ABA – Asphalt Binder Analyser

LCD touchscreen control
Afterburner for cleaned waste gases
Asphalt binder content affects hot mix asphalt (HMA) mixture performance in the areas of strength, durability, fatigue life, ravelling, rutting and moisture damage.

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The ABA 7/35B is designed to measure the asphalt binder content of hot mix asphalt (HMA) using loss on ignition, in accordance with AASHTO T 308-10, ASTM D6307-10 & BSEN 12697-39:2012.

The integral microprocessor controlled weighing and calculation system is configurable to allow variations to the standard test method. Test result reports are available in both printed and software format. The high temperature afterburner minimises the production of noxious waste fumes. Supplied complete with 2 sets of sample baskets.

Standard features

- Designed to measure asphalt binder content by loss on ignition
- Avoids the health, environmental & waste management issues & expense associated with the older solvent extraction methods
- Reduced emissions due to high temperature afterburner
- Controlled via a multi-lingual touchscreen interface
- Supplied as standard with English, Spanish, French, Chinese, Italian & Russian language display. Other languages are available to order
- Automatic calculation of final sample weight & binder % result
- Adjustable aggregate correction factor
- Precise weight measurements displayed to 0.1 g resolution
- Has the capacity for large sample sizes for more accurate results (maximum sample weight 4.5 kg)
- Average test times from 20 mins for 6 mm aggregates, to 45 mins for 40 mm aggregates
- Permanent (dot-matrix) printed reports
- USB data output compatible with most spread sheets
- Easy naming, storage & recall of recipes that can be transferred between ABA 7/35B units
- Simplified menu structure with secure ‘Supervisor’ & ‘Operator’ settings
Hot mix asphalt (HMA) that has too much asphalt binder may experience problems such as, reduced skid resistance and reduced resistance to permanent deformation, eg rutting.

HMA that has too little asphalt binder may experience reduced fatigue resistance and problems with stripping.

Safe solvent-free binder calculation

Options (specify these at time of order)

- Floor stand
- Sample cooling stand
- Additional sample basket set
- Metal waste gas extraction pipe
- Touchscreen protection film
- Gloves
- Face shield
- Factory fitted thermocouple access port, if temperature calibration is to be carried out

Technical data

<table>
<thead>
<tr>
<th>Model</th>
<th>Max temp (°C)</th>
<th>Dimensions: Internal H x W x D (mm)</th>
<th>Dimensions: External H x W x D (mm)</th>
<th>Max power (W)</th>
<th>Thermocouple type</th>
<th>Weight (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABA 7/35B</td>
<td>750</td>
<td>220 x 350 x 450</td>
<td>980 x 600 x 775 (Bench-top or optional stand)</td>
<td>8000</td>
<td>K</td>
<td>120</td>
</tr>
</tbody>
</table>

Please note:
- The oven is rated at 8 kW for operation on 208/240 V, 50/60 Hz, three or single phase. Please state mains supply when ordering.
- The oven holding power is approximately 3 kW.
Flexible enough for most methods derived from the ASTM, AASHTO and BS/EN loss on ignition standards, the ABA 7/35B replaces the older solvent based test methods. Calibration factors are first calculated, using either pre-determined asphalt mixes as a benchmark or aggregate only samples in order to correct for small amounts of volatile components present within the aggregate itself. Also the effect of airflow passing through the chamber is tested and adjusted by a lift correction factor.

Sample size is based on the aggregates’ nominal particle size, which is collected using standard sampling methods. Its weight before ignition is measured on a balance outside the ABA 7/35B furnace. The appropriate test recipe is entered or selected from the library, the sample is then loaded into the preheated ABA 7/35B and the test is started.

For operator safety the ABA 7/35B’s door remains locked until the test is completed. The end point is automatically detected by the ABA 7/35B using absolute or percentage weight changes, whichever is required by the standard method used. The test end-point is signalled by an audible alarm and the results are automatically printed.