Mastic Asphalt Product Guide

**Blocks**
- Approximately 20 Kg (50 per tonne)
- 80 blocks (1.6 tonne) per pallet
- Sold by weight
- Paving grades need additional grit

**Types of Mastic Asphalt**

**BS 6925:1988. Roofing**

Roofing, typically laid in two 10mm coats to a total thickness of 20mm over Black Sheathing Felt.

- **Roofstar B, 101** Roofing Type R988 B – 100% bitumen binder. An economic roofing asphalt.
- **Roofstar T, 102** Roofing Type R988 T25 – 25% Trinidad Lake asphalt 75% bitumen binder. Recommended over insulation due to its improved thermal properties. Over time it will weather to a desirable lighter shade of grey than the plain B grade.
- **Permaphalt 180** Polymer modified roofing. BBA Certified premium product that is only sold to **Permanite** approved contractors. Improved long term durability and temperature stability.

If the asphalt is be left exposed and used as a walkway, for example to a small number of flats. Then all the above grades can be modified on site by adding 10% - 15% of 2mm - 3mm coarse aggregate. The first coat of normal roofing is laid 10mm thick over the BSF followed by the gritted up roofing that is now laid to a thickness of 15mm. If point loading is anticipated the surface should be tiles.

Alternatively on bigger jobs the 15mm thick top layer of roofing can be supplied pre-gritted. This is called **106 RD Recreational Duty Roofing**. Or if it is a **Permaphalt** roof the grade is called **Permaphalt RD**.

Note: For heavy duty walkways such as in shopping centres see **460 paving**.

Permaphalt laid onto the roof of the Palace of Westminster.
BS 6925:1988. Flooring

Flooring typically laid in one coat. The thickness depends largely on the anticipated use of the floor. There are 4 basic types of Flooring. The situations below assume a concrete type base. For floors subject to deflection such as timber please contact Technical Services.

- **Floorstar S, 200** Special Hard Flooring Type F1076/2/1 – Designed for relatively high temperatures (25°C–35°C) Such as hospital wards, schools, offices and shops with heavy movable racking. Laid 15-20mm thick on Glass Fibre Tissue. GFT.

- **Floorstar L, 201** Light Duty Flooring Type F1076/2/11/B – Usually used as an underlay to the final floor finish in homes, shops with fixed racks and light duty factory situations. Laid 15-20mm thick Usually on GFT.

- **Floorstar M, 217** Medium Duty Flooring Type F1076/2/111/B – Designed for to act as the finished surface or underlay in medium industrial factories, hospital corridors, heated sports halls. Any area subject to continuous foot traffic, light hand trucks and trolleys. Laid 20-30mm thick Usually on GFT with non-slip sand rubbed finish or natural float finish.

- **Floorstar H, 208** Heavy Duty Flooring Type F1076/2/1V/B – Designed for use in traditional heavy industry and warehouse situations. Laid 30-50mm thick, direct to a clean firm concrete type base. Suitable under fork lift trucks and heavy loads. When laid without a GFT separating membrane it has excellent impact resistance. It usually has a non-slip sand rubbed finish. **Floorstar H** is designed to have 6mm coarse aggregate (30–40%) incorporated during melting down on site. On larger jobs it is easier to organise a Hot Charge delivery with the aggregate already incorporated.

Acid resiting versions of the above four grades are also available to special order.

Dark Red versions of the above four grades are available to special order.

If the building is subject to rapid cooling or low temperatures please contact IKO Technical Services.

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Architect Daniel Libeskind stands on the 4,000 M2 of Floorstar M that he specified for the Imperial War Museum, North.
**BS 1447:1988. Paving**

Paving is typically used on roof top car parks as the wearing course. If the car park is required to be fully waterproof such as over a shop or offices, it is laid directly on top of 20mm of roofing grade asphalt.

<table>
<thead>
<tr>
<th>Coarse Aggregate</th>
<th>Thickness</th>
<th>% by Weight</th>
<th>Size mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Footpaths</td>
<td>20mm</td>
<td>20</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>30mm</td>
<td>30</td>
<td>3</td>
</tr>
<tr>
<td>Road Surfacing</td>
<td>40mm</td>
<td>45</td>
<td>10</td>
</tr>
<tr>
<td>Car Parks</td>
<td>25mm</td>
<td>30</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>30mm</td>
<td>35</td>
<td>6 or 10</td>
</tr>
<tr>
<td>HGV Decks &amp; Loading Bays</td>
<td>40mm</td>
<td>45</td>
<td>10</td>
</tr>
</tbody>
</table>

**Pavestar** is designed to have 3mm, 6mm or 10mm coarse aggregate (20–45%) incorporated during melting down on site. For footpath use we do a pre-gritted block called **460**. On larger jobs it is easier to organise a Hot Charge delivery with the aggregate already incorporated.

- **Pavestar B, 400** Paving BS1447/1/B/S – 100% bitumen binder. An economic paving asphalt.
- **Pavestar T, 403** Paving BS1447/1/T50 –50% Trinidad Lake asphalt 50% bitumen binder. Improved wearing characteristics and greater thermal stability.
- **Pavestar H, 405** Paving BS1447/1/T50H Harder version of the 403. Designed for heavily stressed areas such as loading bays and bus stops.

Acid resisting versions of the above grades are also available to special order.

Dark Red versions of the above grades are available to special order.

Paving grade asphalt can also be specified as the flooring in unheated buildings.

The finish is usually sand rubbed and crimped except on roads or areas subject to standing HGV’s when pre-coated chippings would be rolled into the still warm surface.

**BS 6925:1988. Tanking**

Tanking asphalt must always be laid in 3 coats to a total thickness of 20mm for vertical work and 30mm for horizontal work, in accordance with Code of Practice BS8102. Tanking should be laid directly to the dry substrate without a separating membrane. However, a layer of glass fibre tissue with minimum 50mm laps may be needed on horizontal work if excessive blowing is encountered.

- **Tankstar B, 301** Tanking Type T1097/1/B – 100% bitumen binder. An economic tanking asphalt.
- **Tankstar T, 302** Tanking Type T1097/1/T25 – 25% Trinidad Lake asphalt 75% bitumen binder. Improved laying properties and greater thermal stability.

Acid resisting versions of the above grades are also available to special order.
TABLE OF WEIGHTS (approximate)

<table>
<thead>
<tr>
<th>Asphalt Thickness</th>
<th>Kg/m²</th>
<th>M² per Tonne</th>
</tr>
</thead>
<tbody>
<tr>
<td>10mm</td>
<td>24</td>
<td>40</td>
</tr>
<tr>
<td>13mm</td>
<td>32</td>
<td>32</td>
</tr>
<tr>
<td>15mm</td>
<td>37</td>
<td>27</td>
</tr>
<tr>
<td>20mm</td>
<td>49</td>
<td>20</td>
</tr>
<tr>
<td>25mm</td>
<td>61</td>
<td>16</td>
</tr>
<tr>
<td>30mm</td>
<td>73</td>
<td>13</td>
</tr>
<tr>
<td>40mm</td>
<td>98</td>
<td>10</td>
</tr>
</tbody>
</table>

**Durability**  
As stated in BRE Digest 144 Asphalt and built-up felt roofings: Durability. "Asphalt roofing, properly designed and laid should be capable of lasting 50 – 60 years."

**Fire Resistance**  
Mastic asphalt roofing achieves the highest possible rating of FA.A when tested to BS476 Part 3.

**Odour**  
Mastic asphalt is odourless after laying.

**Skid Resistance**

<table>
<thead>
<tr>
<th></th>
<th>Sand Rubbed Finish</th>
<th>Crimped Finish</th>
</tr>
</thead>
<tbody>
<tr>
<td>TRRL Rubber (Dry)</td>
<td>84</td>
<td>87</td>
</tr>
<tr>
<td>TRRL Rubber (Wet)</td>
<td>55</td>
<td>74</td>
</tr>
</tbody>
</table>

**Separating layers**  
The purpose of a separating layer is to isolate mastic asphalt from joint movement in the substrate but still provide significant friction to help restrain the asphalt against contraction in cold weather. It must allow a free lateral passage for hot air and moisture vapour released by the substrate during the application of the hot asphalt and also act as a long term vapour release layer.

**Black Sheathing Felt**  
Normally used as a separating membrane in mastic asphalt roofing systems. It comprises of a batt of recycled natural jute fibre which is impregnated with bitumen. Supplied in 20m² rolls the product is laid entirely loose with a minimum 50mm lap joints directly above the roof deck or thermal insulation prior to the application of the mastic asphalt.  
Note: Black sheathing felt is also used in certain light duty mastic asphalt flooring applications e.g. where the base is timber, since it allows a small amount of compression under loading, a separating membrane such as glass fibre tissue is preferred on solid bases such as concrete.

**Glass Fibre Tissue**  
Generally used as the separating membrane in asphalt flooring and paving applications. Unlike Black sheathing Felt it does not compress under loading and is not affected by moisture from the ground. Supplied in 100m x 1m rolls, the product is loose laid with minimum 50mm laps directly above the concrete substrate.
Other products
Full product literature, health & safety and technical datasheets for all IKO products are available as downloads from our website www.ikogroup.co.uk or on request by emailing marketing@ikogroup.co.uk

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