Wabo® Asphaltic Plug Joint

**DESCRIPTION**

**WABO ASPHALTIC PLUG JOINT** is a combination of polymer modified binder and selected aggregates. The binder is a compound blend of bitumens, polymers, fillers and stabilisers that is specifically formulated to give good fluidity, low and high temperature stability and slump control.

**WABO ASPHALTIC PLUG JOINT** is delivered in factory batched ‘zip’ pails or 4 ply silicone bags ready to be heated.

In standard joints 20mm graded granite is utilised. For shallower joints other sizes may be specified (refer to Technical Services Department). Utilising single size aggregate allows high binder to aggregate content thereby ensuring optimum combination of flexibility and load bearing capacity.

**WABO ASPHALTIC PLUG JOINT** is available in a range of formulations to suit variations of climates including continental and tropical, thereby ensuring flexibility of the joint in cold temperatures and structural integrity in very warm conditions.

**WABO ASPHALTIC PLUG JOINT** is designed for the structural concrete deck and will develop a tenacious bond to concrete as well as the adjacent asphalt arises. For joints up to 50mm wide an aluminium or steel plate is placed over the joint to prevent aggregate entering the joint. For joints over 50mm the steel plate assists in the distribution of wheel loads across the joints.

**USES**

**WABO ASPHALTIC PLUG JOINT** is a hot process in-situ constructed expansion system capable of accommodating movements up to 70mm (+/-35mm).

**WABO ASPHALTIC PLUG JOINT** is an integral part of the wearing course of the bridge deck thereby ensuring good ride quality.

**ADVANTAGES**

- Flexible and completely waterproof. Ability to accommodate longitudinal, rotational and transverse movements.
- Easy and quick to repair following accidental damage should this occur.
- Able to withstand extremes of temperature.
- Low surface noise and excellent ride quality
- Quick installation, thereby minimising disruption to traffic flow.
- Can be used across the full depth of the bridge deck
- Will accept Anti-Skid finishes
- Very low maintenance
- Factory batched supply reducing site errors.
Wabo® Asphaltic Plug Joint

High performance asphaltic plug type bridge joint system

PACKAGING

WABO ASPHALTIC PLUG JOINT binder is supplied in 15kg box and silicone lined 40kg bags of aggregate.

Specification compliance WABO ASPHALTIC PLUG JOINT has been tested to the latest ASTM, British Standard and TL Min Specifications. Technical guidelines

Locations with close proximities to traffic lights or joints are generally unsuitable for WABO ASPHALTIC PLUG JOINT due to build up of stationary traffic, which may have a detrimental effect as with all plug-joint systems. The standard WABO ASPHALTIC PLUG JOINT width is 500mm. This may be increased to an absolute maximum of 750mm under certain conditions (Refer to Technical Services). The optimum depth of joint is 100mm and absolute minimum is 40mm. Movement accommodation for standard width and depth of seal installed at mean joint width is total + / - 25mm (50mm). With decreased depth, movement capability is also reduced. Joints to be sealed should of not exceed 45° skew and on area skew, WABO ASPHALTIC PLUG JOINT WIDTH must not exceed 750mm. Vertical movement accommodation of WABO ASPHALTIC PLUG JOINT is a maximum of 1mm and where possible longitudinal seals should be avoided.

4% gradient is the maximum recommended. In situations where gradients in excess of this figure are envisaged, please refer to Technical Services Department.

APPLICATION INSTRUCTIONS

Preparation:
The sealing recess, prior to application of WABO ASPHALTIC PLUG JOINT must be thoroughly prepared by template former for new works or in the case of remedial works; asphalt surfacing is removed to recommended width by saw cutting and jack hammering. The asphalt must be removed completely to expose the deck. All traces of waterproofing membrane must be removed. Failure to do so will form a bond break.

Where previously mechanical joints have been used all fixing bolts must be trimmed flush with deck.

The recess and the expansion joint is cleaned and prepared using a hot compressed air lance, thereby ensuring that the surface is free from contaminants and it is warm, ready to receive the WABO ASPHALTIC PLUG JOINT binder.

WABO ASPHALTIC PLUG JOINT Installation

Ensure that the expansion joint is sealed with good quality cross-linked polyethylene foam. The recess is tanked with hot WABO ASPHALTIC PLUG JOINT binder that has been heated in an approved pre-heater to its application temperature in accordance with International instructions.

Aluminium strip or steel plate as specified is placed over the expansion joint. Aggregate is pre-heated to 150°C - 190°C and placed into the joint to a maximum depth of 40mm but not less than 20mm. The layer is then flooded with the correctly heated binder and the process is repeated until the joint is within 25mm of the surface.
Wabo® Asphalitic Plug Joint

High performance asphalitic plug type bridge joint system

WABO ASPHALTIC PLUG JOINT binder selection table

For final 25mm layer apply pre-mix layer and compact using a compactor or vibrating roller.

Seal surface using WABO ASPHALTIC PLUG JOINT binder only.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Service temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>WABO ASPHALTIC PLUG Binder P1</td>
<td>-5°C  +30°C</td>
</tr>
<tr>
<td>WABO ASPHALTIC PLUG Binder P2</td>
<td>-20°C  +35°C</td>
</tr>
<tr>
<td>WABO ASPHALTIC PLUG Binder P3</td>
<td>-30°C  +35°C</td>
</tr>
<tr>
<td>WABO ASPHALTIC PLUG Binder P4</td>
<td>-0°C  +45°C</td>
</tr>
<tr>
<td>WABO ASPHALTIC PLUG Binder P5</td>
<td>-5°C  +45°C</td>
</tr>
</tbody>
</table>

NOTE

Please refer to technical services department for steel plate thickness and guidance.

In-joint drainage systems may be required. This will depend on site conditions and size of joint. Please refer to technical services department.

HEALTH AND SAFETY PRECAUTIONS

Exercise extreme caution when handling hot binder and aggregate.

Always wear protective overalls, goggles and gloves when handling hot WABO ASPHALTIC PLUG JOINT.

Avoid inhalation of fumes during heating process.

Refer to Material Safety Data Sheet for further information.

Movement Accommodation Table

<table>
<thead>
<tr>
<th>Joint width mm</th>
<th>Joint thickness mm</th>
<th>Maximum movement</th>
</tr>
</thead>
<tbody>
<tr>
<td>750</td>
<td>50-75</td>
<td>± 12</td>
</tr>
<tr>
<td></td>
<td>75-100</td>
<td>± 25</td>
</tr>
<tr>
<td></td>
<td>100+</td>
<td>± 25</td>
</tr>
<tr>
<td>500</td>
<td>50-75</td>
<td>± 12</td>
</tr>
<tr>
<td></td>
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<td>± 25</td>
</tr>
<tr>
<td></td>
<td>100+</td>
<td>± 25</td>
</tr>
<tr>
<td>300</td>
<td>50-100</td>
<td>± 5</td>
</tr>
<tr>
<td></td>
<td>100+</td>
<td>± 5</td>
</tr>
</tbody>
</table>

STATEMENT OF RESPONSIBILITY

The technical information and application advice given in this BASF publication are based on the present state of our best scientific and practical knowledge. As the information herein is of a general nature, no assumption can be made as to a product’s suitability for a particular use or application and no warranty as to its accuracy, reliability or completeness either expressed or implied is given other than those required by law. The user is responsible for checking the suitability of products for their intended use.

NOTE

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