TECH BOARD
Rigid polyurethane foam for thermal insulation
What is TECHBOARD?

The TECHBOARD is a thermal insulation material which is mainly made from polyisocyanate, polyol, and a foaming agent. These materials are foamed between surface materials by self-adhesive method, it looks like a sandwich.

APPLICATIONS

Household appliances
refrigerator, freezer, showcase, vending machine, cool box

Architectural field
insulator for roof, wall, water pipe, etc.

Other fields
insulator for car, ship, etc.
**Composition**

- **Surface materials** (Non-woven fabric, AL-film)
- **Polyisocyanurate foam** (PIR)
- **Surface materials** (Non-woven fabric, AL-film)

**Specification**

<table>
<thead>
<tr>
<th>Size</th>
<th>Thickness</th>
<th>Width</th>
<th>Length</th>
<th>Surface raw material</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>40~200mm</td>
<td>1,000mm</td>
<td>2,000mm or customer's size</td>
<td>Non-woven fabric (standard), aluminum film, and so on.</td>
</tr>
<tr>
<td></td>
<td>The differences in thickness <strong>between products are 5mm</strong></td>
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</tbody>
</table>
CHARACTERISTICS

Environment-friendly

- It is an environment-friendly material which does not discharge organic compounds (such as TVOC, HCHO-formaldehyde, benzene, and so on).

Quasi-combustible

- It is a quasi-combustible material
  (Plaster board lamination: Its caloric value is low and there is no harmful change.)

Thermal insulation

- There is little change with the passage of time.
- With its unique independent foam structure, it has a very superior thermal insulation performance compared to other materials.
  (The best grade thermal insulation with the thermal conductivity of 0.019~0.021W/mK)
- As its thermal insulation performance is very excellent, our thin insulation boards have better effects and give much more spaces when compared with other manufacturers’ thick organic and inorganic insulation boards.

Material properties

- Its mechanical strength and moisture resistance are very excellent.
- Dimensional stability
  (There is very little deformation at high and low temperatures.)
- Its chemical resistance and insulation resistance are very excellent.

Workability

- Convenience in working
- Excellent adhesive property
- As it is hard and strong, there is very little risk of damage during transport.
## CHARACTERISTICS

### SPECIFICATIONS OF PIR BOARD (KS M 3809)

<table>
<thead>
<tr>
<th>TYPE</th>
<th>Surface density (Kg/m³)</th>
<th>Thermal Conductivity (W/mK at average temp. 20±5℃)</th>
<th>Flexural Strength (N/cm²)</th>
<th>Compressive Strength (N/cm²)</th>
<th>Water Absorption</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class 2</td>
<td></td>
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</tr>
<tr>
<td>Type 1</td>
<td>45 or more</td>
<td>0.023 or under</td>
<td>35 or more</td>
<td>15 or more</td>
<td>3.0 or under</td>
</tr>
<tr>
<td>Type 2</td>
<td>35 or more</td>
<td>0.023 or under</td>
<td>25 or more</td>
<td>10 or more</td>
<td>3.0 or under</td>
</tr>
<tr>
<td>Type 3</td>
<td>25 or more</td>
<td>0.024 or under</td>
<td>15 or more</td>
<td>8 or more</td>
<td>3.0 or under</td>
</tr>
</tbody>
</table>
It enhances the performance of sound insulation and thermal insulation between households.
It enhances the performance of thermal insulation for side walls and internal hallways.
It enhances the performance of thermal insulation.
It enhances the performance of thermal insulation for roof slabs and rooftops.
It can be used for the prevention of condensation. (Ceiling and wall)
Confirmed the fire safety of polyurethane boards!!
"A Class" by ASTM E84 TEST of International Standards

Our polyurethane foam shows reliable quality with "A-Class" by ASTM E84 TEST that is an internationally recognized fire safety test method.

The Surface Burning Characteristics
• Flame Spread Index : 5
• Smoke Developed Index : 115

CERTIFICATION

Division | Certification authority | Remarks
---|---|---
KS M 3809 Class No. 2 Rigid polyurethane | Korea Standards Association | Certified on Mar. 07, 2012
ASTM – E84 Burning Test | FM Global Group (FM Approvals) | “A” Class Evaluation
HB Environment Mark | Evaluated as the Best” By Korea Air Cleaning Association | Certified on Sep. 27, 2012
Performance test | (Korea Conformity Laboratories: KCL) and (KCMIC Korea Construction Material Inspection Company) | Testing every 6 months