1. Product Name
FLAMEDXX® Fire Retardant OSB

2. Manufacturer
FLAMEDXX, LLC
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Nashville, TN 37228
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Fax: (615) 297-2001
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www.flamedxx.com

3. Product Description
BASIC USE
Using a patented process to apply a fire retardant chemical formula to oriented strand board, FLAMEDXX manufactures FLAMEDXX® OSB. These multipurpose fire retardant OSB panels have low rates of fuel contribution and heat release and maintain their structural integrity longer than other building materials, including steel.

Safe and environmentally friendly, FLAMEDXX fire retardant OSB panels can be used in homes, schools, hospitals and multiple structures. They are recommended for enclosed structural applications including:
- Roof sheathing
- Wall sheathing
- Subfloors
- Single layer flooring
- Temporary shelters
- Agriculture storage liners
- Garages

COMPOSITION & MATERIALS
FLAMEDXX OSB is comprised of a proprietary formulation of a fire retardant water-based coating applied to PS-02 Exposure 1-rated OSB.

TYPES, SIZES
- FLAMEDXX can produce all standard thicknesses of traditional OSB
- Current sizes offered - 7/16" (11.11 mm), 5/8" (15.8 mm) and 9/16" (14.29 mm)

BENEFITS
- Class A (flamespread 10) fire rating with a smoke developed value of 110
- Maintains structural integrity longer than other building materials
- Can substitute for noncombustible materials and fire retardant plywood without affecting building classifications
- Retains fire retardant properties even after being cut
- Noncorrosive and can be painted or finished
- Easy to use - requires no special skills or tools
- Engineered to be environmentally safe
- Meets a variety of stringent building codes and classifications

LIMITATIONS
- FLAMEDXX OSB is designed for interior applications. It should be used in above ground locations, protected from precipitation, regular condensation, extreme humidity and other elements that may cause the product to become wet. Exposure of FLAMEDXX to these conditions will, over a period of time, reduce fire retardant properties and effectiveness
- FLAMEDXX fire retardant OSB should not be used in damp crawl spaces, other damp areas or in direct contact with concrete floors, damp concrete walls or masonry walls
- FLAMEDXX OSB cannot be sanded

4. Technical Data
APPLICABLE STANDARDS
ASTM International (ASTM)
- ASTM D3043 Standard Test Methods for Structural Panels in Rurexure
- ASTM D3201 Standard Test Method for Hygroscopic Properties of Fire-Retardant Wood and Wood-Based Products
- Boeing BSS 7239 Test Method for Toxic Gas Generation by Materials on Combustion

TABLE 1  TECHNICAL PROPERTIES

<table>
<thead>
<tr>
<th>Test</th>
<th>Property</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASTM E84 (10 minute test)</td>
<td>Flamespread</td>
<td>10 (Class A)</td>
</tr>
<tr>
<td></td>
<td>Smoke developed</td>
<td>110 (Class 1)</td>
</tr>
<tr>
<td>ASTM E84 (30 minute test)</td>
<td>Maximum flame front measured 8.7 ft (2.7 m) beyond burner centerline</td>
<td></td>
</tr>
<tr>
<td>UPITT Test</td>
<td>Smoke toxicity</td>
<td>74.4 g - Not more toxic than wood</td>
</tr>
<tr>
<td>ASTM D5516</td>
<td>Ruleral properties</td>
<td>Insignificant loss of strength after more than 20 weeks exposure to elevated temperatures</td>
</tr>
</tbody>
</table>

University of Pittsburgh (UPITT) Evaluation of the Acute Inhalation Toxicity of the Combustion Products of Materials Using the University of Pittsburgh Test Method

APPROVALS
Comprehensive quality control programs conducted by independent third-party agencies report that both FLAMEDXX fire retardant chemical and FLAMEDXX OSB meet performance standards for formulation composition and manufacturing procedures.
- City of New York Department of Buildings per MEA628-06M

Fire Performance
FLAMEDXX OSB panels have achieved the following surface burning characteristics per ASTM E84:
- Flamespread - 10
- Smoke developed - 110
- Each FLAMEDXX OSB panel has a Class A mark, certifying it for use as a noncombustible material

Hygroscopicity
The FLAMEDXX fire retardant formulation only slightly increases hygroscopic properties of untreated OSB.

Corrosion
FLAMEDXX OSB panels have demonstrated corrosion rates comparable to those of untreated OSB.

TECHNICAL PROPERTIES
See Table 1.

PHYSICAL PROPERTIES
See Table 2.

5. Installation
PREPARATORY WORK
Ensure that the product is stored on a dry and level surface, with adequate blocking to avoid warping and adequate air circulation around the OSB. If the product is stored uncovered, use a water resistant wrapping on the top and sides.
of the product and open the wrap at the bottom to prevent moisture trapping. Ensure that the product is separated from ground moisture during storage. Store at temperatures recommended by the manufacturer: a maximum of 100 degrees F (37 degrees C) and a minimum of 32 degrees F (0 degrees C).

Prevent the product from being dropped or dragged. Always handle the product in a way to prevent damage to its surface or edges.

As with untreated OSB, FLAMEDXX OSB must be dry and clean before finishing and should only be finished after the structure has been enclosed. Coating systems should be tested on sample material and exposed to actual use conditions to determine if the desired effect can be obtained.

To prevent moisture buildup in OSB roof systems, adequate air flow must be provided. It is the responsibility of the building owner or agent (builder, architect, engineer, etc.) to insure that ventilation is provided to the level required by applicable building codes.

Verify that site conditions are acceptable for installation and do not proceed with installation until unacceptable conditions are corrected.

METHODS
Contact FLAMEDXX for questions concerning installation procedures.

PRECAUTIONS
Follow normal safety practices when working with FLAMEDXX OSB. Wear gloves to avoid splinters. Use only with adequate ventilation; otherwise wear an OSHA/NIOSH respirator suitable for vapor, mist or dust concentration. Prevent prolonged breathing of vapor or mist and use safety glasses to prevent contact with eyes.

BUILDING CODES
Installation must comply with the requirements of all applicable local, state and federal codes.

### 6. Availability & Cost
FLAMEDXX OSB panels are readily available in most areas and can be delivered to adhere to specific construction schedules. Contact FLAMEDXX for questions about product cost.

### 7. Warranty
FLAMEDXX, LLC, warrants FLAMEDXX fire retardant OSB against manufacturing defects, where the product is properly installed, to a maximum of 20 years. This warranty entitles the holder to the replacement or repair of a defective material. Complete warranty terms and conditions are available from the manufacturer. For details, visit the FLAMEDXX website: www.flamedxx.com.

### 8. Maintenance
Properly installed product requires no special maintenance.

### 9. Technical Services
Technical assistance, including more detailed information, product literature, test results and assistance preparing project specification, is available by contacting FLAMEDXX.

### 10. Filing Systems
- Additional product information is available from the manufacturer upon request.

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**TABLE 2: PHYSICAL PROPERTIES - RECOMMENDED UNIFORM LIVE LOADS FOR APA-RATED SHEATHING**

<table>
<thead>
<tr>
<th>Property</th>
<th>24/16</th>
<th>32/16</th>
<th>40/20</th>
<th>48/24</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum panel thickness</td>
<td>7/16</td>
<td>15/32</td>
<td>1/2</td>
<td>19/32</td>
</tr>
<tr>
<td>Maximum span with edge support</td>
<td>24</td>
<td>32</td>
<td>40</td>
<td>48</td>
</tr>
<tr>
<td>Maximum span without edge support</td>
<td>24</td>
<td>28</td>
<td>32</td>
<td>36</td>
</tr>
<tr>
<td>Allowable live load (center to center)</td>
<td>12&quot;</td>
<td>(3 m)</td>
<td>190</td>
<td>325</td>
</tr>
<tr>
<td></td>
<td>16&quot;</td>
<td>(4 m)</td>
<td>100</td>
<td>180</td>
</tr>
<tr>
<td></td>
<td>20&quot;</td>
<td>(5 m)</td>
<td>65</td>
<td>120</td>
</tr>
<tr>
<td></td>
<td>24&quot;</td>
<td>(6 m)</td>
<td>30</td>
<td>70</td>
</tr>
<tr>
<td></td>
<td>32&quot;</td>
<td>(8 m)</td>
<td>--</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>40&quot;</td>
<td>(1 m)</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td></td>
<td>48&quot;</td>
<td>(1.2 m)</td>
<td>--</td>
<td>--</td>
</tr>
</tbody>
</table>

Allowable loads were determined using a dead load of 10 psf. If the dead load exceeds 10 psf, the live load should be reduced accordingly.

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**TABLE 2: PHYSICAL PROPERTIES - STRESS PARALLEL TO STRENGTH AXIS**

<table>
<thead>
<tr>
<th>Property</th>
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<th>32/16</th>
<th>40/20</th>
<th>48/24</th>
</tr>
</thead>
<tbody>
<tr>
<td>Panel bending stiffness</td>
<td>78,000</td>
<td>115,000</td>
<td>225,000</td>
<td>400,000</td>
</tr>
<tr>
<td>Panel bending strength</td>
<td>385</td>
<td>445</td>
<td>750</td>
<td>1000</td>
</tr>
<tr>
<td>Panel axial tension</td>
<td>2600</td>
<td>2800</td>
<td>2900</td>
<td>4000</td>
</tr>
<tr>
<td>Panel axial compression</td>
<td>3250</td>
<td>3550</td>
<td>4200</td>
<td>5000</td>
</tr>
<tr>
<td>Panel axial stiffness</td>
<td>3,800,000</td>
<td>4,150,000</td>
<td>5,000,000</td>
<td>5,850,000</td>
</tr>
<tr>
<td>Panel shear (plane)</td>
<td>180</td>
<td>185</td>
<td>205</td>
<td>250</td>
</tr>
<tr>
<td>Panel rigidity</td>
<td>83,500</td>
<td>83,500</td>
<td>88,500</td>
<td>96,000</td>
</tr>
<tr>
<td>Panel shear (thickness)</td>
<td>165</td>
<td>180</td>
<td>195</td>
<td>220</td>
</tr>
</tbody>
</table>

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<th>32/16</th>
<th>40/20</th>
<th>48/24</th>
</tr>
</thead>
<tbody>
<tr>
<td>Panel bending stiffness</td>
<td>16,000</td>
<td>25,000</td>
<td>56,000</td>
<td>9,000</td>
</tr>
<tr>
<td>Panel bending strength</td>
<td>115</td>
<td>165</td>
<td>270</td>
<td>405</td>
</tr>
<tr>
<td>Panel axial tension</td>
<td>1300</td>
<td>1650</td>
<td>2100</td>
<td>2550</td>
</tr>
<tr>
<td>Panel axial compression</td>
<td>2500</td>
<td>3100</td>
<td>4000</td>
<td>4300</td>
</tr>
<tr>
<td>Panel axial stiffness</td>
<td>2,900,000</td>
<td>3,600,000</td>
<td>4,500,000</td>
<td>4,500,000</td>
</tr>
<tr>
<td>Panel shear (plane)</td>
<td>180</td>
<td>185</td>
<td>205</td>
<td>250</td>
</tr>
<tr>
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