SPRAY-APPLIED THERMAL & ACOUSTICAL FINISH
METAL DECK APPLICATION

TECHNICAL DATA SHEET

CSI MasterFormat® Filing:
Division 7: Thermal & Moisture Protection
07 21 00 Thermal Insulation
07 21 29 Sprayed Insulation

Division 9: Finishes
09 81 00 Acoustic Insulation
09 81 29 Sprayed Acoustic Insulation
09 83 00 Acoustic Finishes
09 83 16 Acoustic Ceiling Coating

MANUFACTURER INFORMATION:
International Cellulose Corporation
12315 Robin Boulevard | Houston, Texas 77045
(713) 433-6701 or (800) 444-1252 | FAX: (713) 433-2029

1. PRODUCT DESCRIPTION:
K-13 is a Thermal and Acoustical cellulose insulation used as an insulation/exposed finish applied to metal decking for its acoustic and thermal benefits. K-13's monolithic coating absorbs excess noise and provides an R-value of 3.75 per inch. K-13 has a Natural Texture and is available in seven standard colors and custom integral colors.

2. BASIC USE:
K-13 is used as an exposed finish over metal decking for its acoustic and thermal benefits.

3. MATERIAL COLORS:
K-13 is available in seven standard colors can also be specified in specially-matched custom colors.

STANDARD COLORS:

| Black | Gray | Lt. Gray | White | Beige | Tan | Cocoa |

Color selection will affect the final price.

4. SURFACE PREPARATION:
K-13 adheres to properly prepared substrates and conforms to any ceiling configuration including metal decking and other complex surfaces. Metal decking surfaces to receive K-13 are to be inspected prior to installation to determine if pre-treatment is required.

5. APPLICATION:
K-13 is installed by an international network of professional contractors licensed by ICC. These contractors are required to install K-13 using approved equipment, materials, and procedures. Due to the inherent texture of the material and application techniques, the installed material will have thickness variances. Compliance with applicable building codes and project requirements is the responsibility of the user and/or installing contractor.

SUSTAINABLE CREDIT CATEGORIES:

MATERIALS + RESOURCES:
- RECYCLED CONTENT: 80% Pre-Consumer
- REGIONAL MATERIALS: Manufactured by International Cellulose Corporation in Houston, TX.
- MATERIAL INGREDIENT REPORTING: Inventoried to 1,000 PPM in accordance with the HPD Collaborative.

INDOOR ENVIRONMENTAL QUALITY:
- INDOOR AIR QUALITY: UL GREENGUARD Gold Certified
  May Contribute Towards:
  LEED v4: Indoor Air Quality Assessment
  LEED v4: Enhanced Indoor Air Quality Strategies
- THERMAL COMFORT: K-13 has exceptionally low heat-loss characteristics with an R-Value of 3.75

ACOUSTICAL PERFORMANCE
- LOW-EMITTING MATERIALS:
  M1 Classified as a Low-Emitting Building Material
  Compliant With:
  LEED v4: Low-Emitting Materials
  CDHP/ California Section 01350
  SCAGMD Rule 1168
  CHPS- Acoustical Ceiling

AUGUST 2018
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TECHNICAL DATA:

ASTM STANDARDS COMPLIANCE
ASTM C 423  Sound Absorption
ASTM C 518  Thermal Conductivity
ASTM C 739  Cellulosic Fiber
ASTM C 1149  Spray-Applied Cellulose Insulation
ASTM D 2244  Light Reflectance
ASTM E 84  Surface Burning Characteristics
ASTM E 90  Sound Transmission
ASTM E 736  Cohesion/Adhesion - Bond Strength
ASTM E 759  Bond Deflection
ASTM E 859  Air Erosion
ASTM E 1042  Acoustical Absorption

ASTM C 423: Sound Absorption
K-13 APPLIED ON 1.5” METAL DECK

<table>
<thead>
<tr>
<th>Inches</th>
<th>125 Hz</th>
<th>250 Hz</th>
<th>500 Hz</th>
<th>1000 Hz</th>
<th>2000 Hz</th>
<th>4000 Hz</th>
<th>NRC</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.5”</td>
<td>0.36</td>
<td>0.89</td>
<td>1.26</td>
<td>1.07</td>
<td>1.01</td>
<td>1.00</td>
<td>1.05</td>
</tr>
<tr>
<td>3”</td>
<td>0.97</td>
<td>1.04</td>
<td>1.13</td>
<td>0.99</td>
<td>0.95</td>
<td>0.98</td>
<td>1.05</td>
</tr>
</tbody>
</table>

K-13 APPLIED ON 2” METAL DECK

<table>
<thead>
<tr>
<th>Inches</th>
<th>125 Hz</th>
<th>250 Hz</th>
<th>500 Hz</th>
<th>1000 Hz</th>
<th>2000 Hz</th>
<th>4000 Hz</th>
<th>NRC</th>
</tr>
</thead>
<tbody>
<tr>
<td>1”</td>
<td>0.39</td>
<td>0.63</td>
<td>0.96</td>
<td>0.99</td>
<td>1.04</td>
<td>1.06</td>
<td>0.90</td>
</tr>
<tr>
<td>2”</td>
<td>0.55</td>
<td>0.99</td>
<td>1.13</td>
<td>1.06</td>
<td>1.05</td>
<td>1.10</td>
<td>1.05</td>
</tr>
</tbody>
</table>

K-13 APPLIED ON 3” METAL DECK

<table>
<thead>
<tr>
<th>Inches</th>
<th>125 Hz</th>
<th>250 Hz</th>
<th>500 Hz</th>
<th>1000 Hz</th>
<th>2000 Hz</th>
<th>4000 Hz</th>
<th>NRC</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.5”</td>
<td>0.55</td>
<td>0.92</td>
<td>1.11</td>
<td>1.02</td>
<td>0.95</td>
<td>0.99</td>
<td>1.00</td>
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<tr>
<td>2.75”</td>
<td>0.69</td>
<td>0.98</td>
<td>1.17</td>
<td>1.03</td>
<td>0.97</td>
<td>1.04</td>
<td>1.05</td>
</tr>
</tbody>
</table>

ASTM C 518: Thermal Conductivity
R-Value: 3.75 PER INCH

<table>
<thead>
<tr>
<th>AVG. APPLICATION THICKNESS</th>
<th>R-VALUE</th>
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<tbody>
<tr>
<td>1”</td>
<td>3.75</td>
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<tr>
<td>2”</td>
<td>7.5</td>
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<tr>
<td>3”</td>
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<td>4”</td>
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<tr>
<td>8”</td>
<td>30</td>
</tr>
<tr>
<td>9”</td>
<td>33.75</td>
</tr>
<tr>
<td>10”</td>
<td>37.5</td>
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ASTM D 2244: Light Reflectance

<table>
<thead>
<tr>
<th>Color</th>
<th>Reflectance</th>
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<tbody>
<tr>
<td>White</td>
<td>84+</td>
</tr>
<tr>
<td>Tan</td>
<td>46+</td>
</tr>
<tr>
<td>Light Gray</td>
<td>45+</td>
</tr>
<tr>
<td>Gray</td>
<td>45+</td>
</tr>
<tr>
<td>Beige</td>
<td>73+</td>
</tr>
<tr>
<td>Black</td>
<td>17+</td>
</tr>
</tbody>
</table>

ASTM E 84: Surface Burning Characteristics

CLASS 1, CLASS A RATED per ASTM E 84, UL 723, NFPA 255, & UBC-42

- Flame Spread 5
- Smoke Development 5

K-13 has been rated and approved by Factory Mutual Research Corporation for use in categories: I, II, III, & IV.

ASTM E 736: Cohesion/Adhesion - Bond Strength

Bond Strength >100psf

K-13 meets IBC 2009 Section 803.10 Stability requirements for Interior Finish materials.

MISCELLANEOUS CODE APPROVALS & SPECIFICATIONS

- Underwriters Laboratories - Classified Code Compliance Report UL ER 5499
- Factory Mutual Research - Report Nos. 19678, 20399, and 24703
- Federal Defense Logistics Agency Cage Code: ONJU2
- Federal Specification – SS-S-111C
- Corps of Engineers Guide Specifications – CE-201.01
- Department of the Navy Guide Specifications - NFGS-07218
- EPA 40 CFR Part 248
- Miami-Dade County, FL NOA #18-0122.09 - Expires Sept. 4, 2020
- Los Angeles – RR-24311
- New York – MEA 65-96-M
- Meets California Bureau of Home Furnishings Standards
- Resource Conservation and Recovery Act

K-13 does not contain silica dust, asbestos, mineral or glass fibers, or PCB's.