DIVISION: 07 00 00—THERMAL AND MOISTURE PROTECTION
Section: 07 21 00—Thermal Insulation

REPORT HOLDER:
UNITED FIBERS, LLC

EVALUATION SUBJECT:
NATURE BLEND LOOSE-FILL INSULATION, NATURE BLEND STABILIZED INSULATION AND NATURE BLEND STABILIZED INSULATION—BORATE FORMULA

1.0 EVALUATION SCOPE
Compliance with the following codes:
- BOCA® National Building Code/1999 (BNBC)
- 1997 Uniform Building Code™ (UBC)

Properties evaluated:
- Physical properties
- Thermal resistance
- Surface-burning characteristics
- Attic and crawl space installation

For evaluation for compliance with codes adopted by Los Angeles Department of Building and Safety (LADBS), see ESR-2506 LABC and LARC Supplement.

2.0 USES
Nature Blend Loose-fill Insulation, Nature Blend Stabilized Insulation and Nature Blend Stabilized Insulation—Borate Formula are used as nonstructural thermal insulating materials in buildings of any type of construction. The insulation is for use on or within floors, floor-ceiling or roof-ceiling assemblies, attics, crawl spaces, walls and partitions.

3.0 DESCRIPTION
3.1 General:
Nature Blend Loose-fill Insulation, Nature Blend Stabilized Insulation and Nature Blend Stabilized Insulation—Borate Formula consist of a uniform low-density mixture of cellulosic fibers and fire-retardant chemicals. Nature Blend Stabilized Insulation and Nature Blend Stabilized Insulation—Borate Formula have a flame-spread index of not more than 25, and Nature Blend Loose-fill Insulation, Nature Blend Stabilized Insulation and Nature Blend Stabilized Insulation—Borate Formula have a smoke-developed index of not more than 450 when tested in accordance with ASTM E84 (UBC Standard 8-1). Nature Blend Loose-fill Insulation meets the requirements of CPSC 16 CFR Parts 1209 and 1404, as referenced in 2018, 2015 and 2012 IBC Section 720.6 (2009 and 2006 IBC Section 719.6), IRC Section R302.10.3, BNBC Section 723.5 and UBC Section 707.3, as applicable. Density and thermal characteristics of Nature Blend Loose-fill Insulation, Nature Blend Stabilized Insulation and Nature Blend Stabilized Insulation—Borate Formula are given in Table 1.

3.2 Nature Blend Loose-fill Insulation:
Nature Blend Loose-fill Insulation is used in concealed spaces of walls, partitions, and roof-ceiling or floor-ceiling assemblies; or is exposed on horizontal or sloped attic floors. Nature Blend Loose-fill Insulation is used in enclosed spaces at a density of 2.0 to 3.5 lbs/ft³ (32.0 to 56.0 kg/m³), and is installed on exposed surfaces at a density of between 1.2 and 2.5 lbs/ft³ (19.2 and 40.0 kg/m³).

3.3 Nature Blend Stabilized Insulation and Nature Blend Stabilized Insulation—Borate Formula:
Nature Blend Stabilized Insulation and Nature Blend Stabilized Insulation—Borate Formula are used for exposed application as interior finishes on steel, wood, gypsum board, aluminum, masonry or concrete substrates; for concealed application within walls and partitions; or for exposed applications on horizontal or sloped attic floors. Nature Blend Stabilized Insulation and Nature Blend Stabilized Insulation—Borate Formula are used within walls and partitions at a density of between 2.0 and 3.5 lbs/ft³ (32.0 and 56.0 kg/m³) and are used on attic floors at a density of between 1.2 and 2.5 lbs/ft³ (19.2 and 40.0 kg/m³).

4.0 INSTALLATION
4.1 General:
Installation of Nature Blend Loose-fill Insulation, Nature Blend Stabilized Insulation and Nature Blend Stabilized Insulation—Borate Formula must comply with this report and the manufacturer’s published installation instructions. The manufacturer’s published installation instructions must be available at the jobsite at all times during installation.
Installation of Nature Blend Loose-fill Insulation must comply with ASTM C1015.

When installation is above or adjacent to recessed luminaires (lighting fixtures) or other heat-producing elements, a permanent barrier is necessary to maintain a 3-inch (76 mm) clearance between the item and the insulation, unless the recessed luminaire is identified as Type IC and is listed in accordance with the applicable code for direct contact with insulation, or the heat-producing element is listed for zero clearance to combustibles. The installation is limited to areas where the temperature will not exceed 194°F (90°C). The code official may require an approved vapor retarder to be installed in accordance with 2018 and 2015 IBC Section 402.5 or 502.5, as required by 2006 IBC Section 1404.3. The insulation may be installed in buildings of any type of construction.

6.0 EVIDENCE SUBMITTED

6.1 Manufacturer’s published installation instructions and product literature.

6.2 Reports of thermal transmission tests in accordance with ASTM C518; reports of flame-spread and smoke-developed indices tests in accordance with ASTM E84 (UBC Standard 8-1); and reports of physical property tests in accordance with CPSC 16 CFR, Parts 1209 and 1404.

6.3 Quality control documentation.

7.0 IDENTIFICATION

7.1 Each package containing the Nature Blend Loose-fill Insulation, Nature Blend Stabilized Insulation and Nature Blend Stabilized Insulation—Borate Formula described in this report is identified by a stamp bearing the manufacturer’s name (United Fibers, LLC), the product name, the address of the manufacturing plant, the date of manufacture and the evaluation report number (ESR-2506). Additionally, each package of Nature Blend Loose-fill Insulation must bear a label with information required by CPSC 16 CFR, Parts 1209 and 1404.

Jobsite labeling for the insulation in floor/ceiling applications must comply with 2018 and 2015 IRC Sections N1101.10.1 and N1101.10.1.1 (2012 IRC Sections N1101.12.1 and N1101.12.1.1 or 2009 IRC Sections N1101.4 and N1101.4.1 or 2006 IRC Section N1101.4.1) and 2018, 2015 and 2012 IECC Sections C303.1.1, C303.1.1.1, R303.1.1 and R303.1.1.1 (2009 and 2006 IECC Sections 303.1.1 and 303.1.1.1), as applicable.

7.2 The report holder’s contact information is the following:

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**TABLE 1—DENSITY AND THERMAL PROPERTIES OF NATURE BLEND INSULATION**

<table>
<thead>
<tr>
<th>INSULATION TYPE AND LOCATION</th>
<th>NOMINAL DENSITY (pcf)</th>
<th>THERMAL CONDUCTIVITY (Btu·in/hr·ft²·°F)</th>
<th>R-VALUE (per inch of thickness)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nature Blend Loose-fill Insulation</td>
<td>Walls</td>
<td>2.0 – 3.5</td>
<td>0.27</td>
</tr>
<tr>
<td></td>
<td>Ceilings2</td>
<td>1.2 – 2.5</td>
<td>0.27</td>
</tr>
<tr>
<td>Nature Blend Stabilized Insulation and Nature Blend Stabilized Insulation—Borate Formula1</td>
<td>Walls</td>
<td>2.0 – 3.5</td>
<td>0.27</td>
</tr>
<tr>
<td></td>
<td>Ceilings2</td>
<td>1.2 – 2.5</td>
<td>0.27</td>
</tr>
</tbody>
</table>

For SI: 1 pcf = 16.018 kg/m³; 1 Btu/in·hr·ft²·°F = 0.1442 W/m·°k; 1 inch = 25.4 mm.

1Water is field-mixed with the dry insulation fibers at the nozzle of the spray equipment.

2Densities noted in the table are the settled densities.
1.0 REPORT PURPOSE AND SCOPE

Purpose:
The purpose of this evaluation report supplement is to indicate that Nature Blend Loose-fill Insulation, Nature Blend Stabilized Insulation and Nature Blend Stabilized Insulation—Borate Formula, described in ICC-ES evaluation report ESR-2506, have also been evaluated for compliance with the codes noted below as adopted by the Los Angeles Department of Building and Safety (LADBS).

Applicable code editions:
- 2020 City of Los Angeles Building Code (LABC)
- 2020 City of Los Angeles Residential Code (LARC)

2.0 CONCLUSIONS

The Nature Blend Loose-fill Insulation, Nature Blend Stabilized Insulation and Nature Blend Stabilized Insulation—Borate Formula, described in Sections 2.0 through 7.0 of the evaluation report ESR-2506, comply with the LABC Section 720.6, and the LARC Section R302.10.3, and are subject to the conditions of use described in this supplement.

3.0 CONDITIONS OF USE

The Nature Blend Loose-fill Insulation, Nature Blend Stabilized Insulation and Nature Blend Stabilized Insulation—Borate Formula described in this evaluation report supplement must comply with all of the following conditions:

- All applicable sections in the evaluation report ESR-2506.
- The installation, conditions of use and identification of the Nature Blend Loose-fill Insulation, Nature Blend Stabilized Insulation and Nature Blend Stabilized Insulation—Borate Formula are in accordance with the 2018 International Building Code® (IBC) or 2018 International Residential Code® (IRC), as applicable, provisions noted in the evaluation report ESR-2506.
- The Nature Blend Loose-fill Insulation, Nature Blend Stabilized Insulation and Nature Blend Stabilized Insulation—Borate Formula have not been evaluated under LABC Chapter 7A or LABC Section R337 for use in exterior design and construction of new buildings located in any Fire Hazard Severity Zone within State Responsibility Areas or any Wildland-Urban Interface Fire Area.

This supplement expires concurrently with the evaluation report, reissued March 2020 and revised July 2020.
1.0 REPORT PURPOSE AND SCOPE

Purpose:
The purpose of this evaluation report supplement is to indicate that the Nature Blend Loose-fill Insulation, Nature Blend Stabilized Insulation and Nature Blend Stabilized Insulation—Borate Formula, described in ICC-ES evaluation report ESR-2506, have also been evaluated for the codes noted below.

Applicable code edition:
- 2019 California Building Code (CBC)
- 2019 California Residential Code (CRC)
- 2019 California Energy Code (CEC)

2.0 CONCLUSIONS

2.1 CBC and CRC:
The Nature Blend Loose-fill Insulation, Nature Blend Stabilized Insulation and Nature Blend Stabilized Insulation—Borate Formula, described in Sections 2.0 through 7.0 of the evaluation report ESR-2506, comply with the 2019 CBC and CRC, provided the design and installation are in accordance with the 2018 International Building Code® (IBC) or 2018 International Residential Code® (IRC), as applicable, provisions noted in the evaluation report.

The insulation has not been evaluated under CBC Chapter 7A or CRC Section R337, for use in the exterior design and construction of new buildings located in a Fire Hazard Zone within a State Responsibility Area or any Wildland–Urban Interface Fire Area.

2.1.1 OSHPD: The applicable OSHPD Sections and Chapters of the CBC are beyond the scope of this supplement.

2.1.2 DSA: The applicable DSA Sections and Chapters of the CBC are beyond the scope of this supplement.

2.2 CEC:
The Nature Blend Loose-fill Insulation, Nature Blend Stabilized Insulation and Nature Blend Stabilized Insulation—Borate Formula, described in Sections 2.0 through 7.0 of the evaluation report ESR-2506, comply with the 2019 CEC, provided the design and installation are in accordance with the 2018 International Building Code® (IBC) or 2018 International Residential Code® (IRC), as applicable, provisions noted in the evaluation report.

2.2.1 Conditions of Use:
In accordance with Section 110.8 of the 2019 California Energy Code, verification of certification by the Department of Consumer Affairs, Bureau of Household Goods and Services, must be provided to the code official, demonstrating that the insulation conductive thermal performance is approved pursuant to the California Code of Regulations, Title 24,
Part 12, Chapters 12-13, Article 3, “Standards for Insulating Material.” Certification can be verified with the DCA Bureau of Household Goods and Services using the following link to the bureau’s Directory of Certified Insulation Materials: https://bhgs.dca.ca.gov/consumers/ti_directory.pdf

The insulation has not been evaluated for compliance with the International Wildland–Urban Interface Code®.

This supplement expires concurrently with the evaluation report, reissued March 2020 and revised July 2020.