



750°C Asphalt Binder Analyzer



ABA 7/35/301

The asphalt binder analyzer is supplied with four sample baskets, two basket covers, four basket cover locking clips, two support trays, loading handle, cooling cage and printer paper.

The Carbolite Model ABA 7/35 Asphalt Binder Analyzer is specifically designed to determine the asphalt binder content of hot mix asphalt by the loss-on-ignition method. The analyzer is fully compliant with all ASTM, AASHTO and BS standards specifying the process and equipment for this procedure. The analyzer combines a sophisticated furnace and weighing system that continuously measures the weight loss of a bituminous mixture during combustion, and automatically calculates the binder content of the asphalt. Carbolite's Asphalt Binder Analyzer is widely recognized for its superior design, high quality construction, durability, and trouble-free service.

Design & Construction Features

- The primary customer interface for data input is through a large, high resolution, backlit display. This easy-to-read display helps to guide the operator with user friendly instructions regarding the analyzer set-up and data input.
- The Carbolite furnace accepts the industry's largest hot mix asphalt (HMA) test sample, up to 5000 grams (11 lbs.), for analysis in a single test.
- The ABA 7/35 is fitted with a state-of-the-art Ohaus balance. Using standard weights, this balance can easily be calibrated and leveled while installed in the furnace.
- The unique design of the balance pan extension and basket support, ensures that the sample tray is properly guided into position every time it is placed in the chamber.
- Long-life free radiating heating element design.
- Low thermal mass ceramic fiber insulation and high power heating elements combine to provide fast heat-up. Furnace reaches operating temperature in 20-30 minutes.
- Carbolite's Model 301 digital PID temperature controller utilizes the latest temperature control technology to precisely control both the main chamber and after burner chamber process temperatures.
- The ABA 7/35 is equipped with a printer that provides a permanent record of all tests.
- The analyzer software incorporates a lift compensation factor, which allows for the lift created by the extraction fan and the reduced air density.
- Furnace cabinetry is designed for bench mounting, or may be set on an optional support stand.

Safety Features

- The analyzer door is automatically locked during the test, and will remain locked even with interruption of power.
- An independently controlled afterburner with exhaust fan and vent is designed to substantially reduce furnace emissions. The unit is fully compliant with the relevant emission standards, without requiring a filter system.
- Low outer case temperature provided through double shell construction.
- Positive break door safety switch isolates power to the heating elements when door is opened.

Asphalt Binder Analyzer											
Furnace Model	Max. Temp. (°C)	Internal Chamber Dimensions Inches (mm)			TC Type	Max. Power (kW)	Furnace Voltage	External Dimensions Inches (mm)			Shipping Weight (lb.)
		Height	Width	Depth				Height*	Length	Depth	
◆ ABA 7/35	750	8.50 (220)	13.75 (350)	17.75 (450)	K	8.0	208/240	38.50 (980)	23.75 (600)	29.50 (750)	380

◆ Stock Product

*Furnace chimney extends 10" above furnace case.



Test Related Features & Benefits

- The ability of the ABA 7/35 to accurately measure weights to .1 gram, temperatures to 1 degree, and binder content, weight loss and asphalt calibration factor to .01 percent delivers precise test results time and time again.
- Typical test times range from 20 to 40 minutes, based on the diameter of the largest aggregate.
- The Carbolite asphalt analyzer will automatically calculate the "Asphalt Calibration Factor" when conducting a test with a known binder content.
- All test set-up parameters can be saved with unique (customer specified) file names into libraries, and easily recalled for use at a later date.
- The Carbolite asphalt binder analyzer automatically determines the calibration factor for both "asphalt mix" and "dry aggregate". The analyzer can calculate binder contents using calibration factors based on asphalt mixes and dry aggregate samples without the need for a conversion between the two.
- A test sample must always be externally weighed prior to beginning the ignition test procedure. This sample weight can be input manually, or entered automatically via an Ohaus balance connected to the analyzer via RS 232 digital communications. This automated procedure removes any possibility of operator error.

The Test

Once the test has commenced, the door is automatically locked for the entire period of the test and the extraction fan is automatically started. During the test, the large backlit LCD display shows the asphalt sample weight to a display accuracy of 0.1 g, the present weight loss (both in grams and as a %), the rate of change of sample weight and also the duration of the test. This unique display gives an immediate indication of the progress of the test. The binder content, percentage weight loss and calibration factor are measured to 0.01%.

At the end of the test, which is signaled by an audible alarm, the display changes to clearly show the binder content of the sample, the door is unlocked and the results are printed. A choice of print-outs is available; either as a final end of test analysis or as a continuous print-out showing results every minute including a final end of test analysis. Additional print outs can be requested at the end of the test for permanent records or for test documentation.

The final printed test results include the furnace setpoint temperature, sample weight, final weight, weight loss in grams, percent weight loss, calibration factor, test run time, and time and date.

Asphalt Binder Analyzer Control Panel

