7/31/12

Submitted to: _____

Submitted by: Baird

Job Reference: FIFO

Job Name: FIFO water

BUILDING INSULATION

THERMAL/SOUND ATTENUATION BLANKET

| PRODUCT | DESCRIPTION | SIZE NOMINAL THICKNESS | THERMAL RESISTANCE R-VALUE (Pre-Installed) | APPLICABLE STANDARDS/ SPECIFICATIONS |
|---|---|---|---|---|
| ☐ Unfaced | An unfaced fiberglass thermal/sound attenuation blanket with no vapor barrier. Designed to fit between studs by friction. | ☐ 15"<br>☐ 12"<br>☐ 10½"<br>☐ 9½"<br>☐ 8¼"<br>☐ 8½"<br>☐ 7½"<br>☐ 5½"<br>☐ 6¼"<br>☐ 3⅝"<br>☐ 3⅝"<br>☐ 3½"<br>☐ 2⅝" | R-49 Fatt Batt®<br>R-38<br>R-38 R-Best®<br>R-30<br>R-30 R-Best<br>R-25<br>R-22<br>R-21 R-Best<br>R-19<br>R-15 R-Best<br>R-13<br>R-11<br>R-8 | This product has been tested and complies with: ASTM C 665, Type I, ASTM E 84, and ASTM E 136. Flame Spread <5, Smoke Developed <5, UL Listing BZJZ, and BKNV. |
| ☒ Kraft Faced | Fiberglass insulation thermal/sound attenuation blanket with a polymer coated kraft paper vapor retarder facing on one side with stapling flanges at edges. | ☐ 15"<br>☐ 12"<br>☐ 10½"<br>☒ 9½"<br>☐ 8¼"<br>☐ 8½"<br>☐ 7½"<br>☐ 5½"<br>☐ 5½"<br>☐ 6½"<br>☐ 6½"<br>☐ 3⅝"<br>☐ 3⅝"<br>☐ 3⅝"<br>☐ 3½"<br>☐ 3½" | R-49 Fatt Batt<br>R-38<br>R-38 R-Best<br>R-30<br>R-30 R-Best<br>R-25<br>R-22<br>R-21 R-Best<br>R-21 Staple Optional®<br>R-19 Staple Optional<br>R-19<br>R-15 Staple Optional<br>R-13 Staple Optional<br>R-13<br>R-11 Staple Optional<br>R-11 | This product has been tested and complies with: ASTM C 665, Type II, Class C, Category 1. |
| ☐ Foil Faced | Fiberglass insulation thermal/sound attenuation blanket with a polymer coated foil kraft paper vapor retarder facing on one side with stapling flanges at edges. | ☐ 12"<br>☐ 9½"<br>☐ 8¼"<br>☐ 8½"<br>☐ 7½"<br>☐ 5½"<br>☐ 6½"<br>☐ 3⅝"<br>☐ 3½" | R-38<br>R-30<br>R-30 R-Best<br>R-25<br>R-22<br>R-21 R-Best<br>R-19<br>R-13<br>R-11 | This product tested and complies with: ASTM C 665, Type III, Class B, Catagory 1. Flame Spread <75, Smoke Developed <150. |

BASEMENT WALL

| | | | | |
|---|---|---|---|---|
| ☐ Basement Wall Insulation | A fiberglass blanket laminated to a reinforced facing which can be left exposed. It is also available unfaced for non-exposed areas such as crawlspaces. | ☐ 3½" | R-11 | This product has been tested and complies with: ASTM C 665, ASTM E 136, ASTM E 96, ASTM C 518 ASTM E 84. Faced - Flame Spread <25, Smoke Developed <50. Unfaced - Flame Spread <5, Smoke Developed <5. |

SILL SEALER

| | | | | |
|---|---|---|---|---|
| ☐ Sill Sealer | Designed to reduce air infiltration to the home through the foundation and the sill plate. | ☐ 1" x 3½"<br>☐ 1" x 6" | N/A<br>N/A | |

# Fundamental Facts on Fiberglass Insulation

Fiberglass insulation is made from mineral substances processed from molten state to an incombustible fibrous form.

## Facing Facts

- Standard residential building insulation facings will burn and should not be left exposed.
- Residential facings should always be installed to the warm (heated) side of the dwelling for vapor barrier application.
- Vapor barriers must have a rating of 1 perm or less.
- Special consideration should be given to facing choices for metal building insulation products in areas that will be exposed to excessive amounts of UV light such as buildings with open walls, large doors that will be open frequently or to buildings that will utilize indirect lighting. Consult a Guardian sales representative for recommendations.

## Sound Facts

- Fiberglass insulation increases the sound transmission class (STC) rating when properly installed in building assemblies. It has been determined that thickness has greater value in sound control than density.

## R-value

- R-value means the resistance to heat flow.The higher the R-value the greater the insulating power.

## Flame Spread, Combustion and Federal Testing

- Guardian unfaced fiberglass blankets, unfaced metal building insulation, metal building insulation, FS 25 and loose-fill insulation have a class "A" rating of flame spread of 25 or less and smoke developed of 50 or less in accordance with ASTM E 84 test method.
- Guardian unfaced fiberglass blankets, metal building insulation, and blowing wool have been tested and have passed the requirements of ASTM E 136 combustion characteristics and are considered non-combustible by major building codes.

## Recycled Glass Content

- Guardian fiberglass insulation products contain 30% post consumer recycled glass and 5% post industrial recycled glass.

## • ASTM C 665 REQUIREMENTS INCLUDE THE FOLLOWING TEST METHODS:

ASTM C 518 and C 653 - Thermal Resistance (R-value)
ASTM E 84 - Surface Burning
ASTM E 970 - Critical Radiant Flux
ASTM E 96 - Water Vapor Permeance
ASTM C 1304 - Odor Emission
SECT 13.8 - Corrosiveness
ASTM C 1338 - Fungi Resistance
ASTM C 1104 - Water Vapor Sorption

## • ASTM C 764 REQUIREMENTS INCLUDE THE FOLLOWING TEST METHODS:

ASTM C 687 - Thermal Resistance (R-value)
ASTM C 1374 - Installed Thickness
ASTM E 136 - Combustion Characteristics
ASTM E 970 - Critical Radiant Flux
ASTM C 1104 - Water Vapor Sorption
ASTM C 1304 - Odor Emission
SECT 12.7 - Corrosiveness
SECT 14 - Coverage
ASTM C 1338 - Fungi Resistance

## • UNFACED INSULATION MARKINGS:

R-value is printed on the face of the product.

## • UNDERWRITERS LABORATORIES:

Batts/Blankets BZJZ/BKNV Restive Design.

## • ADDITIONAL CERTIFICATIONS:

(may not apply to all products, check individual product literature for details)

City of New York, Department of Buildings Code Compliance for unfaced fiberglass thermal insulation code sections 27-232 and 27-348 non-combustibility. NYC MEA 417-91-M for loose-fill insulation, and MEA 416-91-M for batts.

State of California Bureau of Home Furnishings and Thermal Insulation certified product listing license #TA1275.

Complies with CA Section 01350

Compliance with City of Los Angeles, California requirements for thermal insulations.

Minnesota Insulation Standards Program.

National Standard of Canada CAN/ULC-S702-97 for preformed and loose-fill insulations.

National Research Council Canada CCMC Evaluation listings for batts and loose-fill.

GUARDIAN

# GUARDIAN BUILDING PRODUCTS

## Children & Schools

# GREENGUARD®

Indoor Air Quality Certified

ENSURING A **HIGHER** QUALITY OF LIFE

## Guardian Fiberglass Insulation - Exceeds the toughest indoor air quality standards.

The Greenguard Children and Schools Standard is modeled specifically for educational classroom environments. In addition to the traditional GREENGUARD standards for low emitting products, GREENGUARD Children & Schools, has been adjusted to allow no greater than 1/100 OSHA exposure limits or no greater than 1/2 California's Chronic Reference Exposure Levels (CRELs), which is lower.

## FOR YOUR HEALTH

Indoor air quality is a growing concern with today's tighter construction practices for homes and buildings. According to the U.S. Environmental Protection Agency most people spend about 90% of the time indoors where "thousands of chemicals and biological pollutants are found", thus negatively affecting their health. That is why Guardian Fiberglass has made a point to achieve the highest possible product certification - Greenguard Certification™. Greenguard Certified Products can reduce indoor air contaminants and promote a better indoor environment.

## WHAT IS THE GREENGUARD CERTIFICATION PROGRAM™?

The Greenguard Certification Program was founded in 1999 to establish a true third party certification based on proven emissions criteria used by U.S. Environmental Protection Agency, the state of Washington, the U.S. Green Building Council's LEED program, OSHA and the World Health Organization.

## RIGOROUS TESTING

(see back for testing standards)

Greenguard Certified Products must pass rigorous emissions testing for certification. Critical components (such as volatile organic compounds, formaldehyde and other product specific components) are monitored quarterly. All products are fully retested each year. This ensures that products, such as Guardian Fiberglass loose fill and batt insulation to meet the Greenguard Certification Program's established emission standards.


## IDENTIFYING A CERTIFIED PRODUCT

Look for the Greenguard Indoor Air Quality® mark prominently displayed on all Guardian Fiberglass packaging. You can be confident that you are insulating your home with the best fiberglass available and that you are choosing the most effective means of creating a quality home environment.

Children & Schools GREENGUARD® Indoor Air Quality Certified

## TESTING STANDARDS

### TESTING PROCEDURES

The most reliable and scientifically proven way to test for product emissions is through environmental chamber testing. Guidelines for measuring chemical emissions using environmental chambers were established by the American Society of Testing Materials (ASTM). The standards, ASTM D5116-97 and D6670-01, are the foundation for all product-specific test protocols.

Products are loaded into controlled environmental chambers. These testing chambers are dynamic, which means that purified air streams into the chamber and we collect samples from the exhaust air. This dynamic process resembles the airflow patterns in rooms and buildings and provides data, which can be easily translated into real world scenarios. Environmental chamber testing provides a controlled and representative indoor environment that allows the product to produce the emissions in a realistic manner similar to the way the product would emit in a home or office. Products are tested for formaldehyde, volatile organic chemicals (VOCs), respirable particles, ozone, carbon monoxide, nitrogen oxide, and carbon dioxide emissions. Environmental chamber testing allows the wide spectrum of VOC emissions to be determined rather than just the primary components of the product. Many times, the primary components of a product are not the primary volatile emissions from a product. Frequently, the reaction by-products of the primary components or contaminants in the primary components comprise the majority of the volatile emissions from a product. Environmental chamber testing emissions data can be mathematically modeled to determine exposure concentrations produced by the use of the product in many different indoor environments. Modeling of a product's emission data allows the product use to be evaluated for health, irritation, and odor concerns for a wide range of indoor environments.

### WHAT MEASUREMENTS ARE TAKEN

The three basic measurement values are needed to get how much a product emits at a certain point in time; the emission rates or to what degree do the emissions change over time; and the predicted air concentrations or how the test results translate into real building environments.

For more information go to www.greenguard.org.

### PERFORMANCE STANDARD FOR INSULATION

| | |
|---|---|
| **Individual VOCs[1]** | ≤1/100 TLV and ≤½ CA chronic REL |
| **Formaldehyde[2]** | ≤ 0.0135 ppm 13.5 ppb |
| **Total VOCs[3]** | ≤ 0.22 mg/m³ |
| **Total Aldehydes[4]** | ≤ 0.043 ppm/ 43 ppb |
| **Total Phthalates[5]** | ≤ 0.01 mg/m³ |
| **Total Particles[6] (≤10 µm)** | ≤ 0.02 mg/m³ |

[1] Any VOC not listed must produce an air concentration level no greater than 1/100 the Threshold Limit Value (TLV) industrial workplace standard (Reference: American Conference of Government Industrial Hygienists, 6500 Glenway, Bldg D-7, Cincinnati, OH 45211-4438) and/or no greater than 1/2 the CA Chronic Reference Exposure Level (CREL) (http://www.oehha.ca.gov/air/chronic_rels/AllChrels.html - (CRELS) Adopted by the State of California Office of Environmental Health Hazard Assessment (OEHHA), February 2005).

[2] Formaldehyde criteria established so that emission levels reach 0.014ppm (13.5ppb) within 14 days of installation (meeting CA 1350 requirements).

[3] Defined to be the total response of measured VOCs falling within the C6-C16 range, with responses calibrated to a toluene surrogate.

[4] Defined to be the total response of a specific target list of aldehydes (2-butenal; acetaldehyde; benzaldehyde; 2,5-dimethylbenzaldehyde; 2-methylbenzaldehyde; 3-and/or 4-methylbenzaldehyde; butanal; 3-methylbutanal; formaldehyde; hexanal; pentanal; propanal), with each individually calibrated to a compound specific standard.

[5] Defined to be the total response of a specific target list of phthalates including dibutyl (DBP), diethylhexyl (DEHD), diethyl (DEP), butylbenzyl (BBP), di-octyl (DOP), and dimethyl (DMP) phthalates (conducted using a modified phthalate specific analytical method, OSHA 104).

[6] Particles applicable to fibrous, particle-releasing products with exposed surface area in air streams (a forced air test with specific test method).

GUARDIAN FIBERGLASS INSULATION

1000 East North Street, Albion, MI 49224

517-629-9464, 800-211-8430

www.guardianbp.com

GFM147 10M 4/10
Printed in U.S.A.

GUARDIAN FIBERGLASS INSULATION

# MATERIAL SAFETY DATA SHEET (MSDS)

| | |
|---|---|
| **MANUFACTURER:** | GUARDIAN FIBERGLASS INC. |
| **ADDRESS:** | 1000 EAST NORTH STREET<br>ALBION, MI 49224 |
| **PHONE:** | (517) 629-9464<br>(800) 748-0035 |
| **CONTACT:** | JASON CHEVALLARD, EHS MANAGER<br>864-281-3351 |
| **PRODUCT IDENTIFICATION:** | Fiberglass building insulation products—cured batts, rolls, and board; laminated cured insulation products; fiberglass cured blowing wool insulation (EZ Attic™, Supercube®, Supercube II®, Supercube HD® and AgriGuard Wall Insulation®) |
| **CHEMICAL NAME:** | Fibrous Glass |
| **CAS NUMBER:** | N/A |
| **COMMON NAME:** | Fiberglass Insulation |
| **LAST REVIEWED:** | February 2012 |

## SECTION I: COMPOSITION

| INGREDIENTS | HAZARD | CAS NO. | % | OSHA PERMISSIBLE EXPOSURE LEVELS | ACGIH TLV |
|---|---|---|---|---|---|
| Fibrous Glass | Nuisance Dust | 65997-17-3 | 90-100% | TWA (Total Dust) = 15 mg/m3<br>TWA (Respirable Dust) = 5 mg/m3 | 1 f/cc |
| Cured Organic Binding Material | N/A | 25104-55-6 | 10-0% | N/A | |
| Formaldehyde | | 50-00-0 | <0.01% | TWA=1 ppm (.5 ppm Action Level) | |
| Phenol | | 108-95-2 | 0.02% | TWA=5 ppm, 19 mg/m³ (skin) | |
| Ammonia | | 7664-41-7 | 0.03% | TWA 50 ppm, 35 mg/m³ | |
| Dedusting Oil | N/A | N/A | <1% | N/A | |
| **Adhesives used to adhere facings include:** | | | | | |
| Kraft/Foil Faced products: | | | | | |
| Mineral Oil, white | Mild Irritant | 8042-47-5 | 5-10 | TWA Mist = 5 mg/m3 | |
| Wax, polyethylene | Mild Irritant | 9002-88-4 | 1-5 | TWA (fume) = 2 mg/m3 | |
| Waxes, paraffin | Mild Irritant | 8002-74-2 | 1-5 | TWA (fume) = 2 mg/m3 and hydrocarbons | |
| Vinyl faced laminated products: | | | | | |
| Aluminum nitrate -9-hydrate | Mild Irritant | 7784-27-2 | 1-5 | N/A | |

**The TWA TLV of 1 f/cc is a protection standard voluntarily adopted by the fiberglass industry and is a recommendation of ACGIH and California's ACAC.**

## SECTION II: PHYSICAL DATA

| | | | | | |
|---|---|---|---|---|---|
| **Boiling Point (°f)** | N/A | **Specific Gravity ($H_2O$) = 1** | 2.6 | **Vapor Pressure (mm Hg.)** | N/A |
| **Percent Volatile By Volume** | <1% | **Vapor Density (Air=1)** | N/A | **Solubility in Water** | None |
| **Evaporation Rate** | N/A | | | | |

**Appearance and Odor:** Resilient or solid structure containing glass fibers and binding materials used as blankets, boards, or loose-fill insulation. May have slight binder odor.

## SECTION III: FIRE & EXPLOSION DATA

| | |
|---|---|
| **Flash Point:** | N/A |
| **Flammability Limits:** | N/A |
| **Auto-Ignition Temperance:** | N/A |
| **Extinguishing Media:** | Water, foam, dry chemical |

**Special Fire-fighting Procedure:** None

**Unusual Fire Hazards:** Fiberglass insulation is a non-flammable product. The kraft and foil facing and packaging material will burn; caution should be used when working close to the facing or packaged material with open flame. Chemicals in adhesives, facings or plastic packaging products that do not present a health hazard under normal conditions may be released during a fire. Toxic fumes and gases that may result from incomplete combustion include carbon monoxide, hydrogen chloride and low-level cyanides. In case of overexposure, remove to fresh air. If breathing is difficult, administer oxygen and consult a physician.

## SECTION IV: REACTIVITY / DECOMPOSITION DATA

**Stability:** Stable **Incompatibility:** None **Hazardous Polymerization:** Will not occur

## SECTION V: HEALTH HAZARDS / PERSONAL PROTECTIVE EQUIPMENT

**Primary Route of Entry:** Inhalation. Fiberglass wool may cause mechanical irritation of the upper respiratory tract. Use of a 2-strap NIOSH-Approved N-95 Filtering Facepiece (disposable dust mask respirator), such as a 3M model 8210 (or higher) or equivalent is recommended when handling loose-fill, when exposure is unknown or when fibers exceed the TLV of 1 f/cc. Operations which generate high airborne fiber concentrations (over 10 times the TLV) require additional respiratory protection.

**Skin Contact:** Direct contact with the skin may cause mechanical irritation. Long sleeves, loose fitting clothing, gloves, and eye protection are recommended. If irritation occurs, wash exposed areas with soap and water after handling. Wash clothes separately and rinse out washer after each use.

Following a thorough review of all the medical data available, the International Agency for Research on Cancer (IARC) has classified glass wool insulation as Group #3, "not classifiable as to carcinogenicity to humans". IARC has stated there is "no evidence of increased risks of lung cancer or of mesothelloma...from occupational exposures during the manufacture of these materials, and inadequate evidence overall of any cancer risk."

## SECTION VI: EMERGENCY AND FIRST AID PROCEDURES

**Skin Contact:** Do not rub. Wash with soap and water. Use skin cream to sooth irritation. Wash clothes separately. A shower after work is recommended. Irritation typically will not persist if good personal hygiene habits are followed.

**Eye Contact:** Flush with running water for at least 15 minutes. Using sterile eye wash, flush foreign bodies from eyes.

**Inhalation:** Remove from exposure.

If irritation persists in any of these situations, a physician should be consulted.

## SECTION VII: SPILL, LEAK AND DISPOSAL INFORMATION

Avoid dust-generating means of clean-up. Store faced or packaged material away from sources of ignition and have fire-fighting equipment available. Dispose of scrap material according to federal, state and local regulations. This material is not regulated under hazardous waste regulations.

## SECTION VIII: OTHER REGULATORY INFORMATION

SARA Title III, SECTION 313: Our finished insulation products contain the following amounts of "Toxic Chemicals", as defined by the Superfund Amendments and Reauthorization Act (SARA, Title III) of 1986:

| Chemical Name | Cas No. | Percent by Weight |
|---|---|---|
| **Formaldehyde** | 50-00-0 | <0.01% |
| **Phenol** | 108-95-2 | 0.02% |
| **Ammonia** | 7664-41-7 | 0.03% |

## SECTION IX: DISCLAIMER

The information provided in this MSDS is accurate to the best of Guardian Building Products' knowledge and is provided in good faith. No warranty is given with respect to its accuracy and/or reliability. The information relates only to the particular product and not to the product when used in combination with any other materials. It is the user's responsibility to take proper precautions when using this product and ensure its own compliance with applicable local, state and federal laws and regulations.

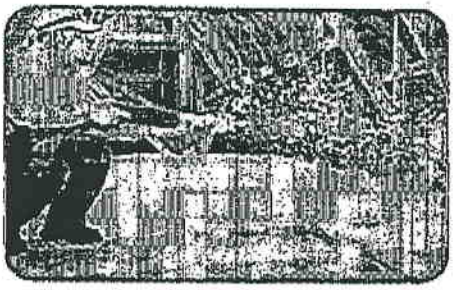
Specification Sheet

CertainTeed
SAINT-GOBAIN

# InsulSafe® SP
# Fiber Glass Blowing Insulation

| | |
|---|---|
| Product Name | InsulSafe® SP Fiber Glass Blowing Insulation |
| Manufacturer | CertainTeed Corporation |
| Address | P.O. Box 860<br>Valley Forge, PA 19482-0105 |
| Phone | 610-341-7000 • 800-233-8990 |
| Fax | 610-341-7571 • 610-947-0057 |
| Website | www.certainteed.com/insulation |

## PRODUCT DESCRIPTION



**Basic Use:** InsulSafe SP Fiber Glass Blowing Insulation is used in residential and commercial construction as a thermal and acoustical insulation. It is designed for pneumatic installation in open attic areas and for retrofitting enclosed sidewall and floor/ceiling construction assemblies.

**Benefits:** This product is noncombustible, noncorrosive and odor free. In addition, InsulSafe SP won't settle, contains no chemicals to cause mildew and fungus growth, contains no formaldehyde, provides no sustenance for vermin, contains no asbestos, won't rot or decay and won't absorb moisture.

**Composition and Materials:** InsulSafe SP is unbonded, white, virgin fiber glass.

**Limitations:** InsulSafe SP is designed for use at ambient temperatures in interior, weather-protected locations. Pneumatic installation equipment must have an effective shredding section, a uniform controlled feed system and adequate material/air flow capabilities. This product must be kept dry during shipping, storage and installation.

## INSTALLATION

Installation procedures and techniques must be as recommended by CertainTeed Corporation, using blowing machines approved for fiber glass insulation. Please refer to InsulSafe SP Installation Instruction Manual 30-24-302.

## AVAILABILITY AND COST

For availability and cost, contact your local contractor or distributor, or call CertainTeed Sales Support Group at 800-233-8990.

## WARRANTY

Refer to CertainTeed's Lifetime Limited Warranty for Fiber Glass Building Insulation (30-21-1321).


## MAINTENANCE

No maintenance required.

## TECHNICAL SERVICES

Technical assistance can be obtained either from the local CertainTeed sales representative, or by calling CertainTeed Sales Support Group at 800-233-8990.

## TECHNICAL DATA

Applicable Standards

- Model Building Codes:
  - ICC
  - New York City MEA 218-85M
  - New York State NYS UFPBC Article 15
  - California and Minnesota quality standards
- Material Standards:
  - ASTM C764, Mineral Fiber Loose-Fill Thermal Insulation Type 1 – Pneumatic Application Properties:
    - Thermal resistance — ASTM C518 and C687
    - Critical radiant flux — ASTM E970
    - Combustion characteristics — ASTM E136
    - Water vapor sorption — ASTM C1104
    - Odor emission — ASTM C1304
    - Corrosiveness — ASTM C764
    - Fungi resistance — ASTM C1338
  - GREENGUARD® Children & Schools Certified

Fire Resistance

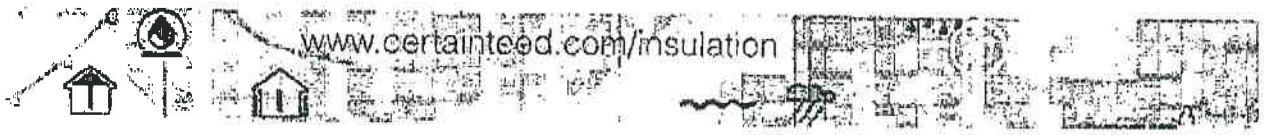
- Fire Hazard Classification:
  - UL 723, ASTM E84
    Max. Flame Spread Index: 5
    Max. Smoke Developed Index: 5
- Noncombustibility:
  - ASTM E136 / Meets requirements

Thermal / Acoustical Properties:

- Thermal Performance:
  - ASTM C518 and C687
    Stated R-Value achieved at minimum thickness and minimum weights as stated within coverage chart(s).
- Acoustical Performance:
  - ASTM E90 and E413
    The same STC ratings obtained with fiber glass blanket insulation can be estimated to be achieved by InsulSafe SP. Refer to CertainTeed's Guide for Residential Sound Control brochure (30-28-008).

Quality Assurance

CertainTeed's commitment to quality and environmental management has ensured the registration of the Athens, Chowchilla and Kansas City plants to ISO 9001:2000 and ISO 14001:2004 standards.




## OPEN ATTIC APPLICATION

The following thermal performance values are achieved at the thicknesses, weights and coverages specified when insulation is installed with pneumatic equipment in a horizontal open blow application.

**COVERAGE CHART**

| R-VALUE | BAG REQUIREMENTS | MAXIMUM COVERAGE | MINIMUM WEIGHT | MINIMUM INSTALLED THICKNESS | MINIMUM SETTLED THICKNESS |
|---|---|---|---|---|---|
| To obtain a thermal resistance (R) of: | Number of bags per 1000 sq. ft. of net area: | Contents of bag shall not cover more than: (sq. ft.) | Weight per sq. ft. of installed insulation shall not be less than: (lbs./sq. ft.) | Should not be less than: (in.) | Should not be less than: (in.) |
| R-11 | 5.3 | 190.5 | 0.163 | 4.50 | 4.50 |
| R-13 | 6.2 | 161.7 | 0.192 | 5.25 | 5.25 |
| R-19 | 9.3 | 107.4 | 0.289 | 7.75 | 7.75 |
| R-22 | 10.8 | 92.9 | 0.334 | 8.75 | 8.75 |
| R-26 | 12.8 | 77.9 | 0.398 | 10.25 | 10.25 |
| R-30 | 14.9 | 67.1 | 0.462 | 11.75 | 11.75 |
| R-38 | 19.1 | 52.5 | 0.591 | 14.50 | 14.50 |
| R-44 | 22.4 | 44.6 | 0.695 | 16.75 | 16.75 |
| R-49 | 25.2 | 39.7 | 0.780 | 18.50 | 18.50 |
| R-60 | 31.4 | 31.9 | 0.972 | 22.00 | 22.00 |

R-Values are determined in accordance with ASTM C687 and C518. Complies with ASTM C764 as Type 1 pneumatic application.

## CLOSED CAVITY (WALLS, FLOORS, CEILINGS) RETROFIT APPLICATIONS

The following thermal performance values are achieved at the thicknesses, weights and coverages specified when insulation is installed with pneumatic equipment in closed wall, floor and ceiling cavities. Based on a design density of 1.6 lb./ft.$^3$

**COVERAGE CHART**

| R-VALUE | BAG REQUIREMENTS | MAXIMUM COVERAGE | MINIMUM WEIGHT | MINIMUM INSTALLED THICKNESS |
|---|---|---|---|---|
| To obtain a thermal resistance (R) of: | Number of bags per 1000 sq. ft. of net area: | Contents of bag shall not cover more than: (sq. ft.) | Weight per sq. ft. of installed insulation shall not be less than: (lbs./sq. ft.) | Should not be less than: (in.) |
| R-14 | 15.1 | 66.4 | 0.467 | 3.50 |
| R-15 | 16.1 | 62.0 | 0.500 | 3.75 |
| R-16 | 17.2 | 58.1 | 0.533 | 4.00 |
| R-22 | 23.7 | 42.3 | 0.733 | 5.50 |
| R-29 | 31.2 | 32.1 | 0.967 | 7.25 |

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4 mil


# Poly-America
## CONSTRUCTION SHEETING

Poly-America's construction sheeting is made from polyethylene which provides for the optimum in economy and performance. Because of its good weatherability, chemical inertness and toughness, Poly-America's polyethylene sheeting has successfully been used for over 30 years in a wide variety of applications. Thickness ranges from as little as 0.3 mil (8 µm) for paint drop cloths to 100 mil (2.5 mm) for use as landfill liners. Widths range up to 40 ft (12 m). If you have a special application or need more information on our products, contact your area sales representative.

Poly-America's standard sheeting will meet or exceed the following standard technical specifications:

## CONSTRUCTION SHEETING

**Commercial Item Description A-A-3174** Plastic Sheet, Polyolefin
Type 1
Class 1
Grade A or B
Finish 1

**ASTM C171** Standard Specification for Sheet Materials Used for Curing Concrete

**ASTM D2103** Specification for Polyethylene Film and Sheeting
Standard Classification 12230
Note: If requested, custom sheeting can be made to meet the following classifications:
12130 13130 13230 12330 13330

**ASTM D4635** Standard Specification for Polyethylene Films Made from Low-Density Polyethylene for General Use and Packaging Applications

Type 1
Class 2
Surface 2
Finish 1

**ASTM D4397** Standard Specification for Polyethylene Sheeting for Construction, Industrial, and Agricultural Applications
(see Table 1 for Impact Resistance and WVTR requirements)

## TABLE 1

| **Thickness** ASTM D374 mils (µm) | **Dart Impact** ASTM D1709 g | **WVTR** ASTM E96 g/100 sq in-day | **WVTR** ASTM E96 perms | **WVTR** ASTM E96 metric perms |
|---|---|---|---|---|
| 1(25) | 40 | 1.4 | .76 | .50 |
| 2(51) | 85 | .7 | .38 | .25 |
| 3(76) | 125 | .47 | .25 | .17 |
| 4(102) | 165 | .35 | .19 | .12 |
| 5(127) | 205 | .28 | .15 | .10 |
| 6(152) | 260 | .23 | .13 | .084 |
| 7(178) | 315 | .2 | .11 | .070 |
| 8(203) | 370 | .18 | .096 | .063 |
| 9(229) | 420 | .16 | .082 | .054 |
| 10(254) | 475 | .14 | .076 | .050 |

NOTE: The above is for our standard sheeting products. Poly-America will produce custom sheeting products to meet other classifications or specifications. Contact Poly-America to see how we can help you with your needs.