TBB - Thermal Barrier Blanket System

Description
Fi-Foil’s Thermal Barrier Blanket System or TBB is designed for use in over Icynene’s Open Cell Spray Foam in commercial buildings. The patented system offers an easy single-pass installation. An innovative Clip & Pin mechanically snaps on the metal purlins. A reflective faced fibrous insulation attaches with a friction washer offering an attractive white or aluminum finish. TBB is available perforated, which allows vapor transmission and solid, which can function as a vapor retarder. TBB provides improved acoustic performance over other thermal barrier coatings.

System
The system consists of TBB insulation, clip & pin fastening components, and tape for sealing edges and openings around obstructions. Roll widths are 66” and 76” for 5’ and 6’ on-center framing. Each roll of insulation covers 125 to 150 square feet of building area depending on the width of the insulation selected. Five rolls, one box of clips & pin components and one roll of tape covers 500 to 750 square feet of building area. Smaller boxes of clip & pin components are available for individual rolls.

Thermal Performance
Most of the thermal performance of the system is provided by the spray foam. TBB adds additional thermal resistance from the thickness of the TBB insulation, air films, and where applicable, enclosed reflective air spaces. See example on rear. For specific building system thermal values, contact Fi-Foil.

Applications – Types of Icynene Spray Foam
TBB can be installed over Classic and Classic Max spray foam. The maximum thickness of spray foam is 14” (35.56 cm) for ceilings and 8” (20.32 cm) for walls.

Options
The fastening, or Clip & Pin, components are suitable for both metal and wood framing. The Clips mechanically fasten to the framing. Pin lengths up to 6” allow for spray foam to extend beyond the inside of the frame. The system comes with color-coded locking washers based on the facing type. Dome cap washers are available to improve the aesthetic appearance or cover the points of the pin.

Building Types
TBB is suitable for most metal and wood framed commercial, industrial and agricultural buildings. Facilities include warehouses, distribution centers, industrial factories & manufacturing plants, and agricultural buildings. Other buildings including residential may be suitable. Contact Fi-Foil with any questions on your building application.

Limitations
The surface of TBB should not be cleaned with liquid solutions. The system should also not be installed in open-sided buildings due to potential wind damage.

Product Information

<table>
<thead>
<tr>
<th>Width of roll</th>
<th>66&quot; (1.67m)</th>
<th>76&quot; (1.93m)</th>
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</thead>
<tbody>
<tr>
<td>Length</td>
<td>25.5' (7.77m)</td>
<td>25.5' (7.77m)</td>
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<tr>
<td>Sq ft of Roll</td>
<td>140ft²</td>
<td>162ft²</td>
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<tr>
<td>Coverage</td>
<td>125ft²</td>
<td>150ft²</td>
</tr>
<tr>
<td>Diameter</td>
<td>9.05&quot; (23cm)</td>
<td>9.05&quot; (23cm)</td>
</tr>
<tr>
<td>Thickness</td>
<td>3/8&quot; (.95cm)</td>
<td>3/8&quot; (.95cm)</td>
</tr>
<tr>
<td>Weight</td>
<td>23.8 lbs.</td>
<td>27.5 lbs.</td>
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</tbody>
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- Made with over 90% recycled materials
- V.O.C. Free
- Formaldehyde Free
THERMAL BARRIER BLANKET SYSTEM

**Specification Sheet**

**Rev. 3/2015**

**System R-Values**

<table>
<thead>
<tr>
<th>System Values</th>
<th>Heat Flow Down</th>
<th>Heat Flow Up</th>
<th>Wall R-Value (Heat Flow Horizontal)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TBB Insulation with Air Film, Aluminum Exposed, E=0.5</td>
<td>R 5.55 Note1</td>
<td>R 2.42 Note1</td>
<td>R 3.70 Note1</td>
</tr>
<tr>
<td>TBB Insulation with Air Film, White Exposed, E= 0.90</td>
<td>R 2.02 Note1</td>
<td>R 1.71 Note1</td>
<td>R 2.56 Note1</td>
</tr>
</tbody>
</table>

**Test method** | **Tested parameter** | **Results**

**ASTM E 84-05 (UL723)** | Surface burning Characteristics | FS = 5 ; SD = 0

**NFPA 286** | Wall & Ceiling Fire Test | Passed

**ASTM E 408** | Emittance | 0.03

**ASTM E 96 / ICC AC02** | Water Vapor Perm, no-perf | Permeance = 0.1 perm

**ASTM E 96 / ICC AC02** | Water Vapor Perm, micro-perf | Permeance = 40 perm

**ASTM C1224-03 9.5.2** | Pliability | no cracking ; no delamination

**ASTM C1224-03 6.5.1** | Bleeding and delamination | no bleeding ; no delamination

**ASTM E 970 / ICC AC02 3.5** | Critical radiant heat flux | 1.12 Watts/cm² / passed

**ASTM C1258-94** | Humidity resistance | Passed

**ICC AC02 3.2.1** | Aluminum % | 99.39%

**ASTM C 1338-2000** | Fungi resistance | Passed, No Growth

**ASTM C 1371** | Emissivity | 0.03

**ASTM C 423** | Sound Testing | NRC= 0.40

**Note 1:** The R value listed includes the measured R value of R 1.1 of TBB Insulation in accordance with ASTM C518 plus the values from Table 10 of the 2013 ASHRAE handbook of Fundamentals for Surface Film Coefficients.

The examples above do not include enclosed reflective or non-reflective air spaces between TBB and the spray foam. For more information, contact Fi-Foil.

**FiFoil.com**

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**Typical System Cross Section**

- **Foil Tape**
- **Locking Washer**
- **FiFoil Hybrid Insulation**

**Embossed Profile with Micro-perforations for improved sound absorption.**

**Optional Clip & Pin Components for all types of wood and metal framing.**

**Accessories**

- Aluminum or white coated tape
- 4 inches x 164 feet

Meets ASTM C1224, Standard Specification for Reflective Insulation