

The Development and Preparation of Specifications for Using Recycled Materials in Transportation Applications



COMPLETE!

Recycled Materials Resource Center



University of New Hampshire



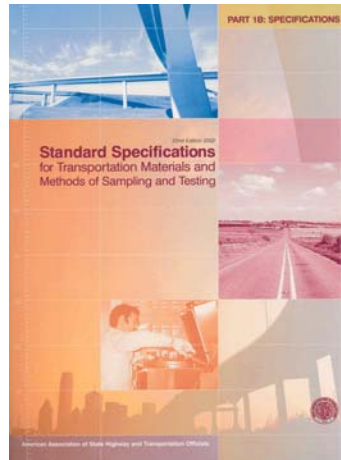
Federal Highway Administration

The final report for Project 13/14 is available on-line at:

<http://www.rmrc.unh.edu/Research/Rprojects/Project13/p13finalreport.asp>

Project Description

This project was completed in December 2003, however, draft specifications developed as part of this project are still under active consideration by AASHTO, so reporting on this project will continue until the status of all outstanding specifications has been finalized. As described in the last annual report, Chesner Engineering began this project by assembling a Technical Advisory Group or "TAG" from the DOTs of California, Florida, Illinois, Massachusetts, Michigan, Minnesota, New Hampshire, New Jersey, New York State, North Carolina, Ohio, Pennsylvania, Texas, and Wisconsin to provide input on which recycled materials and applications were of the greatest interest to State DOTs. A survey of the TAG members identified six material/application combinations that ranked as high priority items. The remainder of the project focused on developing AASHTO specifications to provide guidance for using the chosen recycled materials. To date, two specifications have been approved by national and published in AASHTO's *Standard Specifications for Transportation Materials and Methods of Sampling and Testing*. The first of these was, "Standard Specification for Glass Cullet Use for Soil-Aggregate Base Course," [M 318-01] published in 2001, followed by, "Use of Recycled Concrete as an Aggregate Substitute Material in Granular Base," [M-319-02] in 2002.



The third specification, "Use of Recycled Concrete as an Aggregate Substitute in PCC Pavements," was accepted by AASHTO Subcommittee on Materials (SOM) Technical Section 1c in 2002, but was sent to committee for further work. The revised specification will be considered at the 2004 SOM Annual Meeting. The draft specification for coal fly ash in embankments that was tabled in 2002 by Technical Section 1a has been rewritten as a provisional practice, but it may not be reconsidered until the 2005 SOM Annual Meeting. A draft specification for reclaimed asphalt pavement as an aggregate in asphalt concrete has been withdrawn because another draft specification from a different research group has been introduced. The last specification for the use of roofing shingle scrap as an aggregate for asphalt concrete was presented at the Shingle Recycling Forum in Minneapolis in April, 2002. The draft specification was revised after receiving feedback from the forum attendees and was submitted to SOM Technical Section 2c for consideration in the fall of 2003. The shingle specification will be reviewed for the first time at the 2004 SOM Annual Meeting. Copies of all white papers and draft specifications are available on the RMRC website.

Project Partners

Caltrans, Florida DOT, Illinois DOT, MassHIGHWAY, Michigan DOT, Minnesota DOT, New Hampshire DOT, New Jersey DOT, New York State DOT, North Carolina DOT, Ohio DOT, Pennsylvania DOT, Texas DOT, and Wisconsin DOT.

End Products

Five specifications will be submitted to AASHTO for adoption:

- Glass Cullet for Use for Soil-Aggregate Base Courses
- Use of Reclaimed Concrete Aggregate for Unbound Soil-Aggregate Base Course
- Use of Recycled Concrete as an Aggregate Substitute in PCC Pavements

- Use of Reclaimed Asphalt Pavement as Aggregate in Asphalt Concrete (As Prepared at Hot Mix Plants)
- Use of Roofing Shingle Scrap as an Aggregate in Asphalt Concrete

Further Information

The Recycled Materials Resource Center (RMRC), a cooperative agreement between the University of New Hampshire and the Federal Highway Administration, is a national center that promotes the appropriate use of recycled materials in the highway environment. Its focus is on the long-term performance and environmental implications of using recycled materials.

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