Hamburg Wet & Dry Wheel Tracker
CS9000-1100
AASHTO-T324, STATE STANDARDS, EN 12697-22

INTRODUCTION

The Hamburg (Immersion) wheel tracking test is used to evaluate the resistance to rutting and moisture susceptibility of asphalt mixtures. AASHTO-T324 is the generally referred to test standard, although many states modify this procedure to meet their specific requirements. Outside of the US both AASHTO-T234 and EN12697-22 are followed.

What differentiates the Hamburg from other wheel tracking methods is the use of water to condition the temperature of the specimens rather than air. It is believed that the water, in some tests, strips the aggregate which creates a tertiary phase that is distinct from the permanent deformation which occurs in dry wheel tracking tests. The use of stainless steel wheels on a weighted cantilevered arm, in conjunction with water has led some people to refer to Hamburg wheel tracking as a ‘torture test’. Certainly it is the case that less well constructed machines will shake to pieces due to the aggressive nature of the test. The Cox Hamburg is manufactured in California from thick solid stainless steel. Painted steel panels and parts are not an option for the Hamburg test. Our Hamburg is built to last decades not just a couple of years, which is why it comes with a five year warranty.

A rigid frame construction is also essential for accurate results. Cheaply produced machines will flex and vibrate with deeper rut depths. Quality of machine and quality of test results go hand in hand.

The Cox Hamburg will output more precise and accurate results than any other Hamburg machine – guaranteed.

KEY FEATURES

- Full super rigid stainless steel construction
- The most rugged, precise and accurate Hamburg wheel tracker available
- Auto arm lift for fully automated test procedure and user safety
- True sinusoidal motion
- Mechanical recirculating water bath for accurate control of the water temperature to better than ±0.5°C
- Two displacement transducers with a resolution of 0.01mm, positioned in line with the wheel to ensure accurate measurement of the rut
- Continuous rut and rut profile measurement throughout the test
- Analysis software to automatically pick the inflection point and analyse the output data
- Air hood option for dry tests
- Stainless steel and rubber wheels available
- Inbuilt timer to start tests automatically
- AASHTO T324, a variety of DOT methods and EN12697-22
- Anytime remote access support
- Quality build in the USA

SOFTWARE

- User friendly, intuitive and reliable Windows® software developed using LabVIEW™
- Full software control of arms individually at outset and completion of test
- The operator is guided through every step of the test. Real-time display of current water temperature, specimen temperature and rut depth
- Data is recorded to disk at regular intervals for further analysis
- Utilities are included for transducer check, diagnostic routines and calibration. Excel® import data output

SPECIFICATIONS

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wheel Speed</td>
<td>Variable between 15 and 30 cycles (30 to 60 passes) per minute</td>
</tr>
<tr>
<td>Wheel Load</td>
<td>705 ± 4.5N (158 ± 1.0lbf)</td>
</tr>
<tr>
<td>Variable Speed Range RPM</td>
<td>15 to 30</td>
</tr>
<tr>
<td>Slab Thickness (mm)</td>
<td>50 - 100 (2-4) (different thicknesses can be tested with spacers)</td>
</tr>
<tr>
<td>Rut Depth Transducer Range (mm)</td>
<td>50 (2)</td>
</tr>
<tr>
<td>Temperature Range</td>
<td>Ambient to 70 ºC (158°F)</td>
</tr>
<tr>
<td>Electrical Supply</td>
<td>1 Ph 220-240 V 15 A (single phase with a neutral and ground)</td>
</tr>
<tr>
<td>Dimension (WxDxH) (mm)</td>
<td>1430 x 1380 x 1260 (57 x 55 x 50)</td>
</tr>
<tr>
<td>Estimated Weight Kg (lb)</td>
<td>687 (1520)</td>
</tr>
<tr>
<td>PC</td>
<td>Included</td>
</tr>
</tbody>
</table>

ACCESSORIES

- CS9000-8110-00
  Powered winch & stainless steel mast
- CS9000-8120-00
  Guarding - stainless steel
- CS-WTIM-HD
  Optional air heating hood