HIGH QUALITY SUPERSIZE FORMWORK LAMINATES
for the UK Construction Industry
Westag & Getalit AG

Westag & Getalit AG has been established for over 100 years. It is a German based company operating from two sites and employs over 1200 people. Engaged in the manufacture of wooden and synthetic construction finishing products, the company is structured around two divisions

1. Door frames
2. Plywood formwork sector & the surface elements sector.

It is the plywood formwork sector that Ischebeck Titan Ltd is now promoting as Westag’s sole agent here in the UK.

Plywood Formwork Sector

Three main areas of activity have been recognised as being logical targets for some of the large sized, high quality Westag product range:

- Replacement plywood sheets for existing stocks of system formwork panels (Harsco, Meva, Ulma, Doka, Peri, RMD etc.)
- High quality ‘as struck’ insitu site concrete using a variety of Westag large sized plywood or chipboard (some as large as 6.0m x 2.5m)
- A comprehensive range of ply, chip / lamin board & block board for use in the precast concrete industry.

ISCHEBECK TITAN LIMITED

Established in 1990 Ischebeck Titan Limited is a designer, manufacturer and supplier of formwork and falsework systems to the insitu concrete construction industry. It also boasts a ground engineering division, providing a full range of soil stabilisation solutions to the civil engineering market place. These services are promoted through our offices and depots here in the UK as well as our established branches in Dubai, Qatar and Saudi Arabia.
## PROD UCT RANGE | CONCRETE FORMWORK PANELS

<table>
<thead>
<tr>
<th>Designation</th>
<th>Thikn. mm</th>
<th>Dimensions mm</th>
<th>Description Core Substrate</th>
<th>Numbers of Reuses**</th>
<th>Page</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>BETOPLAN special</td>
<td>10, 14, 18, 21</td>
<td>Cut to system</td>
<td>Plywood</td>
<td>50-80</td>
<td>3</td>
<td>Replacement of proprietary formwork panels</td>
</tr>
<tr>
<td>RS special oiled</td>
<td>10, 10, 21, 21</td>
<td>5430 x 2050, 2710 x 2050, 5430 x 2050, 2710 x 2050</td>
<td>Special strong wood-based chipboard pretreated with eco-friendly form oil of water pollutant class (WGK) 1</td>
<td>10 mm 1-6, 21 mm 1-10</td>
<td>4</td>
<td>On Site In situ Concreting</td>
</tr>
<tr>
<td>WESTASPAN 450 SP</td>
<td>21, 21, 21</td>
<td>4300 x 2000, 5500 x 2000, 5500 x 2500</td>
<td>Top quality wood-based chipboard</td>
<td>1-5</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>BETOPLAN TOP MF</td>
<td>21, 21</td>
<td>4000 x 2000, 5200 x 2000</td>
<td>Plywood</td>
<td>1-20</td>
<td>6</td>
<td>For use in the Precast Industry</td>
</tr>
<tr>
<td>STRUKTOPLAN special</td>
<td>5, 5, 21</td>
<td>3000 x 1200</td>
<td>Plywood</td>
<td>1-20</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>STRUKTOSPLAN special RS</td>
<td>10, 21</td>
<td>5000 x 1800, 5000 x 1800</td>
<td>Special strong wood based chipboard</td>
<td>1-20</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>WESTASPAN 450 SP</td>
<td>21, 21, 21</td>
<td>4300 x 2000, 5500 x 2000, 5500 x 2500</td>
<td>Top quality wood-based chipboard</td>
<td>1-20</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>BONABOAR 260 BE</td>
<td>21</td>
<td>2000 x 5200</td>
<td>3-ply exterior grade blockboard</td>
<td>1-20</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>MAGNOPLAN 450 BE</td>
<td>21</td>
<td>2000 x 5200</td>
<td>3-ply exterior grade laminboard</td>
<td>1-30</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>BETOPLAN TOP</td>
<td>21, 21, 21</td>
<td>2500 x 1250, 3000 x 2000, 4000 x 2000, 5200 x 2000, 5500 x 2500</td>
<td>Plywood</td>
<td>1-60</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>STRUKTOPLAN special</td>
<td>5, 5, 21</td>
<td>3000 x 1200</td>
<td>Plywood</td>
<td>1-30</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>STRUKTOSPLAN special RS</td>
<td>10, 21</td>
<td>5000 x 1800, 5000 x 1800</td>
<td>Special strong wood based chipboard</td>
<td>1-30</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>BETOSIEB with wiremesh texture/ smooth back</td>
<td>21</td>
<td>5200 x 2000</td>
<td>Plywood</td>
<td>1-25</td>
<td>12</td>
<td></td>
</tr>
</tbody>
</table>

Tolerances and moisture content in accordance with DIN 68791/92*
Other thicknesses and dimensions on request

** The number of re-uses depends upon on site practice, requirements of the concrete finish, the quality of the form oil and the maintenance, handling and store practices.

As of October 2014
**Use**

BETOPLAN Special supplies for formwork systems a perfect ready-to-fit in program.

**Technical data**

<table>
<thead>
<tr>
<th>Sizes mm</th>
<th>Thickness mm</th>
<th>Weight kg/m²</th>
<th>Modulus of elasticity (N/mm²)</th>
<th>Bending strength (N/mm²)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>long across</td>
<td>long across</td>
</tr>
<tr>
<td>BETOPLAN Special</td>
<td>Cut to system</td>
<td>10</td>
<td>6,4 7400 5900</td>
<td>64 60</td>
</tr>
<tr>
<td></td>
<td></td>
<td>14</td>
<td>8,7 7900 6000</td>
<td>68 49</td>
</tr>
<tr>
<td></td>
<td></td>
<td>18</td>
<td>11,2 7700 6100</td>
<td>64 50</td>
</tr>
<tr>
<td></td>
<td></td>
<td>21</td>
<td>13,1 6900 5900</td>
<td>61 52</td>
</tr>
</tbody>
</table>

According to DIN 68792
Specification subject to alteration

**Attention** Standard values – no warranted characteristic.
RS special is a low-cost supersize formwork panel made from high-density wood-based substrate with a water absorbent surface. Upon request: Oiled with an environmentally compatible release agent to WGK 1 (concession W-178539). No edge sealing.

Use
RS special for concrete surfaces with minimum blowholes and increased surface strength. Used in the construction of sewage and water basins, as well as for construction elements. The 21 mm thick panel is suitable e.g. for supporting construction elements. The 10 mm thick panel is suitable for round formwork with a radius of more than 1.5 m.

Technical data

<table>
<thead>
<tr>
<th>Sizes mm</th>
<th>Thickness mm</th>
<th>Weight kg/m²</th>
<th>Modulus of elasticity (N/mm²)</th>
<th>Bending strength (N/mm²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5430/2710 x 2050</td>
<td>10</td>
<td>7,8</td>
<td>4000 long</td>
<td>27</td>
</tr>
<tr>
<td></td>
<td>21</td>
<td>16,5</td>
<td>4800 across</td>
<td>30</td>
</tr>
</tbody>
</table>

Diagram to estimate bending of the 21 mm
Description
WESTASPN 450 SP is our lowest priced supersize formwork panel comprising a polyurethane bonded wood-based panel with a film facing of 450 g/m² on each side with reinforced film. Edges sealed.

Use
WESTASPN 450 SP can be used for all smooth, jointless concrete surfaces to DIN 18202/3, line 4/5. With limited number of reuses, matt concrete surfaces are produced.

Technical data

<table>
<thead>
<tr>
<th>Size</th>
<th>Thickness mm</th>
<th>Weight kg/m²</th>
<th>Modulus of elasticity (N/mm²)</th>
<th>Bending strength (N/mm²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>WESTASPN 450 SP</td>
<td>21</td>
<td>15,5</td>
<td>3200</td>
<td>20</td>
</tr>
<tr>
<td>4300 x 2000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5500 x 2000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5500 x 2500</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Other thicknesses on request

Tolerances according to DIN 68791
Specification subject to alteration
Attention Standard values – no warranted characteristics

Diagram to estimate bending
**BETOPLAN TOP MF (MELAMINE FACE)**

The melamine face enhances the following:
- Alkali resistant surface
- Reduced water permeability
- Increased light fastness

**Description**

BETOPLAN top MF (melamine face) is a supersize formwork panel, conforming to DIN 68792, with a top facing of 550 g/m² on each side. A reinforcing film acts as a buffer, thus ensuring optimum panel surfaces, even when reused many times. With sealed edges.

**Use**

BETOPLAN top MF can be used for all smooth, jointless concrete surfaces, with more stringent requirements in accordance with DIN 18202/3, line 7. Use of this panel yields matt, plain fair faced concrete surfaces with a high number of uses on building sites. Can be loaded in both span directions. A test pour is required to produce an SB 3/4 level concrete surface.

**Technical data**

<table>
<thead>
<tr>
<th>Sizes (mm)</th>
<th>Thickness (mm)</th>
<th>Weight (kg/m²)</th>
<th>Modulus of elasticity (N/mm²)</th>
<th>Bending strength (N/mm²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>long across</td>
<td>long across</td>
<td>long across</td>
<td>long across</td>
<td>long across</td>
</tr>
<tr>
<td>BETOPLAN top MF</td>
<td>4000 x 2000</td>
<td>21</td>
<td>13,5</td>
<td>6900</td>
</tr>
<tr>
<td>5200 x 2000</td>
<td>21</td>
<td>13,5</td>
<td>6900</td>
<td>5900</td>
</tr>
</tbody>
</table>

Other sizes and thicknesses on request.

**Diagram** to estimate bending

**According to DIN 68792**

Specification subject to alteration

**Attention** Standard values – no warranted characteristics

As of October 2014
Description

STRUKTOPLAN special is a supersize formwork panel conforming to DIN 68792, with a striking board-like feature finish manufactured in wear resistant plastic laminate. With a facing of 470 g/m² for 5.5 mm on each side.

Use

STRUKTOPLAN special can be used for textured concrete surfaces. The 10 cm wide board feature provides a uniformly coloured sand-free concrete finish. Achieves a high number of uses whilst maintaining a consistent finish.

<table>
<thead>
<tr>
<th>Technical data</th>
<th>Sizes mm</th>
<th>Thickness mm</th>
<th>Weight kg/m²</th>
<th>Modulus of elasticity (N/mm²)</th>
<th>Bending strength (N/mm²)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>STRUKTOPLAN special</td>
<td>3000* x 1200</td>
<td>5.5</td>
<td>4.0</td>
<td>7300 2700</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>long across</td>
<td>long across</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>94</td>
<td>47</td>
</tr>
</tbody>
</table>

*Direction of planks

According to DIN 68791/68792
Specification subject to alteration

Attention Standard values – no warranted characteristics
**Description**

**STRUKTOSPAN special RS** is a supersize formwork panel. Made from a high density wood-based substrate, with a striking board-like texture manufactured in wear resistant plastic laminate with a facing of 1300 g/m².

**Use**

**STRUKTOSPAN special RS** can be used for textured concrete surfaces. The 10 cm wide board feature provides a uniformly coloured sand-free concrete finish. Achieves a high number of uses whilst maintaining a consistent finish.

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**Technical data**

<table>
<thead>
<tr>
<th>Sizes mm</th>
<th>Thickness mm</th>
<th>Weight kg/m²</th>
<th>Modulus of elasticity (N/mm²)</th>
<th>Bending strength (N/mm²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>STRUKTOSPAN special RS</td>
<td>5000 x 1800</td>
<td>10</td>
<td>4000</td>
<td>27</td>
</tr>
<tr>
<td></td>
<td>21</td>
<td>16,8</td>
<td>4800</td>
<td>26</td>
</tr>
</tbody>
</table>

*Direction of planks

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**Diagram** to estimate bending

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As of October 2014
**Description**

**BONABOARD 260 BE** is a 3 layer exterior grade blockboard, conforming to DIN 68791, with an abrasion resistant facing of 260 g/m² on each side. The high-grade lamin core, with one parallel face veneers on each side, gives the panel a hardwearing and plain surface. With sealed edges.

**Technical data**

<table>
<thead>
<tr>
<th>Size mm</th>
<th>Thickness mm</th>
<th>Weight kg/m²</th>
<th>Modulus of elasticity (N/mm²)</th>
<th>Bending strength (N/mm²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000 x 5200</td>
<td>21</td>
<td>10</td>
<td>4400 (long)</td>
<td>6300 (across)</td>
</tr>
</tbody>
</table>

**Use**

**BONABOARD 260 BE** can be used for all smooth, jointless concrete surfaces to DIN 18202/3, Part 3 / line 5. Matt concrete surfaces are produced with low number of uses.

**Diagram** to estimate bending

Tolerances according to DIN 68791
Specification subject to alteration

**Attention** Standard values – no warranted characteristics

As of October 2014
**Description**

*MAGNOPLAN 450 BE* is a 3 layer exterior grade, laminboard, conforming to DIN 68791, with an abrasion resistant facing of 450 g/m² on each side. The high-grade lamin core, with one parallel face veneers on each side, sealed edges.

**Use**

*MAGNOPLAN 450 BE* can be used for all smooth, jointless concrete surfaces to DIN 18202/3, line 6. Matt, plain concrete surfaces are produced for a wide variety of uses, predominantly in precast concrete works. Can be loaded in both span directions.

### Technical data

<table>
<thead>
<tr>
<th>Size mm</th>
<th>Thickness mm</th>
<th>Weight kg/m²</th>
<th>Modulus of elasticity N/mm²</th>
<th>Bending strength N/mm²</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAGNOPLAN 450 BE</td>
<td>2000 x 5200</td>
<td>21</td>
<td>11</td>
<td>5000 7200</td>
</tr>
</tbody>
</table>

**Diagram** to estimate bending

As of October 2014
**Description**

*BETOPLAN top* is a supersize formwork panel, conforming to DIN 68792, with a top facing of 550 g/m² on each side. A reinforcing film acts as a buffer, thus ensuring optimum panel surfaces, even when reused many times. With sealed edges.

**Use**

*BETOPLAN top* can be used for all smooth, jointless concrete surfaces, with more stringent requirements in accordance with DIN 18202/3, line 7. Use of this panel yields matt, plain faced concrete surfaces with a high number of uses in precast concrete factories. Can be loaded in both span directions. A test pour is required to produce an SB 3 / 4 level concrete surface.

<table>
<thead>
<tr>
<th>Technical data</th>
<th>Sizes mm</th>
<th>Thickness mm</th>
<th>Weight kg/m²</th>
<th>Modulus of elasticity (N/mm²)</th>
<th>Bending strength (N/mm²)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>long</td>
<td>long across</td>
<td>long</td>
<td>across</td>
<td>long</td>
</tr>
<tr>
<td>BETOPLAN top</td>
<td>2500 x 1250</td>
<td>21</td>
<td>13,5</td>
<td>6900</td>
<td>5900</td>
</tr>
<tr>
<td></td>
<td>3000 x 2000</td>
<td>21</td>
<td>13,5</td>
<td>6900</td>
<td>5900</td>
</tr>
<tr>
<td></td>
<td>4000 x 2000</td>
<td>21</td>
<td>13,5</td>
<td>6900</td>
<td>5900</td>
</tr>
<tr>
<td></td>
<td>5200 x 2000</td>
<td>21</td>
<td>13,5</td>
<td>6900</td>
<td>5900</td>
</tr>
<tr>
<td></td>
<td>5500 x 2500</td>
<td>21</td>
<td>13,5</td>
<td>6900</td>
<td>5900</td>
</tr>
</tbody>
</table>

According to DIN 68792

Specification subject to alteration

**Attention** Standard values – no warranted characteristics

Other sizes and thicknesses on request * on request

**Diagram to estimate bending**

As of October 2014
Description

BETOSIEB is a special supersize formwork panel of veneer plywood with a facing of 300 g/m² on each side. One side features the WESTAG wire mesh-structure, the other is smooth.

Use

BETOSIEB can be used for all concrete surfaces for which non-slip properties are required, such as tribune steps or platforms, as well as for concrete surfaces with increased adhesion for subsequent treatment. Can be loaded in both span directions.

Technical data

<table>
<thead>
<tr>
<th>Sizes mm</th>
<th>Thickness mm</th>
<th>Weight kg/m²</th>
<th>Modulus of elasticity (N/mm²)</th>
<th>Bending strength (N/mm²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BETOSIEB</td>
<td>5200 x 2000</td>
<td>21</td>
<td>13,5</td>
<td>6900 5900</td>
</tr>
</tbody>
</table>

According to DIN 68792

Specification subject to alteration

Attention Standard values – no warranted characteristics

Diagram to estimate bending

As of October 2014
Westag concrete formwork panels

- Made of plywood and weather resistant hardwood veneer, glued, or spruce blockboard with strong, low moisture absorption and high-quality surface facing with phenolic impregnated papers. The edges are water repellent treated with a special water-based acrylic. Westag & Getalit AG has received in 1955, the utility model protection for Betoplan panel from the German Patent Office. Continual product development has ensured our formwork panels have been successfully used on site for over thirty years. Care must be taken when considering:

1. Storage: Dry on square timber. By prolonged storage in the open air, a breathable foil is recommended to avoid moisture and condensation. Westag shuttering foil is made of wood materials. The inevitable swelling and shrinkage deformations of the materials in length, width and thickness can happen in all applications.

2. Using carbide cutting tools under the cutting conditions for coated wood-based materials. Blunt tools risk edge cracks. Use fine-toothed saw blades. Peripheral speed of the saw blade should be at least about 50 m/s, i.e. by a blade diameter of 30 cm, the minimum speed should be more than 3000/min.

3. Careful handling of the film facing is the most important prerequisite for accurate concrete surfaces and long life. The most common causes of damage to film are:
   - Missed hammer blows when nailing
   - Scratches, for example by reinforcing installation, material and equipment storage on the mold, especially in slab formwork
   - Chafe during transport
   - Vibrator contact for compaction, rubber cap reduced film damage
   - Skidding with power drills and screwdrivers
   - Do not sink the screw heads below the plate surface

4. Grind necessary filler points carefully, without damaging the original film. Seal plate collisions with Westafill-Joint-Tape. The plates in their original format are factory fitted with edge facing. To reduce the absorption of water, the edges of blanks, anchor holes, etc. on formwork cut at worksite have to be sealed with protective facing.

5. Mechanical damage to the surfaces can be repaired with Westag-filler.

6. Edge protection. Cut edges must be coated with WESTAFILL special lacquer or similar approved lacquer and holes filled with WESTAFILL filler or similar approved to prevent filler ingress of moisture and reduce the extent to which panels can swell in all three directions.

7. Prior to the concreting, the surfaces should be treated with a thin, possibly colourless release agent. The release agent has to be checked on compatibility with the colour edge protection and should be screened to prevent incipient dissolution, which can lead to the staining of the concrete surface. In the period between release agent facing and concreting the formwork elements are to be protected from contamination. Also it is known that phenolic resin emits by intense UV radiation yellow substances. Only rare cases have been reported over concrete stains that can be attributed to this. The flow of work at the construction site (protection of the film surface, form removal time) has to be adapted.

8. To obtain fair-faced concrete surfaces, note the following:
   - Protection of the scarf skin from moisture absorption and drying out
   - Direct sunlight of the elements should be avoided
   - Formwork best stored standing (in summer in the shade), 2 elements with the film face to each other. In the horizontal storing imprints of the stack strips are possible.

9. Absorbent surface should be watered sufficiently before installation (note changes in dimension!)

Westag shuttering panels have been purposefully manufactured with a matt finish to create a smooth non-glossy concrete surface and to avoid different glosses in duration of use. On contact with the concrete, the alkaline phenolic resins tend by light facings to change colour to a reddish-brown. This colour change is an unavoidable property of phenolic resins and is not the cause of surface discoloration of the concrete.

There are of course other factors that Westag cannot control that play an important part in producing high quality struck concrete. Examples of these are 1 Placing of concrete 2 Storage and handling at site 3 Quality and consistency of concrete 4 Quality, stiffness and trueness of formwork. 5 Appropriate vibration 6 Appropriate rate of pour etc. It is the contractors responsibility to control these elements.
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