

Asphalt Binder and Mixture Laboratory (ABML) Look-In



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ABML—Implementation and Delivery (ABML-ID)

Founded in 2019, ABML-ID is a partnership between the Office of Preconstruction, Construction, and Pavements; Office of Infrastructure Research and Development; and the Resource Center to actively support implementation-focused activities that advance research products into field evaluation and deployment. The ABML-ID supports the FHWA Mobile Asphalt Technology Center (MATC) in providing technical expertise to the asphalt pavement community. ABML-ID also focuses on projects of national interest from State departments of transportation (DOTs) and stakeholders. The ABML-ID project-selection process is shown below.

ABML-ID Project Selection Process



Source: FHWA.

Current Project Highlights

Assessing Automated Extraction Technology

ASTM D8159 Standard Test Method for Automatic Extraction of Asphalt Binder from Asphalt Mixtures¹

The ABML-ID is assessing automated asphalt extraction technology prescribed in ASTM D8159.¹ Evaluations will be based on the comparison of high, intermediate, and low-temperature physical properties changes of asphalt binders, reclaimed asphalt pavement (RAP), and binder blended with RAP extracted using the traditional AASHTO T 164 Method A and automated extraction.²

State of the Practice

The following State Highway Agencies (SHA) are currently using ASTM D8159¹:

- Georgia DOT (viscosity of recovered RAP).
- Illinois DOT (asphalt binder content and gradation of RAP).
- Wisconsin DOT (asphalt binder content and performance grade).
- Iowa DOT (asphalt binder content).

¹ ASTM International Vol 04.03 Road and Paving Materials, July 30, 2019.

² American Association of State Highway and Transportation Officials T 164 “Standard Method of Test for Quantitative Extraction of Asphalt Binder from Hot Mix Asphalt (HMA).”

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Benefits

Reported benefits of using ASTM D8159¹ by SHA users include:

- Reduction of sources of variability due to automated process.
- Ease of use.
- Less hazardous material exposure.
- Reduction in purchase and disposal costs of trichloroethylene.
- Determination of asphalt binder content and gradation in one working day.

Future Plans

- Propose a new asphalt binder recovery procedure that is safe, efficient, and cost effective.
- Provide guidance to partner agencies on automated extraction’s effect on performance grades and impact on blending charts.



Automated Extractor

Source: FHWA.

