

AASHTO Emulsion Task Force Ponders Specs

BY JIM MOULTHROP, P.E.

The American Association of Highway and Transportation Officials (AASHTO) Transportation System Preservation Program (TSP•2) has been the home of the asphalt *Emulsion Task Force* (ETF) since 2014. The ETF is working to develop standard specifications for materials used in pavement preservation.

Previously, the ETF was administered by the Federal Highway Administration (FHWA) Pavement Preservation Expert Task Group (PPETG). Today's ETF is composed of numerous members from state DOTs, contractors, material suppliers, equipment suppliers and academia.

It's managed by co-chairs from government and industry, **Colin Franco**, Rhode Island DOT, and **Chris Lubbers**, Kraton Polymers. There are six subcommittees in the ETF ranging from binder specifications, spray applications, mixtures and research.

The ETF's mission is to advance the effort to develop performance-based methods and specifications for asphalt emulsions, and a major goal is the development of surface performance-graded (SPG) emulsions.

Other tasks are to encourage adoption of uniform national standards, advance quality assurance, training, and certification, and ensure the implementation of new test methods, quality systems, and future research.

MANDATE FOR SPECS

Specifications are published by AASHTO each year. Annual revisions are voted on by the AASHTO Committee on Materials and Pavements representing all member departments. If approved by at least two-thirds of the member departments, the specification becomes a standard.

A standard is designated as reconfirmed if it has undergone technical review to determine that it is up to date and in use, and that it does not require revision; such a review is required every four years for a full standard, and every one or two years for a provisional standard, depending on its progress through its eight-year provisional life cycle.

The suffix number designation refers to the year. A two digit number is the revision year and a four digit number is the reconfirmation year.

The original mandate of the ETF under the FHWA—and continued under the TSP•2 program—is to do the following:

- Develop performance-based methods and specifications for surface performance grade (SPG) asphalt emulsions SPG, and
- Develop specifications for emulsion treatments in AASHTO format including materials specifications, design practices, and construction guides (including quality assurance specifications).

The distribution of work within the ETF to date has been to the Binder (emulsion) Subcommittee for the Development of Material Specifications, and the Spray and Mix Subcommittee for the Development of Material Specifications and Design practices. Tables 1 and 2 indicate the material and design practices that have been developed to date and are currently published on the AASHTO website.

Asphalt Emulsion Standards

- ▶ Emulsified Asphalt ▶ M 140-16
- ▶ Cationic Emulsified Asphalt ▶ M 208-16
- ▶ Polymer-Modified Cationic Emulsified Asphalt ▶ M 316-16

Table 1: Current asphalt emulsion standards, M = Materials, full standard

Asphalt Emulsion Treatments

Treatments	Materials	Design Practices
Chip Seal	MP 27-16	PP 82-16
Cold In-Place Recycling	MP 31-17	PP 86-17
Fog Seal	MP 33-17	PP 88-17
Micro surfacing	MP 28-16	PP 83-16
Sand Seal	MP 34-18	PP 90-18
Scrub Seal		PP 91-18
Slurry Seal	MP 32-17	PP 87-17

Table 2: Current asphalt emulsion treatment standards, MP = Materials, provisional standard, PP = Practice, Provisional standard (known as design practice)

FUTURE: SCRUB SEALS, UTBOs


Additional work currently underway with the ETF is the development of

- Materials specifications for scrub seals,
- Materials specifications and design practices for ultra thin bonded wearing courses, also called ultra-thin bonded overlays (UTBOs),
- Foam asphalt stabilization and
- Quality assurance guidelines for all preservation treatments.

Work on performance-based methods and specifications for SPG asphalt emulsions has been underway with work conducted at the Texas Transportation Institute (TTI) and North Carolina State University (NCSSU).

An in-house test program to support the efforts has been conducted and is being analyzed by the Asphalt Institute.

Lastly, a new National Cooperative Highway Research Program (NCHRP) project is expected to be funded soon that will continue the work conducted by TTI and NCSU.

Read more about the ETF at <http://tsp2-etf.org/> 

Moulthrop is executive director, FP² Inc., and is co-chair of the ETF Subcommittee on Design Group: Mixtures. Adapted from a presentation at the annual meeting of the AASHTO Maintenance Committee in Charlotte, July 2018