FHWA InfoMaterials™

https://infopave.fhwa.dot.gov/InfoMaterials

Gateway to the Federal Highway Administration (FHWA) Infrastructure Research and Materials Testing Data

U.S. Department of Transportation
Federal Highway Administration

The FHWA InfoMaterials Web portal is a centralized gateway to infrastructure research and materials testing data. It provides an efficient interface with visualization capabilities enabling users to explore the data.
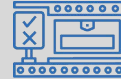
The FHWA InfoMaterials Web portal offers storage, retrieval, dissemination, and visualization capabilities for highway infrastructure research data collected through FHWA, State, and other national efforts.

Following are the datasets included in the InfoMaterials 2021 release. More data and additional datasets will be added as they become available.

Traffic Speed Deflection Device (TSDD)

This dataset contains pavement deflection and surface distress data collected at traffic speed for a pooled fund study to demonstrate the potential for network-level evaluation of pavement structural capacity.
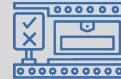
Asphalt Binder Tester (ABT)

The Asphalt Binder and Mixture Laboratory (ABML) developed the ABT for rapid quality control of binders' grades as specified for highway construction in the field. This dataset contains example data from the ABT device.

Continuous Friction Measurement (CFM)

This dataset contains pavement surface macro-texture and skid resistance data collected using continuous friction measurement equipment to promote network-level pavement friction management programs.

Double-Edge-Notched Tension Test (DENT)

This dataset reflects the research by the Asphalt Binder and Mixture Laboratory (ABML) to develop the DENT test method using the fracture approach to characterize fatigue performance of asphalt materials.

Performance-Related Specifications (PRS)

This dataset contains research data used to develop and verify mechanistic based models and testing for performance prediction of asphalt pavements.

Mobile Concrete Technology Center (MCTC)

The MCTC dataset contains traditional and state-of-the-art materials testing, mixture design, and pavement construction data collected on a variety of pavement projects through the FHWA mobile concrete program.

Wide-Base Tires (WBT)

This dataset contains research data resulted from a comprehensive study comparing the new-generation WBT with the standard dual-tire wheel assembly.

Asphalt Research Consortium (ARC)

The ARC dataset contains the research results of pavement materials testing conducted by participants from six asphalt expert organizations.

Commonly used InfoMaterials features are briefly described below.

Find Datasets and Find Data

The Find Datasets feature allows the users to narrow the selection to datasets of interest. Users can apply filters to find datasets corresponding to test methods, material types, program/study, etc.

The Find Data feature allows users to find relevant data within a specific dataset. Users can apply filters to find data records corresponding to dataset-specific criteria. The result of filtering the data is then reflected in other features.

Data Selection and Export

Users can preview and select data tables from the displayed selection tree to export in Microsoft®Excel or Microsoft®Access format. Users have the option to download all data tables and files in a compressed file or download them separately. For more complex datasets, a database design diagram is provided to illustrate the relationship among the data tables.

Maps

The Maps feature shows data availability within each dataset on a thematic map by country or by state. Selecting a data attribute will display a heat map highlighting the countries or States based on the amount of data available for the specified attribute. Users can also download all data tables in the dataset for the selected country or state.

Graphs

The Graphs feature provides visualization of the data in scatter plots, line charts, bar charts, etc. Graphs are selected based on the primary objectives of the program or study that generated the dataset. The graphs are organized in a collapsible accordion panel, and there is an option to export the graph's underlying data in Microsoft Excel file format.

References

The References section under each dataset includes a bibliography of relevant publications, including research reports, papers, book chapters, etc. that describe the objectives, results, or insights from the study or project that generated that dataset. A list of the test specifications, standards, and guidelines used for data collection is also provided.

Data Selection and Export - Source: FHWA

Maps - Source: FHWA

Graphs - Source: FHWA

FHWA InfoMaterials: an intuitive and user-friendly interface to access, visualize, and synthesize infrastructure research data.

InfoMaterials is a Web-based portal that provides easy access to FHWA's infrastructure research and materials testing data. First published in January 2020, InfoMaterials is designed as a user-friendly portal to host datasets containing characterization data of asphalt and concrete materials; pavement performance testing and analysis results; and many other types of structured and unstructured research data. The data are supplemented by extensive metadata, descriptions, and references to assist users with their understanding of the datasets. Features such as data maps, graphs, and filtering capabilities are incorporated for improved visualization and navigation within each dataset.

Data   **Graphs**   **Maps**

The InfoMaterials Web portal is being developed and maintained by the Long-Term Infrastructure Performance (LTIP) team within the FHWA Office of Infrastructure Research and Development. FHWA strives to advance the understanding of highway infrastructure performance crucial to effectively managing transportation assets. The FHWA investment in obtaining and disseminating this data is supported by and for both public and private-sec-tor research organizations that apply the data to address a variety of infrastructure performance needs of local, State, regional, and national interest.

Key benefits of the Web portal include:

- Improving the accessibility and transparency in FHWA infrastructure research data so that all may benefit from its availability.
- Promoting pavement and materials research conducted, sponsored, or coordinated by FHWA.
- Enhancing organization and functionality of the FHWA infrastructure research data so that researchers can use, expand, and integrate the datasets.
- Minimizing duplication of research by making data easily accessible to everyone.
- Facilitating internal and external data sharing and cooperation among research programs.
- Providing future transportation professionals with access to pavement research and materials testing data for training and academic use.
- Ensuring compliance with the Open, Public, Electronic, and Necessary (OPEN) Government Data Act.

As more datasets become available on the InfoMaterials Web portal, more of these benefits will be realized.

For more information about FHWA InfoMaterials, contact the LTIP Customer Support Service Center at (202) 493-3035 or ltppinfo@dot.gov

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