Interior Insulation of Exterior Walls

GUTEX Thermoroom®
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Scientifically Tested -
GUTEX Thermoroom Interior Insulation System

Introduction

Interior insulation is a consideration particularly for buildings for which exterior insulation is not possible or ill advised due to the historical significance or listing of the building.

The advantages offered by interior insulation include the absence of scaffolding, insusceptibility of work to weather and the possibility to retrofit buildings gradually, one space, room or apartment at a time.

Still another reason to install insulation on interior walls is to raise the interior surface temperature of the walls. This prevents condensation and subsequent mould and mildew whilst improving the thermal comfort of the space. It is especially suggested for rooms and spaces that see only intermittent use, such as holiday rental properties and apartments, banquet halls, community centres, etc., because it allows these spaces to reach a comfortable temperature very quickly.

A delicate balance of physical factors

Interior insulation completely changes the physical character and behaviour of exterior walls. Diffusion, capillary action, moisture and surface temperature are all properties and factors whose interaction must properly match and work together to produce a properly functioning system. Aware of the delicateness of this balance, GUTEX collaborated with the Fraunhoferinstitut in Braunschweig, Germany (WKI) to research the complex subject of interior insulation. GUTEX Thermoroom, GUTEX’s new insulation board, is designed to meet the performance requirements based on the findings.

GUTEX Thermoroom possesses all the qualities necessary for optimum interior insulation:

✓ Insulation against the cold in winter
  Thanks to its minimum thermal conductivity ($\lambda=0.038$ W/mK), it creates warmer wall and ceiling surfaces for improved indoor comfort.

✓ Diffusion-open wood composition with a $\mu$-value of 3
  Without diminishing the quality of the interior environment or performance of the insulation, GUTEX Thermoroom’s wood fibre construction facilitates the transfer of moisture between the walls and interior spaces.

✓ Active capillary action
  Wood fibre also is conducive to the movement of liquid water, causing any condensation that occurs between the original wall and interior insulation to move away and spread throughout the board’s entire cross section.

You are welcome to view the test report (U628), which is available at www.gutex.de (Downloads->Approvals/Certificates->Test Reports).

Advantages offered by GUTEX Thermoroom

- Quick and easy installation via adhesion to the substrate boarding. Mechanical fasteners are not necessary.
- Active capillary action
- Verified optimum performance as insulation over interior sides of exterior walls
- Superior impact resistance with higher thermal insulation performance (thermal conductivity is 0.038 W/mK)
- Reduction of thermal bridging due to the uninterrupted full coverage of the insulation
- Saves energy and money thanks to protection against heat and cold throughout the entire building element or space.
- Also improves acoustic insulation
- Optimises the indoor environment due to its humidity regulating function
- Wood is a sustainable, recyclable natural resource.
- Made in Germany
- Biologically safe (natureplus© certified)
Existing walls & GUTEX Thermoroom

To ensure the building is not damaged by the retrofitting of outer walls with interior insulation, the existing situation and status of the building must be evaluated prior to beginning with the planning. Key factors are diffusion permeability, capillary action and the insulation performance of the wall elements (U-value). Suitable action to prevent the outer wall from becoming damp due to driving rain and rising damp must be taken prior to beginning with refurbishment work.

Diffusion permeability
GUTEX Thermorooms’ diffusion capacity makes it an ideal insulation for interior use. It absorbs moisture that occurs as vapour in nearly every building element and distributes it throughout its entire volume from where it dissipates in every direction.

Regulating indoor humidity
The equilibrium moisture content of untreated wood adjusts automatically with changes in the relative humidity and temperature of its immediate surroundings. For example, at 23°C and 50% relative humidity, the moisture content is between 8-10 %. Wood fibreboard has the capability to absorb up to 20% of its own weight in moisture and release it without significant loss in its ability to insulate. Excess humidity produced by cooking, showers, baths or washing is absorbed and retained until the air is dryer when it is then released back into the indoor space. This capacity is very beneficial and produces a pleasant balanced living environment.

Capillary permeability
GUTEX Thermorooms’ diffusion capacity makes it an ideal insulation for interior use. It absorbs moisture that occurs as vapour in nearly every building element and distributes it throughout its entire volume from where it dissipates in every direction.

Regulating indoor humidity
The equilibrium moisture content of untreated wood adjusts automatically with changes in the relative humidity and temperature of its immediate surroundings. For example, at 23°C and 50% relative humidity, the moisture content is between 8-10 %. Wood fibreboard has the capability to absorb up to 20% of its own weight in moisture and release it without significant loss in its ability to insulate. Excess humidity produced by cooking, showers, baths or washing is absorbed and retained until the air is dryer when it is then released back into the indoor space. This capacity is very beneficial and produces a pleasant balanced living environment.

Capillary action of different materials
GUTEX Thermoroom may be used for existing outer walls that exhibit little to significant capillary action in the first 2-4 cm of their interior sides. The capillary action is critical to the distribution of moisture throughout the construction.

<table>
<thead>
<tr>
<th>Capillary Action of Existing Wall</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very minimum</td>
<td>Plaster with synthetic resin, highly hydrophobized composite wood products and other highly hydrophobized materials</td>
</tr>
<tr>
<td>Minimum to moderate</td>
<td>Wood perpendicular to direction of fibre, hydrophobized wood materials, exterior render, several types of natural stone</td>
</tr>
<tr>
<td>Intense</td>
<td>Wood with lengthwise structure, mineral plaster, sand-lime brick, brick masonry</td>
</tr>
<tr>
<td>Very intense</td>
<td>Non-hydrophobized aerated concrete, brick masonry, clay</td>
</tr>
</tbody>
</table>

Getting started with your interior wall insulation:

1. Assessment of current status
   • General information about the building
   • Existing layers of building materials; dimensions and surface/substrate qualities/condition
   • General condition of the affected structure and the entire building
   • Dampness of the structure (susceptibility to driving rain, other moisture issues, rising damp, etc.)
   • Other negative influences on interior climate
   • Thermal bridges

2. Next, determine the specific requirements of the developer and applicable standards and codes, incorporating them into the plans, including:
   • Achievement of the minimum thermal insulation to ensure the suitable hygienic quality of the space
   • Improvement in the thermal insulation
   • Compliance with applicable energy-efficiency standards

3. Drawing up the plans
   • Give sufficient consideration to the surface temperature in critical areas
   • Plans must give suitable consideration to avoiding potential thermal bridges.
   • Specific design details for junctions

4. Precise implementation of the plans by suitably qualified tradesmen
By adhering to several important principles, mould and mildew, which occur with the presence of high humidity or low temperatures, can be easily avoided.

**Corner junctions of exterior walls with ceilings and interior walls**

In Germany, the DIN 4108-2 standard for the insulation of buildings specifies interior surface temperatures of greater than 12.6° C to avoid condensation and thereby prevent mould and mildew. To maintain 12.6° C across all the interior surfaces, extra attention must be given to a building’s weak points, which are namely the corners formed by the junction of exterior walls, interior walls and ceilings. Until recently, interior wall insulation was added to the entire wall or the thickness of the insulation increased to alleviate this problem. Now, GUTEX offers a new corner insulation wedge, which is an additional component for use with its ThermoRoom system.

Named GUTEX Flankendämmkeil, the new product significantly eases the work of painters, plasterers and interior decorators. Like nearly all of GUTEX’s single-ply homogeneous insulation boards, it installs easily with GUTEX Klebe- und Spachtelputz, an adhesive mortar. Next, various diffusion-open plaster finishes may be applied to the boards. The insulation wedges install on the ceiling or walls after the interior insulation is installed, and are then plastered and painted or covered with a suitable wall covering.

**An example**

The following simulated thermal images show building sections both with and without the corner insulation wedges.

![Figure 1: Junction of an exterior wall and interior wall without the insulation wedge. The temperature in the critical area is 11.3° C -- too cool to prevent mould and mildew.](image)

![Figure 2: Junction of an exterior wall and interior wall fitted with the GUTEX Flankendämmkeil. The temperature in the corner is 15.8° C -- well within the 12.6° C limit that is necessary to prevent the growth of mould and mildew.](image)
When is it necessary to insulate corner junctions?

The following tables will help you determine if it is necessary to insulate corner junctions. Based on the building substance of the structures and their respective thermal conductivity properties, the approximate U-values of walls can be determined using the tables below. Use the U-values for the exterior and interior walls in the tables at the bottom of the page to determine if corner insulation is necessary.

Junction of interior and exterior walls

<table>
<thead>
<tr>
<th>U-Value of Exterior Wall (W/m²K)</th>
<th>Thermal Conductivity (W/mK) for Masonry Thickness (in cm)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>24</td>
</tr>
<tr>
<td>≥ 2.5</td>
<td>1.10</td>
</tr>
<tr>
<td>2.5 &gt; U ≥ 2.0</td>
<td>0.75</td>
</tr>
<tr>
<td>2.0 &gt; U ≥ 1.5</td>
<td>0.50</td>
</tr>
<tr>
<td>1.5 &gt; U ≥ 1.0</td>
<td>0.30</td>
</tr>
</tbody>
</table>

Situation 2: Junction between masonry interior walls and masonry exterior walls, with timber stud

<table>
<thead>
<tr>
<th>U-Value of Exterior Wall (W/m²K)</th>
<th>U-Value of Interior Wall (W/m²K)</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥ 3.5</td>
<td>≥ 3.5</td>
</tr>
<tr>
<td>≥ 3.0</td>
<td>≥ 3.0</td>
</tr>
<tr>
<td>≥ 2.5</td>
<td>≥ 2.5</td>
</tr>
<tr>
<td>≥ 2.0</td>
<td>≥ 2.0</td>
</tr>
<tr>
<td>≥ 1.5</td>
<td>≥ 1.5</td>
</tr>
</tbody>
</table>

Situation 3: Masonry interior walls and masonry exterior walls, with junction between 2 timber studs

<table>
<thead>
<tr>
<th>U-Value of Exterior Wall (W/m²K)</th>
<th>U-Value of Interior Wall (W/m²K)</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥ 3.5</td>
<td>≥ 3.5</td>
</tr>
<tr>
<td>≥ 3.0</td>
<td>≥ 3.0</td>
</tr>
<tr>
<td>≥ 2.5</td>
<td>≥ 2.5</td>
</tr>
<tr>
<td>≥ 2.0</td>
<td>≥ 2.0</td>
</tr>
<tr>
<td>≥ 1.5</td>
<td>≥ 1.5</td>
</tr>
</tbody>
</table>

Table 2

*THK is the abbreviation used here for insulation thickness.

Table 3

Table 4

Table 5

*THK is the abbreviation used here for insulation thickness.

Hinweis: Dieses Detail ist ein allgemeiner Planungsvorschlag, welcher schematisch die Ausführung eines WDVS darstellt. Anwendbarkeit und Vollständigkeit sind vom Verarbeiter/Kunden beim jeweiligen technischen Vorgaben in den Merkblättern und Systemzulassungen sind zu beachten.
Planning the Insulation of Corner Junctions

Exterior wall & concrete ceiling junctions

The required thermal conductivity values are available in Table 1.

Details about the concrete ceiling used in the table below:
- Thermal conductivity (λ-value) of concrete is 2.5 W/mK
- Reinforced with 2 % steel; 16 cm thick
- 10-mm edge insulation strips, thermal conductivity (λ) is 0.040 W/mK
- 15-mm floor insulation; thermal conductivity (λ) is 0.040 W/mK

When is it necessary to insulate corner junctions?

<table>
<thead>
<tr>
<th>U-Value of Exterior Wall (W/m²K)</th>
<th>Insulation of Concrete Slab Ceiling’s External-Facing Side</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Without</td>
</tr>
<tr>
<td>≥ 2.5</td>
<td>Always</td>
</tr>
<tr>
<td>2.5 &gt; U ≥ 2.0</td>
<td>Always</td>
</tr>
<tr>
<td>2.0 &gt; U ≥ 1.5</td>
<td>Always</td>
</tr>
<tr>
<td>1.5 &gt; U ≥ 1.0</td>
<td>If THK* less than 100 mm</td>
</tr>
</tbody>
</table>

Table 6

*THK is the abbreviation used here for insulation thickness.

Example

Using the data for interior and exterior masonry walls

Original exterior wall: 24-cm masonry brick as per DIN 105 with 1200 kg/m³; thermal conductivity (λ-value) is 0.50 W/mK

<table>
<thead>
<tr>
<th>U-Value of Exterior Wall (W/m²K)</th>
<th>Thermal Conductivity (W/mK) for Masonry Thickness (in cm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥ 2.5</td>
<td>24</td>
</tr>
<tr>
<td>2.5 &gt; U ≥ 2.0</td>
<td>0.75</td>
</tr>
<tr>
<td>2.0 &gt; U ≥ 1.5</td>
<td>0.50</td>
</tr>
<tr>
<td>1.5 &gt; U ≥ 1.0</td>
<td>0.30</td>
</tr>
</tbody>
</table>

Table 1

Original interior wall: 17.5-cm masonry brick as per DIN V 106 with 200 kg/m³; thermal conductivity (λ-value) is 1.1 W/mK

<table>
<thead>
<tr>
<th>U-Value of Interior Wall (W/m²K)</th>
<th>Thermal Conductivity (W/mK) for Masonry Thickness (in cm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥ 3.5</td>
<td>12</td>
</tr>
<tr>
<td>3.5 &gt; U ≥ 3.0</td>
<td>0.75</td>
</tr>
<tr>
<td>3.0 &gt; U ≥ 2.5</td>
<td>0.55</td>
</tr>
<tr>
<td>2.5 &gt; U ≥ 2.0</td>
<td>0.38</td>
</tr>
<tr>
<td>2.0 &gt; U ≥ 1.5</td>
<td>0.25</td>
</tr>
</tbody>
</table>

Table 2

→ U-value of original exterior wall is 2.0 > U ≥ 1.5 W/m²K

Original interior wall: 17.5-cm masonry brick as per DIN V 106 with 200 kg/m³; thermal conductivity (λ-value) is 1.1 W/mK

<table>
<thead>
<tr>
<th>U-Value of Exterior Wall (W/m²K)</th>
<th>U-Value of Interior Wall (W/m²K)</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥ 2.5</td>
<td>≥ 3.5</td>
</tr>
<tr>
<td>2.5 &gt; U ≥ 2.0</td>
<td>3.0 &gt; U ≥ 2.5</td>
</tr>
<tr>
<td>2.0 &gt; U ≥ 1.5</td>
<td>2.5 &gt; U ≥ 2.0</td>
</tr>
<tr>
<td>1.5 &gt; U ≥ 1.0</td>
<td>2.0 &gt; U ≥ 1.5</td>
</tr>
</tbody>
</table>

Table 3

*THK is the abbreviation used here for insulation thickness.

→ Corner insulation is not necessary for this combination!
Guidelines for installing the insulation boards

1. Proper preparation of the substrate
Check the existing substrate for soundness, removing loose wall covering and repairing crumbling plaster, etc. Apply a primer to sandy surfaces to bond them. Remove gypsum plaster and replace with lime or cement plaster. Smooth the wall surfaces out, eliminating any buckles or hollows, prior to adhering the insulation boards. Remove coverings that retard or fully prevent diffusion, or prep them with a nail float. Make sure the substrate is dry and free of oily substances and dust.

2. Cutting the fibreboards to size
Use GUTEX’s specially designed saw, a handheld circular saw with guide rail or a jigsaw, to cut the boards to size.

3. Adhesive mortar
Mix GUTEX Klebe- und Spachtelputz mortar with 4-6 litres of water. Apply it evenly to the GUTEX Thermoroom boards with a 8 x 8 mm serrated trowel.

4. Installing the boards
Install the GUTEX Thermoroom so the full area of its rear side adheres to the suitably prepared substrate. Make sure the joints and boards are vertically and horizontally plumb. The offset of the boards must be min. 20 cm. Use of additional mechanical fasteners is unnecessary when using GUTEX Thermoroom.

5. Wall openings (windows and doors)
Around the openings of windows and doors and under window sills, install GUTEX Thermoroom in 20-mm thickness. To eliminate convection, joints with other building elements must be airtight.

6. Insulation of junction corners (if applicable)
Install GUTEX Flankendämmkeil with adhesive to the interior of the walls and/or the ceilings.

Technical Information

<table>
<thead>
<tr>
<th>Joint type</th>
<th>butt</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thickness (mm)</td>
<td>20/40/60/80/100</td>
</tr>
<tr>
<td>Length x width (mm)</td>
<td>1200 x 500</td>
</tr>
<tr>
<td>Density (kg/m³)</td>
<td>130</td>
</tr>
<tr>
<td>Thermal conductivity λ (W/mK)</td>
<td>0.040</td>
</tr>
<tr>
<td>sd-value (m)</td>
<td>0.06/0.12/0.18/0.24/0.30</td>
</tr>
</tbody>
</table>
**Plastering**

**Situation 1**

Existing exterior wall with any U-value, sd-value of maximum 30 m, **high to extremely high** capillary action in the outer 2 - 4 cm of the walls’ interior.

**Option 1: Mineral plaster**

**Base coat**

Apply GUTEX Klebe- und Spachtelputz mortar to the newly clad walls to create a coat of at least 4 mm. Embed the reinforcement mesh in the outer third of the coat.

**Final coat**

Depending on the texture/condition of the final coat, it may be advisable to apply GUTEX Feinspachtel to create a suitable floating layer and surface.

Apply a mineral final coat with the desired grain and texture.

**Alternative - wallpaper**

Use GUTEX Feinspachtel mortar to create a suitable surface for wallpaper. Hang choice of diffusion-open wallpaper.

**Situation 2**

Existing exterior wall with any U-value, sd-value of maximum 30 m, **low to moderate** capillary action in the outer 2 - 4 cm of the wall’s interior.

**Base coat**

Apply GUTEX Klebe- und Spachtelputz mortar to create a coat of at least 4 mm. Embed the reinforcement mesh in the outer third of the coat.

**Vapour check**

Use GUTEX Feinspachtel mortar to create a suitable surface for wallpaper. Then hang vapour retarding liner paper, which should have a sd-value of 2.3 m, e.g. Santa UT from the manufacturer, pro clima. Follow manufacturer’s instructions closely.

**Wallpaper**

Use a diffusion-open wallpaper of your choice.

**Option 2: Clay plaster**

**Base coat**

Apply a 6-mm coat of clay plaster. Embed the reinforcement mesh in the outer third of the coat.

**Final coat**

Prime the substrate and apply the clay plaster with the desired structure. Application and selection of plaster are subject to the instructions of the specific plaster manufacturer.

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**Technical Information**

<table>
<thead>
<tr>
<th>Joint Type</th>
<th>Butt</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thickness (mm)</td>
<td>20/40/60/80/100</td>
</tr>
<tr>
<td>Length x width (mm)</td>
<td>1200 x 500</td>
</tr>
<tr>
<td>Density (kg/m³)</td>
<td>130</td>
</tr>
<tr>
<td>Nominal thermal conductivity (\lambda) (D)</td>
<td>0.038</td>
</tr>
<tr>
<td>Thermal conductivity (\lambda) (D) (W/mK)</td>
<td>0.040</td>
</tr>
<tr>
<td>Nominal thermal resistance (R_D)</td>
<td>0.55/1.10/1.65/2.20/2.75</td>
</tr>
<tr>
<td>Thermal resistance (R) (m²k/W)</td>
<td>0.50/1.00/1.50/2.00/2.50</td>
</tr>
<tr>
<td>Damp diffusion (mn)</td>
<td>3</td>
</tr>
<tr>
<td>sd-value (m)</td>
<td>0.06/0.12/0.18/0.24/0.30</td>
</tr>
<tr>
<td>Compressive stress/ strength (kPa)</td>
<td>&lt; 50</td>
</tr>
<tr>
<td>Specific heat capacity (J/kgK)</td>
<td>2100</td>
</tr>
<tr>
<td>Fire reaction Euro Class as per DIN EN 13501-1</td>
<td>E</td>
</tr>
</tbody>
</table>
Installing over Wood Structures

When installing the wood fibreboards over wood structural elements, the element’s substrates must be at least 12-mm thick and consist of composite wood sheathing or solid wood. Suitable common wood screws or staples, the latter with a back width of 10 mm, may be used. The offset of the boards must be min. 20 cm. The penetration depth of the fixings must be at least 12 mm.

The following figures provide information about the quantity of fasteners required.

**Fixing methods into timber substrates**

**GUTEX Thermoroom 20 mm**
- 12 screws/staples per board

**GUTEX Thermoroom 40 – 100 mm**
- 8 screws/staples per board

**Fastening to the underside of rafters**

Using screws:
If using GUTEX Thermoroom to cover the undersides of rafters, you must use screws in combination with 60-mm Ø plastic disc due to the weight of the board and its plaster finish.

**GUTEX Thermoroom 20 mm**
- 10 screws with 60-mm Ø plastic discs per fibreboard

**Suggested fasteners for installation in GUTEX Thermoroom**

The following table contains suggestions for the fastening of lightweight signage, etc. in GUTEX Thermoroom, based on potential loads:

<table>
<thead>
<tr>
<th>TOX Fastener</th>
<th>Screw Ø x Length</th>
<th>Nominal Ø (mm) of Pilot Hole</th>
<th>Rec. load Frec. (kN)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISOL 55</td>
<td>8 x 100</td>
<td>12</td>
<td>0.02</td>
</tr>
<tr>
<td>ISOL 55</td>
<td>10 x 100</td>
<td>12</td>
<td>0.03</td>
</tr>
<tr>
<td>ISOL 85</td>
<td>10 x 100</td>
<td>12</td>
<td>0.04</td>
</tr>
<tr>
<td>A-ISOL 50</td>
<td>4.5 x 60</td>
<td>10</td>
<td>0.01</td>
</tr>
<tr>
<td>A-ISOL 50</td>
<td>4.5 x 70</td>
<td>10</td>
<td>0.01</td>
</tr>
</tbody>
</table>
**Installation Details**

Original exterior render
Original exterior wall
Window

V-groove
GUTEX Fugendichtband
(adhesive sealing strip)
GUTEX Thermoroom, min. 20 mm
Original interior plaster finish
GUTEX Thermoroom
GUTEX Putzsystem (interior plaster)
GUTEX Klebe- und Spachtelputz
(adhesive/ base coat)

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Original exterior render
Original exterior wall

Original interior plaster finish
GUTEX Thermoroom
GUTEX Klebe- und Spachtelputz
(adhesive/ base coat)
GUTEX Flankendämmkeil
(corner insulation wedge)
Reinforcement mesh
GUTEX Putzsystem
(interior plaster)

---

Original exterior render
Original exterior wall
Original interior plaster finish

V-groove
GUTEX Fugendichtband
(adhesive sealing strip)
Original edge stripping
Present floor assembly
Concrete ceiling

GUTEX Flankendämmkeil
(corner insulation wedge)
GUTEX Klebe- und Spachtelputz
(adhesive/ base coat)
GUTEX Thermoroom
Reinforcement mesh
GUTEX Putzsystem (interior plaster)
GUTEX Fugendichtband (adhesive sealing strip)
GUTEX Thermoroom, min. 20 mm
Window

*Type 15 for 2 - 6 mm width joints
Insulation against the heat in summer
GUTEX wood insulation boards protect living areas from high temperatures, in particular, areas under roofs. Thanks to their high thermal storage capacity, they effectively dampen the flow of warmth from exterior to interior areas. Wood has a specific thermal storage capacity of 2100 J/kgK, which is the highest amongst all insulation materials.

Insulation against the cold in winter
Effective insulation reduces heating bills and creates a comfortable living environment in winter. Due to their low thermal conductivity ($\lambda_{\text{w}} = 0.037$ W/mK), GUTEX insulating wood fibreboards provide optimum insulation in winter, protecting the interior of houses from heat loss and ingress of cold.

Pleasant indoor environment
GUTEX wood fibre insulation boards are vapour permeable ($\mu = 3$), regulating the living environment with their ability to absorb and release up to 15% of their weight in moisture without the loss of their insulation capacity.

Environmental compatibility
The raw material for all GUTEX insulation boards comes from wood that is locally harvested and grown using sustainable forestry management practices. GUTEX exclusively uses untreated spruce and fir chips and shavings, which are by-products obtained from other timber manufacturing processes. All GUTEX insulation boards are tested and certified as biologically safe and compatible with other building materials (natureplus® seal of quality).

Recyclability
GUTEX wood fibreboards are completely recyclable and, provided wood preservatives have not contaminated them, can be disposed of at the nearest recovery centre.

User friendly
GUTEX insulation boards are manufactured according to the highest quality standards and are characterised by absolutely minimum dimensional deviation. This, combined with the detailed installation instructions provided by the manufacturer, makes working with GUTEX products a pleasure.

Made in Germany
For more than 80 years, GUTEX, a family-owned and operated company, has manufactured insulation boards at its plant in Waldshut-Tiengen, which is located in the southern Black Forest. All GUTEX insulation boards carry the CE and U marks and are produced according to the current applicable standards. GUTEX's external thermal insulation system (ETICS) is approved by the German building authorities.

Acoustic insulation
The open-pore structure of GUTEX wood fibreboards and their high absorption volume contribute to their ability to deliver superb soundproofing against airborne and impact noise.

Fire protection
GUTEX wood fibre insulation boards easily comply with fire protection regulations. Various individual certificates of approval are available for F30-B to F90-B fire resistance ratings for roof and wall structures.

GUTEX customer service
An important part of GUTEX's customer service is its qualified assistance. Whether you require help with a private single-family house or commercial property, GUTEX's trained and qualified staff will gladly assist you. If you have technical queries, please contact our technical assistance department by phone ++49-7741/60 99-125, fax ++49-7741/60 99-21 or per e-mail at anwendungstechnik@gutex.de.

GUTEX product training
Architects, craftsmen, wholesalers, sales staffs and developers can benefit from the workshops GUTEX offers, which address specific topics, including physics and building construction techniques, product applications, etc. Visit our Web site for further information or give us a call.

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