



Guide Specifications

PROJECT ENGINEER RESPONSIBILITY: This is a general specification guide, intended to be used by experienced construction professionals, in conjunction with good construction practice and professional judgment. This guide is to aid in the creation of a complete building specification that is to be fully reviewed and edited by the engineer. Sections of this guide should be included, edited, or omitted based on the requirements of a specific project. It is the responsibility of both the specifier and the purchaser to determine if a product or system is suitable for its intended use. Neither Owens Corning, nor any of its subsidiary or affiliated companies, assume any responsibility for the content of this specification guide relative to actual projects and specifically disclaim any and all liability for any errors or omissions in design, detail, structural capability, attachment details, shop drawings or other construction related details, whether based upon the information provided by Owens Corning or otherwise.

SECTION 07 21 16

BATT INSULATION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes: Provide fiberglass batt thermal insulation for exterior envelope assemblies.
- B. Related Sections:
 - 1. Section 07 21 16, Thermal Blanket Insulation.
 - 2. Section 09 81 16, Acoustic Blanket Insulation.

1.2 References

- A. Materials shall meet the property requirements of one or more of the following specifications as applicable to the specific product or end use:
 - 1. American Society for Testing of Materials (ASTM):
 - a. ASTM C423 Test Method for Sound Absorption Coefficient by the Reverberation Room Method.
 - b. ASTM C518 Test Method for Steady State Thermal Transmission Properties by Means of the Heat Flow Meter.
 - c. ASTM C665 Specification for Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing.
 - d. ASTM C1320 Standard Practice for Installation of Mineral Fiber Batt and Blanket Thermal Insulation for Light Frame Construction.
 - e. ASTM E136 Test Method for Behavior of Materials in a Vertical Tube Furnace at 750°C.
 - f. ASTM E84 Test Method for Surface Burning Characteristics of Building Materials.
 - g. ASTM E119 Test Methods for Fire Tests of Building Construction and Materials.

1.3 SUBMITTALS

- A. Product Data: Submit data on product characteristics, performance criteria, and limitations, including installation instructions.
- B. Sustainable Design: Submit manufacturer's sustainable design certifications as specified.



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1.4 QUALITY ASSURANCE

- A. Sustainable Design: Provide products which have received the following certifications:
1. UL Certified Environmental Product Declaration in accordance with ISO 14025. Applies to EcoTouch® Faced and Unfaced insulation.
 2. UL Environment EcoLogo CCD-106, applies to EcoTouch® Faced and Unfaced insulation.
 3. GREENGUARD Indoor Air Quality Certified® and GREENGUARD Children & Schools Certified® applies to EcoTouch® Unfaced Batts and EcoTouch® Faced Batts and Rolls.
 4. GREENGUARD Formaldehyde Free, applies to EcoTouch® Unfaced and EcoTouch® Faced Batts and Rolls.
 5. Scientific Certification Systems SCS-MC-01025, SCS Certified minimum 65% recycled glass content (with at least 41% post-consumer recycled and the balance of pre-consumer recycled glass content), applies to EcoTouch® Unfaced Batts and Rolls.
 6. Scientific Certification Systems SCS-MC-02676, SCS Certified minimum 58% recycled glass content (with at least 36% post-consumer recycled and the balance of pre-consumer recycled glass content), applies to EcoTouch® Faced Batts and Rolls.
 7. USDA Certified Biobased Products: EcoTouch® unfaced – 98 percent; EcoTouch® Kraft-faced – 57 percent; EcoTouch® FSK-faced – 78 percent.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials in manufacturer's original packaging.
- B. Store and protect products in accordance with manufacturer's instructions. Store in a dry indoors location. Protect insulation materials from moisture and soiling.
- C. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.
- D. Do not install insulation that has been damaged or wet. Remove it from jobsite.
1. An exception may be allowed in cases where the contractor is able to demonstrate that wet insulation when fully dried out (either before installation or afterward following exposure to system operating temperatures) will provide installed performance that is equivalent in respects to new, completely dry insulation. In such cases, consult the insulation manufacturer for technical assistance.

PART 2 - PRODUCTS

2.1 MANUFACTURER

- A. Thermal Insulation: EcoTouch® PINK® FIBERGLAS™ Insulation with PureFiber® Technology by Owens-Corning, Toledo, OH 43659; www.owenscorning.com.

2.2 MATERIALS

- A. EcoTouch® Unfaced Batt Insulation: ASTM C 665, Type I, preformed formaldehyde free glass fiber batt type, unfaced. Includes Unfaced SonoBatts and Sound Attenuation Batts.
1. Noncombustible per ASTM E 136.
 2. Flamespread less than 25, smoke developed less than 50 per ASTM E84.
 3. ICC Building Code Construction Classification: All types.
 4. Water vapor sorption, Maximum by weight: not more than 5 percent.



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- B. EcoTouch[®] Kraft Faced Batt Insulation: ASTM C 665, Type II, Class C preformed formaldehyde free glass fiber batt type, Kraft paper faced one side. Includes Kraft faced SonoBatts and EcoTouch[®] ProPink FastBatt Insulation
 - 1. ICC Building Code Construction Classification: III, IV, V.
 - 2. Perm Rating: 1 perm maximum per ASTM E96.
- C. EcoTouch[®] Foil Faced Batt Insulation: ASTM C 665, Type III, Class C preformed formaldehyde free glass fiber batt type, foil faced one side.
 - 1. Flamespread less than 75, smoke developed less than 150 per ASTM E84.
 - 2. ICC Building Code Construction Classification: III, IV, V.
 - 3. Perm Rating: 0.5 perm maximum per ASTM E96.
- D. EcoTouch[®] FS-25 Batt Insulation: ASTM C 665, Type II (PSK facing), Class A and Type III (FSK facing), Class A preformed formaldehyde free glass fiber batt, poly/scrim/Kraft (PSK) or foil/scrim/Kraft (FSK) faced on one side.
 - 1. Flame spread less than 25, smoke developed index less than 50 per ASTM E84.
 - 2. ICC building construction classification: all types.
 - 3. Perm Rating: 0.02 maximum per ASTM E96.
- E. Accessories: Provide accessories per insulating system manufacturer's recommendations, including the following:
 - 1. Tape: Polyethylene self-adhering type for Kraft faced insulation and bright aluminum self-adhering type for foil faced insulation.
 - 2. Insulation Fasteners: Impale clip of galvanized steel; type recommended by insulation manufacturer for particular use intended.
 - 3. Mechanical Insulation Fasteners: FM approved, corrosion resistant, size required to suit application.
 - 4. Wire Mesh: Galvanized steel, hexagonal wire mesh.
 - 5. Spindle Fasteners: Corrosion-resistant wire spindles.
 - 6. Ventilation Baffles: Formed plastic, metal, or cardboard sized to fit full width of rafter spaces.

2.3 PERFORMANCE CRITERIA

- A. Wood Frame Construction - Walls, R-Value: Per ASTM C518.
 - 1. R-11, 3-1/2 inch (89mm) thickness, 15 inch (381mm) or 23 inch (584mm) width, 48 inch (1219mm) or 93 inch (2362mm) length.
 - 2. R-13, 3-1/2 inch (89mm) thickness, 15 inch (381mm) or 23 inch (584mm) width, 48 inch (1219mm) or 93 inch (2362mm) length.
 - 3. R-15, 3-1/2 inch (89mm) thickness, 15 inch (381mm) or 23 inch (584mm) width, 93 inch (2362mm) length.
 - 4. R-19, 6-1/4 inch (159mm) thickness, 15 inch (381mm) or 23 inch (584mm) width, 48 inch (1219mm) or 93 inch (2362mm) length.
 - 5. R-21, 5-1/2 inch (139mm) thickness, 15 inch (381mm) or 23 inch (584mm) width, 93 inch (2362mm) length.
- B. Wood Frame Construction - Roof/Floor/Ceiling, R-Value: Per ASTM C518.
 - 1. R-19, 6-1/4 inch (159mm) thickness, 15 inch (381mm) or 19-1/4 inch (489mm) or 23 inch (584mm) width, 48 inch (1219mm) or 93 inch (2362mm) length.
 - 2. R-22, 6-3/4 inch (171mm) thickness, 15 inch (381mm) or 23 inch (584mm) width, 48 inch (1219mm) length.
 - 3. R-25, 8 inch (203mm) thickness, 15 inch (381mm) or 23 inch (584mm) width, 48 inch (1219mm) length.
 - 4. R-30C, 8-1/4 inch (209mm) thickness, 15-1/2 inch (394mm) or 23-3/4 inch (584mm) width, 48 inch (1219mm) length.



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5. R-30, 9-1/2 inch (241mm) thickness, 16 inch (406mm) or 19-1/4 inch (489mm) or 24 inch (584mm) width, 48 inch (1219mm) length.
 6. R-38C, 10-1/4 inch (260mm) thickness, 15-1/2 inch (394mm) or 23-3/4 inch (584mm) width, 48 inch (1219mm) length.
 7. R-38, 12-1/4 inch (305mm) thickness, 16 inch (406mm) or 24 inch (584mm) width, 48 inch (1219mm) length.
- C. Metal Frame Construction, R-Value for Batt Insulation: Per ASTM C518.
1. R-8, 2 1/2 inch (64mm) thickness, 16 inch (406mm) or 24 inch (609mm) width, 96 inch (2438mm) length.
 2. R-11, 3-1/2 inch (89mm) thickness, 16 inch (406mm) or 24 inch (609mm) width, 48 inch (1219mm) or 96 inch (2438mm) length.
 3. R-13, 3-1/2 inch (89mm) thickness, 16 inch (406mm) or 24 inch (609mm) width, 48 inch (1219mm) or 96 inch (2438mm) length.
 4. R-15, 3-1/2 inch (89mm) thickness, 16 inch (406mm) or 24 inch (609mm) width, 96 inch (2438mm) length.
 5. R-19, 6-1/4 inch (159mm) thickness, 16 inch (406mm) or 24 inch (609mm) width, 48 inch (1219mm) or 96 inch (2438mm) length.
 6. R-21, 5-1/2 inch (139mm) thickness, 16 inch (406mm) or 24 inch (609mm) width, 96 inch (2438mm) length.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine the areas and conditions under which work of this section will be installed. Verify that adjacent materials are dry and ready to receive insulation. Verify mechanical and electrical services within walls have been tested and inspected.
- B. Provide written report listing conditions detrimental to performance of work in this section. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Comply with manufacturer's installation instructions and ASTM C1320.

Note to Specifier: Do not use unfaced insulation in exposed applications where there is potential for skin contact and irritation.

Note to Specifier: Kraft and standard foil facings will burn and must not be left exposed. The facing must be installed in substantial contact with the unexposed surface of the ceiling, wall or floor finish. Protect facing from any open flame or heat source.

- B. Friction-fit blanket insulation in place, until the interior finish is applied. Install batts to fill entire stud cavity, with no gaps, voids, or areas of compression. If stud cavity is less than 8 feet in height, cut lengths to friction fit against floor and ceiling tracks. Walls with penetrations require that insulation be carefully cut to fit around outlets, junction boxes, and other irregularities.
 1. Do not install insulation on top of or within 3 inches of recessed light fixtures unless the fixtures are approved for such use.



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- C. In crawl spaces and where the underside of floors are exposed to unconditioned space, insulation shall fill the cavity or be installed in contact with the underside of the decking. If vapor retarder is required by local code, a Kraft vapor retarder must be in contact with a 15 minute thermal barrier.
- D. Within exterior wall framing, install insulation between pipes and backside of sheathing. Cut or split insulation material as required to fit around wiring and plumbing.
- E. Where showers and bathtubs are located on exterior walls, install insulation and vapor retarder air barrier between units and exterior.
- F. If eave ventilation baffles are required, install ventilation baffles at eaves to hold insulation down from roof sheathing and provide positive ventilation from eave to attic space.
- G. Fluff insulation to full thickness for specified R-value before installation. Do not compress insulation in the cavity during installation, creating gaps or voids that could diminish thermal value.
- H. Trim insulation neatly to fit spaces. Fill miscellaneous gaps and voids with insulation.
- I. Fit insulation tight in spaces and tight to exterior side of mechanical and electrical services within the plane of insulation.
- J. For unfaced batt insulation, install with friction fit or retain in place with manufacturer's recommended fasteners or mesh.
- K. For batt insulation with factory-applied facing, install with vapor retarder membrane facing warm in the winter side of building spaces or as specified by local building code. Lap ends and side flanges of membrane over or between framing members. Tape to seal tears, cuts or misalignments in membrane.
- L. Secure insulation in place using one of the following methods: Friction fit; staple or nail facing flanges in place as needed, tape in place, retain in place with spindle fasteners, retain in place with wire mesh secured to framing members.

3.3 PROTECTION

- A. Protect installed insulation from damage due to weather and physical abuse until protected by permanent construction.

END OF SECTION

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