FischerTHERM

Super tight jointing with additional EPDM profile

* An enterprise of Corus Distribution & Building Systems
## Contents

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>General</td>
<td>4 + 5</td>
</tr>
<tr>
<td>Product Range/Technical Data</td>
<td>6</td>
</tr>
<tr>
<td>Coating / Colour</td>
<td>7</td>
</tr>
<tr>
<td>Surface Design</td>
<td>8</td>
</tr>
<tr>
<td>Stress analysis, Licence</td>
<td>8</td>
</tr>
<tr>
<td>Corrosion Protection</td>
<td>9</td>
</tr>
<tr>
<td>Thermal Insulation</td>
<td>10</td>
</tr>
<tr>
<td>Quality Assurance</td>
<td>10</td>
</tr>
<tr>
<td>Noise Insulation</td>
<td>10</td>
</tr>
<tr>
<td>Fire Resistance</td>
<td>10</td>
</tr>
<tr>
<td>Lightning Protection</td>
<td>10</td>
</tr>
<tr>
<td>Sealed Jointing</td>
<td>11</td>
</tr>
<tr>
<td>Quality Assessment and Assurance</td>
<td>11</td>
</tr>
<tr>
<td>Longitudinal Jointing Design / End Lap Jointing Design</td>
<td>12</td>
</tr>
<tr>
<td>Special Features</td>
<td>12</td>
</tr>
<tr>
<td>Fastening Details</td>
<td>13</td>
</tr>
<tr>
<td>Panel Fixings</td>
<td>14</td>
</tr>
<tr>
<td>Minimum Roof Pitch</td>
<td>14</td>
</tr>
<tr>
<td>FischerTHERM DL</td>
<td>15</td>
</tr>
<tr>
<td>Foam-free area, longitudinal lap jointing</td>
<td>15</td>
</tr>
<tr>
<td>Fasteners</td>
<td>16 – 17</td>
</tr>
<tr>
<td>Details</td>
<td>18 – 21</td>
</tr>
<tr>
<td>Details WL</td>
<td>22 – 23</td>
</tr>
<tr>
<td>Jointing</td>
<td>24</td>
</tr>
<tr>
<td>Assembly Instructions</td>
<td>25 – 26</td>
</tr>
<tr>
<td>References</td>
<td>27 - 34</td>
</tr>
</tbody>
</table>
Fischer Profil GmbH is one of the leading European manufacturers of pre-assembled wall, roof and decking components. Fischer Profil has extensive know-how in manufacturing and construction technique.

Qualified advice with a customer oriented service forms an integral part of our company policy.

The “FischerTHERM” sandwich panels are also a part of the manufacturing programme.

We offer a wide variety of FischerTHERM wall and roof panels:

Wall panels:
- FischerTHERM LL as a standard panel
- FischerTHERM plus SL and ML with concealed fasteners
- FischerTHERM TL with trapezoidally profiled outer skin
- FischerTHERM WL with corrugated outer skin

Roof Panels:
- FischerTHERM DL

Our production line is one of the most modern in use today.

Our computer-controlled line ensures constant perfection, metre after metre.

FischerTHERM consists of two outer sheets with a rigid polyurethane foam core, CFC and HCFC-free.

The pre-fabricated FischerTHERM panels are very light, yet at the same time highly rigid, allowing greater distances between supports and easy on-site handling.

The outer-skins take up resulting pulling and drawing forces and resist external influences such as the weather, many chemicals, temperature fluctuations and mechanical stress.

The rigid polyurethane foam, with a density of approx. 45 kg/m³ ensures that the outer-skins are kept the required distance apart and absorbs the pulling and drawing forces when the panels are subjected to loads.

According to application and stress values, differing coating qualities can be chosen:
- COLORCOAT HPS 200
- Polyester

FischerTHERM panels have large radii of bend, which is particularly advantageous for coatings of only 25 µm.

The varying surface designs of the FischerTHERM panels together with the choice of colour offer architects planners and users a multitude of external appearances, acknowledging the importance of the relationship between the aesthetic and the functional.

The outer sheets form a shear-resistant bond with the rigid polyurethane foam and the wall panels come in the following designs:

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>L</td>
<td>Lined</td>
</tr>
<tr>
<td>S</td>
<td>Beaded</td>
</tr>
<tr>
<td>M</td>
<td>Micro-lined</td>
</tr>
<tr>
<td>K</td>
<td>Combi-lined</td>
</tr>
<tr>
<td>E</td>
<td>Flat</td>
</tr>
<tr>
<td>T</td>
<td>Trapezoidal profile</td>
</tr>
<tr>
<td>W</td>
<td>Corrugated Profile</td>
</tr>
</tbody>
</table>

The outer sheets form a shear-resistant bond with the rigid polyurethane foam and the wall panels come in the following designs:

1. Steel sheet outer skin*
2. Polyurethane rigid foam CFC and HCFC-free.
   * Strip-galvanised steel sheet G 275, plastic coated.

According to application and stress values, differing coating qualities can be chosen:
- COLORCOAT HPS 200
- Polyester

FischerTHERM panels have large radii of bend, which is particularly advantageous for coatings of only 25 µm.

The varying surface designs of the FischerTHERM panels together with the choice of colour offer architects planners and users a multitude of external appearances, acknowledging the importance of the relationship between the aesthetic and the functional.
The FischerTHERM LL standard wall panel has a cover width of 1100 mm allowing quicker mounting and a more favourable use of transport space on lorries 2.40 m wide.

Optically the FischerTHERM plus SL, ML is a particularly elegant wall cladding element due to its concealed fasteners (within the element) and optionally its fine beading and/or micro-lining of the outer skin. With FischerTHERM plus there is no need for any additional mounting equipment; ordinary fasteners suffice. The fasteners are visible on connecting profiles.

FischerTHERM TL, with its trapezoidally profiled outer-skin, has a special visual appearance and greater rigidity.

FischerTHERM WL is a new wall cladding panel with a corrugated outer skin.

FischerTHERM DL roof panels with their broad valley make it easy to walk over them during mounting. An increased longitudinal lap with additional grooves prevents the penetration of surface water.

FischerTHERM DL panels are easy to mount having fine drilling grooves on the crowns and valleys which help prevent the drill from slipping and thus help to prevent any possible damage to the plastic coating.

FischerTHERM DL elements are available up to a max. length of 26.5 m.

FischerTHERM wall and roof panels are light, rigid and thermally well-insulated. They are used in industry, trade, commerce and sports facilities.

Contact us if you're looking for cost-effective construction with pre-fabricated panels.
FischerTHERM – Product Range

**Wall cladding panels**

FischerTHERM**

<table>
<thead>
<tr>
<th>Panel Type</th>
<th>Sheet thickness t [mm]</th>
<th>Outer-skin t [mm]</th>
<th>Inner-skin t [mm]</th>
<th>Panel gauge d [mm]</th>
<th>Panel length max. L [m]</th>
<th>Panel weight g [kg/m²]</th>
<th>Heat transmission coefficient U [W/(m²K)]</th>
<th>Heat transmission resistance R [m² K/W]</th>
</tr>
</thead>
<tbody>
<tr>
<td>LL 40</td>
<td>0,55</td>
<td>40</td>
<td></td>
<td></td>
<td>12¹)</td>
<td>10,4</td>
<td>0,58</td>
<td>1,56</td>
</tr>
<tr>
<td>LL 60</td>
<td>0,50</td>
<td>60</td>
<td></td>
<td></td>
<td>16¹)</td>
<td>11,2</td>
<td>0,39</td>
<td>2,36</td>
</tr>
<tr>
<td>LL 80</td>
<td>0,50</td>
<td>80</td>
<td></td>
<td></td>
<td>16¹)</td>
<td>12,0</td>
<td>0,30</td>
<td>3,16</td>
</tr>
<tr>
<td>LL 100</td>
<td>0,50</td>
<td>100</td>
<td></td>
<td></td>
<td>16¹)</td>
<td>12,8</td>
<td>0,24</td>
<td>3,96</td>
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FischerTHERM plus

<table>
<thead>
<tr>
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<th>Sheet thickness t [mm]</th>
<th>Outer-skin t [mm]</th>
<th>Inner-skin t [mm]</th>
<th>Panel gauge d [mm]</th>
<th>Panel length max. L [m]</th>
<th>Panel weight g [kg/m²]</th>
<th>Heat transmission coefficient U [W/(m²K)]</th>
<th>Heat transmission resistance R [m² K/W]</th>
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<tbody>
<tr>
<td>SL/ML 60</td>
<td>0,63</td>
<td>60</td>
<td></td>
<td>80</td>
<td>16¹)</td>
<td>12,7</td>
<td>0,39</td>
<td>3,16</td>
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<tr>
<td>SL/ML 80</td>
<td>0,63</td>
<td>80</td>
<td></td>
<td>100</td>
<td>16¹)</td>
<td>13,5</td>
<td>0,30</td>
<td>3,96</td>
</tr>
<tr>
<td>SL/ML 100</td>
<td>0,63</td>
<td>100</td>
<td></td>
<td></td>
<td>16¹)</td>
<td>14,3</td>
<td>0,24</td>
<td>3,96</td>
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</table>

FischerTHERM**

<table>
<thead>
<tr>
<th>Panel Type</th>
<th>Sheet thickness t [mm]</th>
<th>Outer-skin t [mm]</th>
<th>Inner-skin t [mm]</th>
<th>Panel gauge d [mm]</th>
<th>Panel length max. L [m]</th>
<th>Panel weight g [kg/m²]</th>
<th>Heat transmission coefficient U [W/(m²K)]</th>
<th>Heat transmission resistance R [m² K/W]</th>
</tr>
</thead>
<tbody>
<tr>
<td>TL 65</td>
<td>0,55</td>
<td>65</td>
<td></td>
<td></td>
<td>16¹)</td>
<td>11,8</td>
<td>0,45</td>
<td>2,05</td>
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<tr>
<td>TL 85</td>
<td>0,55</td>
<td>85</td>
<td></td>
<td></td>
<td>16¹)</td>
<td>12,4</td>
<td>0,33</td>
<td>2,85</td>
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FischerTHERM

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<th>Outer-skin t [mm]</th>
<th>Inner-skin t [mm]</th>
<th>Panel gauge d [mm]</th>
<th>Panel length max. L [m]</th>
<th>Panel weight g [kg/m²]</th>
<th>Heat transmission coefficient U [W/(m²K)]</th>
<th>Heat transmission resistance R [m² K/W]</th>
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<tbody>
<tr>
<td>DL 70</td>
<td>0,55</td>
<td>70</td>
<td></td>
<td>78</td>
<td>16¹)</td>
<td>13,3</td>
<td>0,36</td>
<td>2,60</td>
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<tr>
<td>DL 80</td>
<td>0,55</td>
<td>80</td>
<td></td>
<td>98</td>
<td>16¹)</td>
<td>14,1</td>
<td>0,28</td>
<td>3,40</td>
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FischerTHERM

<table>
<thead>
<tr>
<th>Panel Type</th>
<th>Sheet thickness t [mm]</th>
<th>Outer-skin t [mm]</th>
<th>Inner-skin t [mm]</th>
<th>Panel gauge d [mm]</th>
<th>Panel length max. L [m]</th>
<th>Panel weight g [kg/m²]</th>
<th>Heat transmission coefficient U [W/(m²K)]</th>
<th>Heat transmission resistance R [m² K/W]</th>
</tr>
</thead>
<tbody>
<tr>
<td>DL 10</td>
<td>0,55</td>
<td>100</td>
<td></td>
<td>100</td>
<td>16¹)</td>
<td>12,1</td>
<td>0,38</td>
<td>2,48</td>
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</tbody>
</table>

FischerTHERM

<table>
<thead>
<tr>
<th>Panel Type</th>
<th>Sheet thickness t [mm]</th>
<th>Outer-skin t [mm]</th>
<th>Inner-skin t [mm]</th>
<th>Panel gauge d [mm]</th>
<th>Panel length max. L [m]</th>
<th>Panel weight g [kg/m²]</th>
<th>Heat transmission coefficient U [W/(m²K)]</th>
<th>Heat transmission resistance R [m² K/W]</th>
</tr>
</thead>
<tbody>
<tr>
<td>DL 120</td>
<td>0,55</td>
<td>120</td>
<td></td>
<td>120</td>
<td>16¹)</td>
<td>12,9</td>
<td>0,29</td>
<td>3,28</td>
</tr>
<tr>
<td>DL 140</td>
<td>0,55</td>
<td>140</td>
<td></td>
<td>140</td>
<td>16¹)</td>
<td>13,7</td>
<td>0,23</td>
<td>4,08</td>
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</table>

¹) recommended max. length

More possible combinations of surface designs see page 7

* From a min. volume of 1000 m², a cover width of 1000 mm is also available. Please enquire about coating and colour.

** The trapezoidally profiled outer skins can also be supplied in a construction width of 800 mm

The soft joint sealing strip with the additional EPDM sealing profile (DUO sealant) guarantee that FischerTHERM roof and wall cladding elements are extremely airtight and offer good thermal insulation.
### Possible combinations of surface designs

<table>
<thead>
<tr>
<th>Panel Type</th>
<th>LL</th>
<th>SL</th>
<th>ML</th>
<th>KL</th>
<th>KE</th>
<th>SE</th>
<th>LE</th>
<th>ME</th>
<th>EE</th>
<th>EL</th>
<th>WL</th>
<th>TL</th>
<th>DL</th>
</tr>
</thead>
<tbody>
<tr>
<td>FischerTHERM 40, 60, 90, 100</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>FischerTHERM plus 60, 80, 100</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>FischerTHERM TL 65, 85</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>●</td>
</tr>
<tr>
<td>FischerTHERM WL 80, 100</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>●</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FischerTHERM DL 70, 80, 100, 120, 140</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>●</td>
</tr>
</tbody>
</table>

**Note:**

1st letter = outside  
2nd letter = inside

Only COLORCOAT HPS 200 should be used for the outer skin of the EE and EL combinations.

---

<table>
<thead>
<tr>
<th>L = Lined</th>
<th>S = Beaded</th>
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<tbody>
<tr>
<td><img src="image1" alt="Lined" /></td>
<td><img src="image2" alt="Beaded" /></td>
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<table>
<thead>
<tr>
<th>M = Micro-lined</th>
<th>K = Combi-Lined</th>
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</thead>
<tbody>
<tr>
<td><img src="image3" alt="Micro-lined" /></td>
<td><img src="image4" alt="Combi-Lined" /></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>E = Flat</th>
<th>T = Trapezoidal profile wall element TL</th>
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<tbody>
<tr>
<td><img src="image5" alt="Flat" /></td>
<td><img src="image6" alt="Trapezoidal" /></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>W = Corrugated profile wall element WL</th>
<th>D = Trapezoidal profile roof element DL</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image7" alt="Corrugated" /></td>
<td><img src="image8" alt="Trapezoidal Roof" /></td>
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</tbody>
</table>
FischerTHERM Coatings

<table>
<thead>
<tr>
<th>Coating/ Colour</th>
<th>FischerTHERM® LL 40, 60, 80, 100</th>
<th>FischerTHERM plus 60, 80, 100</th>
<th>FischerTHERM® TL 65, 85</th>
<th>FischerTHERM® LL 40, 60, 80, 100</th>
<th>FischerTHERM plus, TL, WL, DL</th>
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<tbody>
<tr>
<td>BLECHDICKE [mm]</td>
<td>0.55</td>
<td>0.63</td>
<td>0.55/0.63</td>
<td>0.55/0.63</td>
<td>0.50</td>
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<tr>
<td>COLORCOAT HPS 200, 200 µm</td>
<td></td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>Terra cotta</td>
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<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
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<tr>
<td>Copper brown</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Ocean blue</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>White</td>
<td>O</td>
<td>O</td>
<td>O</td>
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<td>O</td>
</tr>
<tr>
<td>Yellow green</td>
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<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Grey White</td>
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<td>O</td>
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<td>O</td>
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<tr>
<td>Leaf Green</td>
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<td>O</td>
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</tr>
<tr>
<td>Orion</td>
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<tr>
<td>Sirius</td>
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<td>O</td>
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<td>O</td>
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<tr>
<td><strong>Polyester (SP) 25 µm</strong></td>
<td></td>
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<tr>
<td>Sand Yellow</td>
<td>RAL 1002</td>
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<tr>
<td>Light ivory</td>
<td>RAL 1015</td>
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<td>O</td>
<td>O</td>
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<td>Fire Red</td>
<td>RAL 3000</td>
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<tr>
<td>Azure</td>
<td>RAL 5009</td>
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<td>Gentian blue</td>
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<tr>
<td>Anthracite</td>
<td>RAL 7016</td>
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<tr>
<td>Pebble grey</td>
<td>RAL 7032</td>
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<tr>
<td>Light Grey</td>
<td>RAL 7035</td>
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<tr>
<td>Dust Grey</td>
<td>RAL 7037</td>
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<td>Copper</td>
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<tr>
<td>Nut Brown</td>
<td>RAL 8011</td>
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<tr>
<td>Reddish brown</td>
<td>RAL 8012</td>
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</tr>
<tr>
<td>Cream</td>
<td>RAL 9001</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Grey White</td>
<td>RAL 9002</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Grey White</td>
<td>RAL 9002</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>White Aluminium</td>
<td>RAL 9006</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Grey Aluminium</td>
<td>RAL 9007</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Pure White</td>
<td>RAL 9010</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td><strong>Polyester (SP) 12 µm</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grey White</td>
<td>RAL 9002</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
</tbody>
</table>

* The following standard colours are available in the 1000 mm construction width: Polyester, RAL 90024, 90063, 90103, COLORCOAT HPS200, 10A05, 90024 and 55% AlZn AZ 185 (Aluzinc).
FischerTHERM wall elements with 0.55 mm thick outer and inner skins can be manufactured from stainless steel (material no. 4301 III C). Please state the type of surface.

Stress Analysis
The rigid polyurethane foam core of the panels creates a shear-resistant bond which lessens the need for sheeting rails and purlins. The profiled wall panels TL and WL and the trapezoidal roof panels DL also help in this respect.
The FischerTHERM LL60 wall panels, when used as multi-span beams, require rail support approx. every 4.90 m, the FischerTHERM TL85 approx. every 6.14 m.
The FischerTHERM DL 80 roof element, used as a multi-span beam, requires purlins approx. every 4.00 m with a snow-load of 0.75 kN/m².
The above examples assume a light colour for the outer-skin and a max. deflection of ≤ L/150.
For more exact data on rail and purlin spacing, see the FischerTHERM load/span tables.

Licence
FischerTHERM roof and wall panels have been given the licence number Z-10.4-179 by the Berlin Institute for building components.
High Quality Corrosion Protection in a Wide Variety of Colours

The basic material for FischerTHERM panel sheets is S 350 GD as per DIN 10147 with a G 275 zinc coating. In addition, the galvanised material is plastic coated. For FischerTHERM, COLORCOAT HPS 200 (200 µm/RSL), or polyester (25 µm/RSL) are used.

COLORCOAT HPS 200 is a special high quality plastic coating with superb advantages, including:

- outstanding weather resistance
- Exceedingly good protection against mechanical damage
- particularly suitable as a coating for the heavy demands made on the roof’s outer skin

Due to the 200 µm thick coating and the excellent protection against mechanical damage, COLORCOAT HPS 200 is particularly suitable for FischerTHERM D.

This coating cannot be damaged if properly mounted.

FischerTHERM panels in COLORCOAT HPS 200 do not need any protective covering. The advantage being, lower packing costs and no film to dispose of.

FischerTHERM wall cladding elements are available with a polyester coating as a cost-effective alternative.

The outer skins with polyester coating are always supplied with a protective film. The protective film must be removed immediately after mounting. It is environmentally friendly and can be disposed of easily.

The “COLORCOAT HPS 200” brochure and colour chart and polyester colour chart are available on request.
Thermal Insulation

Thermal insulation is important for the following reasons:

- It lessens heat loss through the walls and roof.
- It helps maintain the correct air balance for the building’s occupants.
- It protects the building itself against the damaging effects of damp.
- It lessens energy consumption for heating and cooling.
- It keeps production and management costs down.

In accordance with the energy saving decree (EnEV 2002), since 1st February 2002 new, stiffer insulation requirements - particularly pertaining to walls and roofs - have had to be fulfilled including jointing, which must be permanently sealed airtight. Furthermore, the requirements of DIN 4108 (Insulation for Surface Engineering) must also be fulfilled.

Planning, architects and users must all consider the type or insulation to be used; a type which insulates well but is also cost effective.

Rigid polyurethane foam with its diffusion-proof outer-skins, fulfills these requirements and is the best insulating material on the market.

As regards potential fluctuations in the heat conductivity resulting from diffusion, our sheets may be considered as gas diffusion-proof, without special proof being given, provided they are made from metallic material of 50 µm gauge minimum. When the edge-area is less than 10% of the total panel surface area, these edges do not need to be covered by the steel skin. Rigid polyurethane foam does not rot, remains decay and mould free, has no smell, and is physiologically safe with standard applications. The foam is also chemically neutral.

FischerTHERM with a PUR core and diffusion tight cover sheets achieves the lowest thermal conductivity of all insulation materials, which leads to beneficial heat transfer coefficients U of less than 0.23 W/(m²K) applicable to all types of elements.

The thermal retention capacity of FischerTHERM panels is very small. When they are used for buildings which are not in constant use, these panels have obvious advantages over heavier materials, saving a considerable amount of energy.

You do not even have to think about humidity protection with FischerTHERM – there is simply no need. No moisture is allowed to seep in, or indeed out, of the panel thanks to the vapour-tight surfaces, ensuring long-life insulation.

The so-called “moisture balance” calculations which are made for other construction materials are not necessary with FischerTHERM.

Consideration of punctual thermal bridges

In the area of metallic fasteners for FischerTHERM sandwich elements, punctual heat losses occur which must be considered when determining the heat transfer coefficient U according to the Energy Conservation Code.

At RWTH university, Aachen, the effect of thermal bridges due to metallic fasteners was determined by way of three-dimensional numeric FEM calculations.

When FischerTHERM elements are fastened to a supporting structure consisting of trapezoidal profiles, thermal insulation of the polyurethane rigid foam is only slightly affected.

According to DIN EN ISO 6946, no correction must be made to consider screws as punctual thermal bridges if the overall correction is less than 3% of the U value.

For up to 3 stainless steel thread forming or drilling screws, the correction value is less than 3%; therefore undisturbed thermal insulation may be assumed when calculating the heat transfer coefficient U0.

When using steel screws, the 3% limit is 1 screw per sq.m., as thermal conductivity of steel is 50 W/mK while that of stainless steel is 17 W/mK.

Quality Assurance

The rigid polyurethane foam used in FischerTHERM panels is subject to quality control and fulfills the requirements of DIN 18164 (Plastic Foam Acting as Insulating Material for Surface Engineering). FischerTHERM panels are synonymous with material of constant high quality.

Noise Insulation

Sound measurements at the testing room of the North-Rhine Westphalian National Material Testing Authority in Dortmund resulted in a noise insulation value of Rw = 25.3 dB for FischerTHERM LL 60 and FischerTHERM plus sl 60, test certificate numbers 420520493-1 and 420520493-2.

In such composite panels the noise insulation value determined is approximately the same for all panel types and thicknesses.

Fire behaviour

Fire behaviour is divided into „Euroclasses“ A – F, according to DIN EN 13501 part 1. In particular flammability, flame spread and heat release are determining factors. Building materials of classes A2, B, C and D are also classified in terms of their smoke production by s1, s2 or s3, where smoke production increases from class s1 to s3. Flaming droplets according to classes A2, B, C and D are rated using classes d0, d1 or d2.

a) d0: No flaming droplets/particles
b) d1: Flaming droplets for a short time/particles
c) d2: Persistent flaming droplets/particles

FischerTHERM sandwich elements are space-enclosing, thermally insulating components for outer walls and roofs. Their fire behaviour has been rated in accordance with DIN EN 13501-1 as B-s3,d0, which is equivalent to the national official identification „hardly flammable“.

In addition, the outside of the FischerTHERM DL roof element is resistant to flying sparks and radiant heat in accordance with DIN 4102, part 7.

FischerTHERM DL elements therefore comply with the criteria placed on „hard roofing“ defined in the premium guidelines of the Verband der Sachversicherer (Association of Property Insurers). FischerTHERM roof and wall elements demonstrably display defensive behaviour in the event of a fire, i.e., they only burn in the area of direct heat impact from the fire source.

They assure building owners that a local fire will not spread across the roof or walls to another part of the building. Also, the foam will not produce flaming droplets.

FischerTHERM elements therefore do not contribute to maintenance or spread of a fire.

Lightning Protection

All Fischer construction elements with ≥ 0.5 mm thick outer steel sheets with metallic coatings can be used as natural components of a conducting device as per DINV ENV 61024-1 (lightning protection of constructional systems). The exterior may have a coating thickness of up to 500 µm.

The distance between the individual metal surfaces may not be greater than 1 mm, the overlap of the elements over each other must be at least 100 cm².

Metal walls can be used as conductors if the individual elements are joined together by bolts, rivets or by overlapping. A
secure current-conducting connection to the earthing system and to the conducting device, e.g. through the connection between Fischer roof and wall panels, must be guaranteed. If Fischer construction elements, e.g. FischerTHERM wall-cladding elements are not connected to each other in such a way that they will conduct electricity, but if the metal sub-structure is connected so that it conducts from the connection to the wall panels to the connection to the earthing system without interruption, then this can be used as a conductor.

**Sealed Jointing**

If correct mounting procedures are observed with regard to the male-female jointing, FischerTHERM roof and wall panels will remain watertight and airtight. The tightness of the jointing seals (a-value) is just as significant in construction elements as the U-value, for example.

The energy-saving decree (EnEV 2002) requires among other things the minimising of thermal bridges and a greater air tightness of the joints of thermally conducting surrounding surfaces. Particularly with increasing thermal insulation standards, heat loss through ventilation makes, relatively seen, a significant difference and can even exceed the transmission heat loss - denoted by the U-value - considerably.

If sandwich panels are to be employed, you should pay particular attention to the a-value. The soft joint-sealing strip with the additional EPDM sealing profile (DUO sealant) guarantees that FischerTHERM roof and wall cladding elements are extremely airtight and offer good thermal insulation.

Such space-enclosing construction elements generally require a minimum value of

\[
a \leq 0.10 \text{ m}^3/\text{h} \cdot \text{m} \cdot (\text{da Pa})^{2/3}
\]

The roof element was impervious to rainwater up to a rainwater volume of 3 litres/min. m² and at a wind speed of up to 12 m / second.

One particular advantage of the registered utility model male/female jointing of FischerTHERM elements is that the nominal width of the joint need no longer necessarily be adhered to. Even in the case of the assembly being not quite exact, a very high degree of joint sealing is nevertheless provided.

In order to prove this, we had further tests performed at the Technical University of Cottbus in April 2002. A 40 mm thick FischerTHERM wall element with a nominal joint width of 8 mm was tested, and, for purposes of comparison, an 11 mm panel, i.e. with a 3 mm wider longitudinal joint compared with the nominal joint width.

The a-value in the case of the 11 mm joint width on a simulation of a badly assembled wall was still 0.02 m³/h . m . (da Pa)²/³.

Compared with the state of the art value of a ≤ 0.1 m³/h . m . (da Pa)²/³, this means that this value is five times as good.

**Be sure to choose FischerTHERM elements with the new DUO sealant.**

When using sandwich elements for cold stores with high air humidity, e.g. potato stores, it is recommended that the longitudinal joint and all connections are provided with an additional sealing on the outside, in order to take account of the vapour pressure difference. For roof elements, a sealing tape should be inserted into the outer longitudinal joint overlap. For wall elements, an injectable sealant should be applied to the outer groove area before joining the tongues and grooves.

When sandwich panels are rigidly fastened, the outer sheet is subject to elongation which induces tension and deformation of the sandwich element as a result of the temperature impacts. This may lead to the production of noises in the supporting structure, in particular when it is made from timber.

**Quality Control**

Manufacturing is subject to independent and internal monitoring required by the building supervision licence.

The internal examinations during manufacturing and independent examinations by a state material testing authority guarantee that the material, galvanization, sheet thickness, foam properties and dimensional accuracy of the quality assured composite panels fulfil the set quality requirements. The so-called conformity procedure (ÜZ) is required for composite panels. That means the conformity of the product's properties with the relevant technical specifications, and the presence of effective internal production checking must be proven and monitored by a recognised examining and monitoring authority for building supervision. Once the certifying authority has issued a certificate of conformity, we are entitled to use the “Ü” symbol. The manufacturer, the basis of the certificate of conformity, the licence number and the certifying authority can be read from the “Ü” symbol on the cards supplied with the bundles.

The soft joint-sealing strip with the additional EPDM sealing profile (DUO sealant) guarantees that FischerTHERM roof and wall cladding elements are extremely airtight and offer good thermal insulation.
Longitudinal lap jointing

Fischer THERM elements are factory-fitted with a soft joint-filling DUO sealant for thermal insulation. An additional EPDM pinching end-sealant ensures extremely tight sealing and prevents draughts. The seal airtight to a high degree even if the panels are not assembled correctly.

End lap jointing of roof panels

In the end lap jointing two cut foam surfaces are joined together. The outer profiled skin of the higher element overlaps the lower element by 100 to 300 mm as desired. With end lap jointing it is particularly important that sufficient thermal insulation and air tightness are provided at the building site by applying sealing strips to the foam surfaces. Sealing strips must also be used to provide sufficient watertightness in the overlapping region of the outer profiled skins.

Forming a damage-free end lap joint requires not only the correct choice of sealing materials but above all very careful expert application. For end lap jointing – and for openings, as the problems are the same in both cases – we recommend a roof pitch of $\geq 7^\circ$ (approx. 12.3 %). According to the licence (Z-10.4-179) the min. roof pitch for FischerTHERM roof elements is $\geq 3^\circ$ (approx. 5.2 %).

Special features

- Large radii of bend for greater security with 25 µm coated material.
- A new kind of joint sealant with soft elastic sealing strip plus EPDM sealing profile for extremely tight sealing while applying little pressure. Jointing conductivity coefficient $a$ on wall element LL40 was, instead of 8, even with 11 mm wide longitudinal joint $< 0.02 \text{m}^2\text{h}^{-1}\text{m}^{-1}\text{(10PA)}^{-1}$. State of the art is on a value of $\leq 0.1 \text{m}^2\text{h}^{-1}\text{m}^{-1}\text{(10PA)}^{-1}$.
- Aluminium foil on both the male end and on the sealing strip facing the foam core for long-term prevention of gas escaping from the PUR cells, thus ensuring good thermal insulation.
- Concealed fasteners for appealing cladding.
- Grooving or microlining of the outer skin for appealing, typical appearance.
- Fine drill grooves to assist clean placement of the fastening elements.
- Load distributor.
- EPDM sealing profile for extremely airtight sealing.
- Continuous sealing strip as thermal insulation.
- Extra profiling for protection against heavy rainfall.
- Rigid polyurethane foam, CFC and HCFC-free. Not harmful to the environment and no damage to the ozone layer.
Fastening Your FischerTHERM Wall Panels

**Steel Frame**
1. Steel sheeting-rail
2. FischerTHERM
3. 6.3 x L Diameter stainless steel self-sealing screw with a 16 mm dia. washer

**Reinforced Concrete Frame**
1. Steel purlin
2. FischerTHERM
3. 6.3 x L Diameter stainless steel self-sealing screw with a 16 mm dia. washer
4. Concrete sheeting-rail
5. Flat steel bar running the length of the concrete
6. Hard foam filler

**Timber Frame**
2. FischerTHERM
7. Timber beam
8. 6.5 x L Diameter stainless steel self-sealing screw with a 16 mm dia. washer

Fastening Your FischerTHERM DL Roof Panels

**Steel Frame**
1. Steel purlin
2. FischerTHERM DL
3. 6.3 x L Diameter stainless steel self-sealing screw with a 22 mm dia. washer

**Reinforced Concrete Frame**
1. FischerTHERM DL
2. 6.3 x L Diameter stainless steel self-sealing screw with a 22 mm dia. washer
4. Concrete purlin
5. Flat steel bar running the length of the concrete
6. Hard foam filler

**Timber Frame**
2. FischerTHERM DL
7. Timber beam
8. 6.5 x L Diameter stainless steel self-sealing screw with a 22 mm dia. washer, to be fixed through the crown

Longitudinal Lap Jointing
1. Steel purlin
2. FischerTHERM DL
3. JT3-2H-5.5 x 25 – E 19/2 self-drilling screw
Max. separation 500 mm
FischerTHERM – Panel Fixing Requirements

Examples of element fastening for FischerTHERM

<table>
<thead>
<tr>
<th>Description</th>
<th>Diagram</th>
</tr>
</thead>
<tbody>
<tr>
<td>FischerTHERM LL 40, 60, 80, 100, 2 Self-sealing screws per rail, near the male-female jointing</td>
<td>![Diagram]</td>
</tr>
<tr>
<td>FischerTHERM LL 40, 60, 80, 100, 3 Self-sealing screws per rail</td>
<td>![Diagram]</td>
</tr>
<tr>
<td>FischerTHERM plus SL 60, 80, 100/ML 60, 80, 100 (with load distributors), 1 Self-sealing screw per rail or 2 sealing screws 40 mm below each other</td>
<td>![Diagram]</td>
</tr>
<tr>
<td>FischerTHERM plus SL 60, 80, 100/ML 60, 80, 100 (with load distributors), 2 Self-sealing screws per rail 40 mm below each other</td>
<td>![Diagram]</td>
</tr>
<tr>
<td>FischerTHERM TL 65, 85, 2 Self-sealing screws per rail</td>
<td>![Diagram]</td>
</tr>
<tr>
<td>FischerTHERM TL 65, 85, 4 self-sealing screws per rail</td>
<td>![Diagram]</td>
</tr>
<tr>
<td>FischerTHERM WL 80, 100, 3 Self-sealing screws per rail</td>
<td>![Diagram]</td>
</tr>
<tr>
<td>FischerTHERM WL 80, 100, 4 self-sealing screws per rail</td>
<td>![Diagram]</td>
</tr>
</tbody>
</table>

FischerTHERM wall panels must be secured to the frame-structure according to individual stress requirements.

<table>
<thead>
<tr>
<th>Description</th>
<th>Diagram</th>
</tr>
</thead>
<tbody>
<tr>
<td>FischerTHERM DL 70, 80, 100, 120, 140, 3 Self-sealing screws per purlin with a 22 mm dia. washer</td>
<td>![Diagram]</td>
</tr>
<tr>
<td>FischerTHERM DL 70, 80, 100, 120, 140, 2 Self-sealing screws per purlin with a 22 mm dia. washer</td>
<td>![Diagram]</td>
</tr>
</tbody>
</table>

FischerTHERM DL roof panels must be secured to the frame-structure according to individual stress requirements. FischerTHERM DL panels cannot be used to strengthen the frame-structure.

Minimum Roof Pitch for FischerTHERM DL Roof Panels according to the licence (Z-10.4-179) ≥ 3° (approx. 5.2 %). But we recommend:

- For roofs without end lap jointing ≥ 5° (8.8 %)
- For roofs with end jointing or roof apertures ≥ 7° (12.3 %)
FischerTHERM DL elements can be supplied with a foam-free area between 100 mm and 300 mm at the end of the panel in order to produce a clean end lap on the roof or leave eaves free from both physical and optical obstructions.

Internal bonding of the rigid polyurethane foam and the steel sheet is prevented through the application of a special separating agent.

The foam-free area can be manufactured in widths of between 100mm and 300 mm in steps of 50 mm.

Please note the 2 different types of panels which come with the foam-free area:
- R = Right
- L = Left

If the trapezoidal lap profile can be seen from the left side, looking from the eaves outward, then panel (L) should be ordered, if not, then panel (R) is needed.

FischerTHERM DL with foam-free area

Trapezoidal profile lap as seen from the eaves outward. (R)

Trapezoidal profile lap as seen from the eaves outward. (L)

NB
Please ensure the correct direction of work is known before placing any order.

Permanently elastic sealing strip as protection against rain, self-adhesive on one side
- Ilmac 20 x 2 mm

We recommend a roof pitch of min. 7°

Permanently elastic pre-compressed sealing strip
Ilmod SFL 30 x 6 - 16, self-adhesive on one side, as thermal insulation and for air tightness to prevent condensation.

supplied length = system length + foam-free area
## Fasteners

<table>
<thead>
<tr>
<th>Structure</th>
<th>Wall panels</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>FischerTHERM LL</td>
</tr>
<tr>
<td></td>
<td>Non-rusting steel screws</td>
</tr>
<tr>
<td>Steel and reinforced concrete ≥ 2 mm</td>
<td>JZ3-6,3x64-E16</td>
</tr>
<tr>
<td>Timber</td>
<td>JA3-6,5x45-E16</td>
</tr>
<tr>
<td>Flashings</td>
<td>JT3-3H-5,5 x 25-E16 self-drilling screw</td>
</tr>
<tr>
<td></td>
<td>or A/E 4,8 x 8,3 blind rivet (clamping range 0,8-3,2 mm), max. sep. 500 mm</td>
</tr>
</tbody>
</table>

* If load distributors are also used for fastening, an E16 washer must also be used.
Only those fasteners meeting IFBS Z 14.4 – 407 approval may be used.
See brochure “Flashings and Accessories”

## Fasteners

<table>
<thead>
<tr>
<th>Structure</th>
<th>Roof panels</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>FischerTHERM DL</td>
</tr>
<tr>
<td></td>
<td>Non-rusting steel screws</td>
</tr>
<tr>
<td>Steel and reinforced concrete ≥ 2 mm</td>
<td>JZ3-6,3 x 64 (Valley)</td>
</tr>
<tr>
<td>Timber</td>
<td>JA3-6,5 x 150 fix through the crown only</td>
</tr>
<tr>
<td>Longitudinal jointing</td>
<td>JT3-2H-5,5 x 25 (Max. sep. 500 mm)</td>
</tr>
</tbody>
</table>

Flashings JT3-3H-5,5 x 25-E16 self-drilling screw or A/E 4,8 x 8,3 blind rivet (clamping range 0,8-3,2 mm), max. sep. 500 mm (shell Al, drift stainless steel)

Only those fasteners meeting IFBS Z 14.4 – 407 approval may be used.
See brochure “Flashings and Accessories”
FischerTHERM
Permissible drawing values zul. F (kN) of fasteners depending on the sheet thickness of the outer skin.

<table>
<thead>
<tr>
<th>Element type</th>
<th>Sheet thickness – outer skin</th>
<th>ta = 0,55 mm</th>
<th>ta = 0,63 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>LL 40</td>
<td>0,90</td>
<td>0,70</td>
<td>-</td>
</tr>
<tr>
<td>LL 60</td>
<td>0,90</td>
<td>0,70</td>
<td>-</td>
</tr>
<tr>
<td>LL 80</td>
<td>0,90</td>
<td>0,70</td>
<td>-</td>
</tr>
<tr>
<td>LL 100</td>
<td>0,90</td>
<td>0,70</td>
<td>-</td>
</tr>
<tr>
<td>TL 65/80</td>
<td>0,90</td>
<td>0,70</td>
<td>1,40</td>
</tr>
<tr>
<td>TD 90/100</td>
<td>-</td>
<td></td>
<td>1,40</td>
</tr>
<tr>
<td>DL 70</td>
<td>0,90</td>
<td>0,70</td>
<td>1,40</td>
</tr>
<tr>
<td>DL 80</td>
<td>0,90</td>
<td>0,70</td>
<td>1,40</td>
</tr>
<tr>
<td>DL 100</td>
<td>0,90</td>
<td>0,70</td>
<td>1,40</td>
</tr>
<tr>
<td>DL 120</td>
<td>0,90</td>
<td>0,70</td>
<td>1,40</td>
</tr>
<tr>
<td>DL 140</td>
<td>0,90</td>
<td>0,70</td>
<td>1,40</td>
</tr>
</tbody>
</table>

Distance between 2 screws ≥ 40 mm.
Distance of screws from edge of panel in end support
- with 1 screw ≥ 70 mm
- with 2 screws ≥ 50 mm

The values stated in the table are to be seen exclusively as permissible drawing forces with regard to composite panels.
The transfer of the drawing forces to the substructure must be calculated separately.

FischerTHERM plus, without load distributors
Permissible drawing values zul. F (kN) of fasteners depending on the number of screws.
Sheet thickness of outer skin ≥ 0,55 mm

<table>
<thead>
<tr>
<th>Support</th>
<th>Fastening</th>
<th>Permissible values zul F [kN]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intermediate support</td>
<td>1 screw</td>
<td>1,73</td>
</tr>
<tr>
<td></td>
<td>2 screws</td>
<td>2,18</td>
</tr>
<tr>
<td>End support</td>
<td>1 screw</td>
<td>0,97</td>
</tr>
<tr>
<td></td>
<td>2 screws</td>
<td>1,05</td>
</tr>
</tbody>
</table>

Distance between 2 screws ≥ 40 mm.
Distance of screws from edge of panel in end support
- with 1 screw ≥ 70 mm
- with 2 screws ≥ 50 mm

The values stated in the table are to be seen exclusively as permissible drawing forces with regard to composite panels.
The transfer of the drawing forces to the substructure must be calculated separately.

FischerTHERM plus, with load distributors
Permissible drawing values zul. F (kN) of fasteners depending on the number of screws.
Sheet thickness of outer skin ≥ 0,55 mm

<table>
<thead>
<tr>
<th>Support</th>
<th>Fastening</th>
<th>Permissible values zul F [kN]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intermediate support</td>
<td>1 screw</td>
<td>5,33</td>
</tr>
<tr>
<td></td>
<td>2 screws</td>
<td>5,62</td>
</tr>
<tr>
<td>End support</td>
<td>1 screw</td>
<td>1,87</td>
</tr>
<tr>
<td></td>
<td>2 screws</td>
<td>2,39</td>
</tr>
</tbody>
</table>

Distance between 2 screws ≥ 40 mm.
Distance of screws from edge of panel in end support ≥ 80 mm.
Load distributors made from 1,5 mm steel sheet.
Alloy galvanizing AZ 185 (DIN EN 10215), βs = 320 N/mm²

The values stated in the table are to be seen exclusively as permissible drawing forces with regard to composite panels.
The transfer of the drawing forces to the substructure must be calculated separately.
The depicted details non-binding solution suggestions and have been designed in such a way as to fulfil the following requirements as far as possible: 1. As airtight as possible, 2. Rain-proof, 3. Pleasing to the eye, 4. Durable, 5. Simple to assemble, 6. Inexpensive.
The depicted details non-binding solution suggestions and have been designed in such a way as to fulfil the following requirements as far as possible: 1. As airtight as possible, 2. Rain-proof, 3. Pleasing to the eye, 4. Durable, 5. Simple to assemble, 6. Inexpensive.

1. Edge flashing
2. Self-sealing screw 6.5 x 19 – E 22
3. Z-profile
4. Blind rivet 4.8 dia. x 8.3
5. FischerTHERM
6. Self-sealing screw 6.3 x ... – E 16
7. Permanently elastic precompressed strip sealant single-sided self-adhesive, illmod SFI 30 x 6 – 16
8. Permanently elastic strip sealant single-sided self-adhesive, illac 20 x 4
9. FischerTHERM DL
10. Self-sealing screw 6.3 x ... – E 22

11. Purlin
12. Rail
13. Angle section
14. Angle section
15. Gutter flashing
16. Special guttering profile
17. Gutter heating
18. Thermal insulation (gutter)
19. Special guttering profile
20. Permanently elastic strip sealant single-sided self-adhesive, illac 20 x 4
21. Ridge capping for mono-pitch roof
22. Toothed flashing

23. Profile filler strips
24. Ridge profile
25. Ridge profile interior
26. Filler PUR-M (moisten element edges)
27. Tie bolt
28. Self-sealing screw 6.3 x ... – E 22

a) Alternatively: Cant the valley of the profile on the outer skin. Then one filler on each side of the roof is sufficient.
FischerTHERM – Details

The depicted details non-binding solution suggestions and have been designed in such a way as to fulfill the following requirements as far as possible: 1. As airtight as possible, 2. Rain-proof, 3. Pleasing to the eye, 4. Durable, 5. Simple to assemble, 6. Inexpensive.

**Horizontal Flashing**

**Head and Foot Flashings for doors, windows and other openings**

**Sill Flashing**

**Jamb Flashings for doors, windows and other openings, side**

1. FischerTHERM
2. Self-sealing screw 6.3 x ... – E 16
3. Mounting support angle
4. Drip flashing
5. Rail
6. Angle section
7. Permanently elastic precompressed strip
   sealant single-sided self-adhesive, illmod SFI 30 x 6 – 16
8. Permanently elastic strip sealant
   single-sided self-adhesive, illac 20 x 4
9. Blind rivet 4.8 dia. x 8.3
10. Angle
11. Window sill (not supplied)
12. Window (not supplied)
13. Closed jamb flashing
The depicted details non-binding solution suggestions and have been designed in such a way as to fulfil the following requirements as far as possible: 1. Airtight as possible, 2. Rain-proof, 3. Pleasing to the eye, 4. Durable, 5. Simple to assemble, 6. Inexpensive.
FischerTHERM WL – Details

The depicted details non-binding solution suggestions and have been designed in such a way as to fulfil the following requirements as far as possible: 1. As airtight as possible, 2. Rain-proof, 3. Pleasing to the eye, 4. Durable, 5. Simple to assemble, 6. Inexpensive.

1. FischerTHERM DL
2. Self-sealing screw 6.3 x ... – E 22
3. Self-sealing screw 6.5 x 19 – E 22
4. Permanently elastic strip sealant single-sided self-adhesive, illac 20 x 4
5. Z-profile
6. Edge flashing
7. Self-sealing screw 6.3 x L – E 14/3, edge and eaves profile a ≤ 1.0 m
8. Blind rivet 4.8 dia. x 8.3
9. FischerTHERM WL
10. Internal corner profile, t = 1.00 mm
11. Blind rivet 4.8 dia. x 8.3, a = 333 mm
12. Purlin
13. Angle section
14. Permanently elastic precompressed strip sealant single-sided self-adhesive, illmod SFI 30 x 6 – 16
15. Ridge capping for mono-pitch roof
16. Toothed flashing
17. Filler
18. Self-sealing screw 6.3 x ... – E 22
19. Ridge profile as per stress analysis
20. End flashing
21. Permanently elastic strip sealant single-sided self-adhesive, illac 20 x 4
22. Gutter flashing
23. Guttering
24. Special guttering profile
25. Hard fibre strip between guttering profiles
26. Eaves profile as per stress analysis
27. Permanently elastic strip sealant single-sided self-adhesive, illac 20 x 4
28. Blind rivet 4.8 dia. x 8.3
29. Mounting support angle
30. Drip flashing
31. Self-sealing screw 6.3 x L – E 14/3 on substructure angle, a ≤ 1.0 m

a) Alternatively:
Cant the valley of the profile on the outer skin. Then one filler on each side of the roof is sufficient.
The depicted details non-binding solution suggestions and have been designed in such a way as to fulfil the following requirements as far as possible: 1. As airtight as possible, 2. Rain-proof, 3. Pleasing to the eye, 4. Durable, 5. Simple to assemble, 6. Inexpensive.

1. FischerTHERM WL
2. Exterior corner profile
3. Self-sealing screw 6.3 x L – E 14/3, a ≤ 1 m
4. Blind rivet 4.8 dia. x 8.3 in every fifth crown of corrugation
5. Permanently elastic precompressed strip sealant single-sided self-adhesive, illmod SFI 30 x 6 – 16
6. Permanently elastic sealant illseal NO only on the longitudinal lap of the element
7. Angle as support
8. Flat metal strip as support
9. Blind rivet 4.8 dia. x 8.3, a ≤ 0.5 m
10. Mounting support angle
11. Drip flashing
12. Permanently elastic strip sealant single-sided self-adhesive, illac 20 x 4
13. Permanently elastic precompressed strip sealant single-sided self-adhesive, illmod SFI 30 x 6 – 16
14. Window sill (not supplied)
15. Window (not supplied)
16. Closed jamb flashing
17. Side corner connection flashing
18. Rail
19. Angle
FischerTHERM – Horizontal laying

Jointing, SL60/ML60 plus

1 FischerTHERM plus
2 aluminium pilaster strip type 2
3 aluminium decking profile type 1
4 support profile 1.5 mm thick (Aluzinc) type 1
5 self-sealing screw 6.5 x 45 - E 16, a ≤ 1.0 m
6 self-sealing screw 6.3 x 45 - E 19
7 self-sealing screw 6.3 x L - E 16, a ≤ 1.0 m
8 2K sealing
9 permanently elastic sealing strip,
   single-sided self-adhesive, illac 20 x 2
10 self-sealing screw 6.3 x 80-E 19
11 aluminium pilaster strip type 1
12 aluminium decking profile type 2
13 FischerTHERM WL
14 self-sealing screw 6.3 x 80-E14/3
15 support profile 1.5 mm thick (Aluzinc) type 2
16 blind rivet Al/E 4.6 x 8.3 a ≤ 1.0 m
17 flat steel bar with rigid foam filling
18 self-sealing screw 6.3 x 100-E14/3
19 aluminium pilaster strip 3.00 mm thick
20 self-sealing screw 6.5 x 64 - E 16, a ≤ 1.0 m
21 support profile 1.5 m thick (Aluzinc) type 2
22 self-sealing screw 6.3 x 100 - E 19

Jointing, SL80/ML80 plus

Jointing, WL80

Jointing, SL100/ML100 plus

Jointing, WL100
Delivery

Upon delivery the load must be checked for missing items as well as goods which have been damaged in transit. Fischer must be advised of problems straight away.

Off Loading

The pallets should be off-loaded on site with a suitable fork-lift, using strapping, not cables.

Special tie-bars should be used with packs over 10 m long. Pallets under 6 m may be off-loaded with a stacker truck.

Place edge protecting angles on top of the bundles or wooden spacers between the belts or ropes (Fig. 1).

Care must be taken not to bend the bundles too much and they should be stacked in the order they will be needed.

Do not stack more than two wooden pallets on top of each other (Fig. 2).

Storage

The bundles should not be stored on the warehouse floor, but rather on storage blocks rising at one end (Fig. 3).

The bundles should be protected against direct sunlight, water and dirt, preferably with a tarpaulin.

Condensation can be avoided with sufficient aeration, leaving the cover open a little on top but ensuring that the wind cannot blow it off (Fig. 4).

Water must not be allowed to collect between the panels, since this can cause corrosion.

as to avoid the formation of rust. A correctly installed wall must form a straight line at the lower edge of the elements.

Mounting your Fischer
FischerTHERM Wall Panels

During mounting, local accident prevention regulations and the “Guidelines for the Assembly of Profiled Panels for Roof, Wall and Decking Construction” by the IFBS must be observed.

First of all, check the frame-structure for surface flatness and ensure that perpendicular elements are indeed perpendicular. Order inconsistencies are to be reported to Fischer and supplementary orders to be placed, or modifications to be made, if necessary.

FischerTHERM wall panels are normally mounted vertically, but they can also be placed horizontally.

Before mounting, the panel’s cover width is to be marked on the frame-structure, and single-sided self-adhesive sealing-strips should be stuck to the frame-structure, as per the laying plan.

FischerTHERM panels should be handled with great care, so as not to damage the plastic coating. The panels must be carried up-and-down avoiding bending and the female part of the male-female jointing is not to be used as a hand-grip (Fig. 6).

The wall panels are raised behind the frame with a crane and then positioned.

Manual assembly is also common, where the panels are manhandled onto the frame and then brought vertical with ropes (Fig. 7).

If the wall panels are to be laid horizontally, then both ends should be secured with screw clamps. The outer-skin must also be protected against such clamps with smooth spacers.
The protective film used on polyester coated wall panels must be loosened at the top, the bottom and round the sealing screws.

There should be approx. 5 mm between the bottom of the panel and the sill flashing. The panel is then inserted into the female part of the already mounted panel and compressed, leaving a joint spacing of approx. 8 mm outer (Fig. 8).

The FischerTHERM WL wall cladding element has an exterior hairline joint with no joint width.

The wall panels should be exactly perpendicular, drilled and then fixed to the rails with self-sealing screws.

Electric screwdrivers with travel and torque controls should be used.

Care must be taken that the outer-skin remains free from indentations during driving.

Tighten the self-sealing screw so that the washer is compressed to form a seal.

FischerTHERM plus panels must be fixed using the drill groove provided.

Then, the next FischerTHERM plus panel, male component first, is pushed over the sealing screw of the last panel and into the female part, also leaving a joint spacing of 8 mm outer.

Drilling swarf must be cleared from horizontal surfaces so as to avoid rust marks. A correctly mounted wall should have a perfectly straight running edge with no blade marks.

Where long and short FischerTHERM panels are to be mounted above one another, for example round a window frame, the longer panels should be fixed first, taking care to compress the male-female jointing correctly. The shorter panels should then be mounted forming a single line with the height of the longer panels.

Mounting your Fischer FischerTHERM DL Roof Panels

A crane should be used to lay the panel-bundles on the purlins or girders of the roof structure.

Arrange the pallets with an even load-distribution over the roof structure, preferably near columns or girders.

The pallets must be prevented from sliding on inclined roof structures, and bundles which are already open must be protected against gusts of wind.

When sorting the bundles, thought should be given to the laying direction of the FischerTHERM DL roof elements.

Laying the panels with the help of a crane is particularly attractive, from an economic and labour-saving point of view. The panels must not, however, be subjected to large surface deflections during such crane manoeuvres.

The working-direction should be taken into account when laying the bundles on the frame. They should be laid AGAINST the main wind direction.

Before starting to mount the panels, one of the said panels should be laid next to the bundle, giving a platform from which to work.

This platform must also be temporarily fixed with screw clamps.

From this platform, the first panel to be mounted can be measured up and correctly positioned (Fig. 9).

The next panel – with a longitudinal foam-free area – is brought up to the end rib of the previous panel, thus giving the longitudinal lap.

The distance between the joints should be approx. 8 mm (Fig. 9).

In the case of horizontal assembly, some elements are first laid out in the region of the eaves and then the ridge so that they overlap (Fig. 10).

Before this, the vertical edge of the metal sheet must be cut with plate shears where the PUR rigid foam begins. Then the sheet is bent upwards to a horizontal position using broad crimping pliers (Fig. 10. 1. and 2.).

Initially, the roof panels should be fixed longitudinally; and they are to be secured completely at the end of each working day.

For end lap jointing two sealing strips should be applied to the lower panel (Fig. 10).

A permanently elastic precompressed sealing strip should be used between the two foam areas in the end-lap area in order to achieve thermal insulation and air tightness (see detail page 12).

The roof panels should be fixed with self-sealing screws; the longitudinal joints being fixed with self-drilling screws at a maximum of 500 mm apart. Drilling swarf must be cleared away immediately, leaving nothing which could ultimately damage the anti-corrosion properties of the panel coating.
References

FischerTHERM WL

FischerTHERM DL

Protec GmbH
Haslach

Colour:
25 µm RAL 9006
C+C Grossmarkt
Gronau
Colour:
25 µm RAL 9006
Sporthalle
Burg Stargat

Colour:
25 µm RAL 1015, 9002, 9010

FischerTHERM plus
References

AREXX
Zwolle (NL)

Colour:
25 µm RAL 7016

FischerTHERM plus
Tüv Goslar

Colour:
25 µm RAL 9002, 9006

FischerTHERM WL

FischerTRAPEZ
References

Nahversorgungszentrum
Langenselbold

Colour:
25 µm RAL 8012

FischerTHERM plusdach
OHB-System AG
Bremen

Colour:
PulverColour RAL 7021
25 µm RAL 9010

FischerTHERM WL

FischerTHERM plus
References

Gewerbebau Nord
Rotenburg/Wümme

Colour:
- 25 µm RAL 9007
- 25 µm RAL 3000
- 25 µm RAL 9006
Product range

FischerTHERM

FischerTRAPEZ

FischerTRAPEZ-Acoustic

FischerKASSETTE

FischerKASSETTE-Acoustic

FischerWELLE

FischerPANEEL

FischerKLIPTEC

Flashings and accessories

Consulting

Engineering

Production

Accessories