Guide Specifications: SturdyBrace® Structural Fiberboard Wall Sheathing

Section 06 16 13 – Insulating Sheathing

Specifier Notes: This guide specification is written according to the Construction Specifications Institute (CSI) MasterFormat 2004. The section must be carefully reviewed and edited by the Architect or Engineer to meet the requirements of the project. Coordinate this section with other specification sections and the drawings.

Specifier Notes: STURDYBRACE® is an earth-friendly fiberboard made of 80% recovered hardwood fibers interlaced and bonded with asphaltic binders for strength. It is easy to install and cuts with a knife, saving time and money. STURDYBRACE® saves energy costs at a low cost per R-value. This wall sheathing provides an R-value of 1.3 per 1/2", more than doubling the R-values of OSB and gypsum sheathing. Trapped moisture in exterior walls is caused by condensation and water leaks. This moisture can lead to mold growth and other water-related problems. STURDYBRACE® "breathes," permitting the moisture to escape into the outside air.

STURDYBRACE® improves the structural integrity of homes and light commercial buildings and eliminates the need for corner bracing. The product meets codes for wind shear and seismic conditions.

PART 1 GENERAL

1.1 SECTION INCLUDES

A Furnishing and installation of structural fiberboard sheathing for walls.

1.2 REFERENCES

A. ASTM C 208-95 (2001) – Standard Specification for Cellulosic Fiber Insulating Board. Type IV Grade 2 (Structural Wall Sheathing).

B. ASTM C 846-94 (2003) – Application of Cellulosic Fiber Insulating Board for Wall Sheathing.

C ASTM D 1554 - Definitions of terms Relating to Wood Based Fiber and Particle Panel Materials.

D. ASTM E-72 (1997)- Standard Method for Conducting Strength Tests of Panels for Building Construction.

E. ANSI /AHA - A194.1, Cellulosic Fiberboard.

F. U.S. Department of Commerce: PS57-73, Cellulosic Fiber Insulating Board

G. A.F.A. (2003): Fiberboard Sheathing test results

1.3 SUBMITTALS

A. Submit under provisions of Section 01 33 00.

B. Product Data: Manufacturer's catalog data and installation instructions for all conditions.

1. All materials shall be manufactured by Blue Ridge Fiberboard, unless specified otherwise.
2. All materials shall be installed in accordance with printed installation instructions by Blue Ridge Fiberboard.

C. Quality Assurance/Control Submittals:
1. Manufacturer's installation and safety data / instructions.

1.4 QUALITY ASSURANCE

A. Manufacturer's Qualifications:
1. Minimum 50 years experience in producing fiber wall boards of the type specified herein.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials in manufacturer's original packages or bundles bearing the brand name of the product.
1. Inspect the materials upon delivery to assure that specified products have been received.
2. Report damaged material immediately to the delivering carrier and note such damage on the carrier's freight bill of lading.

B. Storage and Handling
1. Store materials inside, level, under cover.
2. Keep dry, protect from weather and damage from construction operations and other causes.
3. Store at a location where humidity and temperature duplicates those during installation and occupancy in order to stabilize the sheathing.

1.6 PRECAUTIONS

A. Blue Ridge Fiberboard products must not be used in close proximity to chimneys, heater units, fireplaces, steam pipes or other surfaces which could provide long term exposure to excessive heat (maximum 212*F) without adequate thermal protection.

B. Consult the appropriate heating appliance manufacturer’s instructions before installation.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturer: Blue Ridge Fiberboard, 250 Celotex Dr., Danville, VA, 24541.

B. Requests for substitutions will be considered in accordance with provisions of Section 01 25 00 – Substitution Procedures.

C. Provide all structural wall sheathing boards from a single manufacturer.

2.2 MATERIALS

Specifier Note: Testing performed by STORK Materials Technology per the American Fiberboard Association and/or ASTM requirements.

A. Fiberboard wall sheathing Boards: SturdyBrace® physical properties as follows:
   1. Panel size: 4'0" (1,200 mm) x 8'0" (2,400 mm) or 9'0" (2,700 mm) or 10'0" (3,000 mm) x ½" (13mm).
   2. Modulus of Rupture, psi (kPa): 400 psi (2,758 kPa) min.
   3. Deflection at Spec. load, in (mm): 0.075" (19 mm) max.
   4. Thermal Conductivity BTU·in/h.sq.ft.°F (W/m·k) max: 0.440 (0.063).
   5. Tensile Strength (parallel to surface): 200 psi (1,379 kPa) min.
   6. Tensile Strength (perpendicular to surface): 800 psi (38.3 kPa) min.
   7. Water Absorption, 24 hrs., percentage: 15% max.
   8. Vapor Permeance, grains/hr·ft²·in. HG (mg/s·sq.m· kPa): 5 (287).
   9. R-Value: 1.3
   10. Flammability (per NFPA rating): 1 or slight.

2.3 ACCESSORIES

A. Nails: 11 ga, 1 ½" long galvanized roofing nails, as required to penetrate wood framing ¾" (19 mm) minimum.

B. Staples: 1 ½" 16 Ga. Corrosion resistant staples with minimum 7/16" crown. This may be substituted by nailing.

C. Screws: 7/64" x 1 ¼" drill point, bugle head, corrosion resistant metal screws.

PART 3 EXECUTION

3.1 EXAMINATION

A. Examine substrates upon which work will be installed.

B. Verify framing member spacing complies with manufacturer's requirements.

C. Verify environmental conditions are, and will continue to be, maintained in accordance with manufacturer's recommendations.

D. Coordinate with responsible entity to perform corrective work on unsatisfactory substrates or conditions.

E. Starting work by installer is acceptance of substrate and environmental conditions.

3.2 PREPARATION

A. Follow manufacturer's instructions. Store in a well-ventilated area. Material must be kept dry before installation.
   1. Structural fiberboard sheathing panels must be installed in a clean, dry condition.
   2. Ensure panels are thoroughly dry prior to closing in the structure.
   3. Provide proper ventilation and use of respiratory protection as required by the manufacturer.
   4. Avoid dust inhalation.
   5. Use caution when creating large amounts of dust because of potential explosion hazard.
   6. Refer to manufacturer's MSDS data for these and other precautions.

3.3 INSTALLATION

A. Contact Blue Ridge Fiberboard for full product installation guides and precautions.

B. It is recommended that the exterior finish be applied within 30 days. If applied sheathing should get wet, wait until completely dry before application of exterior finish.

C. SturdyBrace® requires stud wall framing. Panel ends are required to align with framing members. Panels must be installed vertically.

D. See manufacturer's recommendations for required blocking.

E. Verify that appropriate framing section or drawing notes comply.

F. Panel Application: Install in accordance with ASTM C846 and manufacturer's application instructions.
   1. Wall systems: Apply SturdyBrace® vertically to framing.
      a. Wood framed systems: fasten with 11Ga, galvanized roofing nails 1 1/2" long at 16" O.C. max. 7/16" head spaced 3" O.C. around perimeter and 6" in field.
      b. Metal studs: Attach to structurally sound metal stud using 1 1/4" corrosion resistant, self tapping metal screws with min. 5/16" bugle head. Studs shall be 16"(.41M) or 24"(.61M) O.C. depending on code requirements. Space fasteners 5 in.(127mm) around the perimeter of the sheets and 10 in.(254mm) into intermediate framing
      c. Stapling: Attach to wood stud using 1 1/2" 16 Ga. corrosion resistant staples with min. 7/16" crown. Apply staples vertically with the crown parallel to the framing member. Drive fasteners flush with the sheathing surface but do not countersink. Staples may be substituted for nailing.
      d. Apply 4 ft. wide by 1/2" sheathing vertically with long edges parallel to the vertical studs. Center all joints over the framing members with a 1/8" gap between edges. Leave a 1/8" gap at doors windows and horizontal joints. Sheathing should extend from sill to plate, if not, headers for adequate nailing should be provided at all horizontal joints.

3.4 ADJUSTING AND CLEANING

A. Follow manufacturer's instructions for replacement of damaged panels.

B. During the course of the Work and on completion of the Work, remove excess materials, equipment and debris and dispose of properly away from premises.

C. Leave Work in clean condition in accordance with Section 01 50 00 – Temporary Facilities and Controls.

3.5 PROTECTION

A. After application of the SturdyBrace® sheathing, it is recommended that the final finish be applied within 30 days.

B. If applied sheathing should get wet, wait until it is completely dry before application of finish.

END OF SECTION