

SECTION 07 21 13 - BOARD INSULATION

This section includes editing notes to assist the user in editing the section to suit project requirements. These notes are included as hidden text, and can be revealed or hidden by the following method in Microsoft Word:

Display the FILE tab on the ribbon, click OPTIONS, then DISPLAY. Select or deselect HIDDEN TEXT.

The following should be noted in using this specification:

Hypertext links to specific websites are included after manufacturer names and names of organizations whose standards are referenced within the text, to assist in product selection and further research. Hypertext links are contained in parenthesis and shown in blue, e.g.:

(www.astm.org)

Optional text requiring a selection by the user is enclosed within brackets and as red text, e.g.: "Color: [Red.] [Black.]"

Items requiring user input are enclosed within brackets and as red text, e.g.: "Section [____ - ____]."

Optional paragraphs are separated by an "OR" statement included as red text, e.g.:

**** OR ****

For assistance on the use of the products in this section, contact Atlas Roofing Corporation by calling (800) 388-6134, or by email at lance.williams@atlasroofing.com, or visit their website at www.atlasrwi.com.

PART 1 GENERAL

1.1 SUBMITTALS

- A. Action Submittals:
 - 1. Product Data.
 - 2. Samples.
- B. Informational Submittals:
 - 1. Certificate of Compliance.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Contract Documents/Basis of Design are based on products by Atlas Roofing. www.atlasroofing.com
- B. Equivalent products by following manufacturers are acceptable:
 - 1. Dow.
 - 2. RMax.
 - 3. Hunter.
 - 4. Firestone.
 - 5. IKO.
 - 6. OX.
 - 7. Johns Manville.
- C. Substitutions: Refer to Division 01.

2.2 MATERIALS

A. Board Insulation:

Product: EnergyShield Pro.

Description: ASTM C1289, Type 1 and 2, Class 3; closed cell polyisocyanurate foam core faced with reflective 12 mil reinforced foil facer on one side and white 12 mil reinforced acrylic-coated aluminum facer on the other.

1. Approved for use in NFPA 285 wall assemblies.
2. Flame spread/smoke developed rating: Class A, maximum 25/450, tested to ASTM E84.
3. Free from CFCs, HCFCs, and HFCs.
4. Compressive strength: Minimum 25 PSI, tested to ASTM D1621.
5. Moisture vapor transmission: Maximum 0.1 perm, tested to ASTM E96 desiccant method.
6. Water absorption: Maximum 1 percent by volume, tested to ASTM C209.
7. Dimensional stability: Maximum 1.5 percent linear change, tested to ASTM D2126.
8. Pass ASTM E2357 air barrier assembly test.
9. Qualify as weather resistive barrier per AC 71 with sealed joints; ICC-ES-ESR 1375.
10. Service temperature: Minus 100 to plus 250 degrees F.
11. Potential heat: 12,000 BTU/LB, tested to NFPA 259.
12. Auto ignition temperature: 800 degrees F, tested to ASTM D1929.
13. Microbial resistance:
 - a. Pass ASTM D6329.
 - b. Pass UL2824.
14. Recycled content: Minimum 10 percent.
15. Tested to UL 2818; GreenGuard Gold certified.
16. Comply with CDPH 01350 low-emitting chamber requirements.
17. Pass NFPA 286.
18. Thickness and insulation value: [0.75 inch, R-value 5.0.] [1.0 inch, R-value 6.5.] [1.2 inches, R-value 97.5.] [1.5 inches, R-value 9.8.] [1.6 inches, R-value 10.5.] [2.0 inches, R-value 13.1.] [2.5 inches, R-value 16.0.] [3.0 inches, R-value 19.7.] [3.1 inches, R-value 20.2.]

**** OR ****

B. Board Insulation:

Product: EnergyShield CGF Pro.

Description: ASTM C1289, Type 2, Class 2, closed cell polyisocyanurate foam core faced with high-performance coated glass facers on both sides.

1. Approved for use in NFPA 285 wall assemblies.
2. Flame spread/smoke developed rating: Class A, maximum 25/450, tested to ASTM E84.
3. Free from CFCs, HCFCs, and HFCs.
4. Compressive strength: Minimum 25 PSI, tested to ASTM D1621.
5. Moisture vapor transmission: Maximum 1.2 perms, tested to ASTM E96 desiccant method.
6. Water absorption: Maximum 1.0 percent by volume, tested to ASTM C209.
7. Dimensional stability: Maximum 2 percent linear change, tested to ASTM D2126.
8. Pass ASTM 2357 air barriers assembly test.
9. Qualify as weather resistive barrier per AC 71 with sealed joints; ICC-ES-ESR 1375.
10. Service temperature: Minus 100 to plus 250 degrees F.
11. Potential heat 12,000 BTU/LB, tested to NFPA289
12. Auto ignition temperature 800 deg F, tested to ASTM D1929
13. Microbial resistance:
 - a. Pass ASTM D6329.
 - b. Pass UL2824.
14. Recycled content: minimum 10 percent
15. Tested to UL 2818; GreenGuard Gold certified.
16. Comply with CDPH 01350 low-emitting chamber requirements.
17. Thickness and insulation value: [0.50 inch, R-value 3.0.] [0.75 inch, R-value 4.5.] [1.0 inch, R-value 6.0.] [1.5 inches, R-value 9.0.] [2.0 inches, R-value 12.1.] [2.5 inches, R-value 15.3.] [3.0 inches, R-value 18.5.] [3.5 inches, R-value 21.7.]

**** OR ****

C. Board Insulation:

Product: EnergyShield Ply Pro.

Description: ASTM C1289, Type 5, grade 3 (25psi), closed cell polyisocyanurate foam core faced with coated glass facers on both sides, bonded to nominally [5/8] [3/4] inch thick 4' x 8' fire-retardant treated plywood.

1. Approved for use in NFPA 285 wall assemblies.
2. Flame spread/smoke developed rating: Class A, maximum 25/450, tested to ASTM E84.
3. Moisture vapor transmission: Maximum 1.2 perms, tested to ASTM E96 desiccant method.
4. Water absorption: Maximum 1.0 percent by volume, tested to ASTM C209.
5. Dimensional stability: Maximum 2 percent linear change, tested to ASTM D2126.
6. Microbial resistance; polyisocyanurate layer:
 - a. Pass ASTM D6329.
 - b. Pass UL 2824.
7. Service temperature: Minus 100 to plus 250 degrees F.

Retain the following for insulation bonded to 5/8 inch thick plywood.

8. Nominal thickness and insulation value: [1.625 inches, R-value 6.8.] [2.125 inches, R-value 9.8.] [2.625 inches, R-value 12.9.] [3.125 inches, R-value 16.1.] [3.625 inches, R-value 19.3.] [4.125 inches, R-value 22.5.]

**** OR ****

Retain the following for insulation bonded to 3/4 inch thick plywood.

7. Nominal thickness and insulation value: [1.75 inches, R-value 7.0.] [2.25 inches, R-value 10.0.] [2.75 inches, R-value 13.1.] [3.25 inches, R-value 16.3.] [3.75 inches, R-value 19.5.] [4.25 inches, R-value 22.7.]

PART 3 EXECUTION

3.1 INSTALLATION

- A. Install insulation in accordance with manufacturer's instructions.
- B. Atlas recommends standard or light duty insulation fastener with #2 light duty drill point specifically engineered for attaching Atlas EnergyShield Ply Pro to light steel and wood substrates.

END OF SECTION