

D04/Road and Paving Materials

## Grade Performance of Road Pavement Materials

A new ASTM International standard will help grade the performance of pavement materials. The new specification (D8239) provides performance standards for liquid asphalt used in road construction, using the multiple stress creep and recovery test. The classifications rate an asphalt for resistance to: high temperature rutting, low temperature cracking, and durability over a range of temperatures and traffic loads.

"This standard will be used by pavement materials and design engineers to ensure pavements will last as long as intended," says ASTM International member Bob Kluttz, Kraton Polymers. Kluttz adds that engineers will specify performance grades for their projects, and asphalt producers will use the standard's tests on their products. Contractors, agencies, and third-party test laboratories will also use the standard to conduct quality assurance testing.

The new ASTM standard has an equivalent standard (M332) published by the American Association of State Highway and Transportation Officials. ASTM and AASHTO, through the cooperation of U.S. Federal Highway Administration expert task groups, cooperate to improve both sets of standards and keep them in sync, according to Kluttz.

This standard was approved by the ASTM International committee on road and paving materials (D04).

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E54/Homeland Security Applications

## Synthetic Opioid Detection

ASTM International's committee on homeland security applications (E54) is developing a proposed standard (WK66045) that will allow first responders and others to more effectively use equipment and assays while field testing unknown, potentially dangerous materials that may contain drugs, particularly synthetic opioids.

"This standard will provide a means to consistently and objectively test equipment and assays used for detection of fentanyl and fentanyl-related compounds in the field," says ASTM International member Rich Ozanich, senior research scientist, Pacific Northwest National Laboratory National Security Directorate. "Systematically testing such equipment and assays will enable a clear understanding of their performance and potential weaknesses, which in turn will allow better-informed procurement decisions."

Ozanich says that first responders, including police, hazardous materials teams, and emergency medical technicians, will be the primary users of the standard. In addition, federal, state, and local agencies involved with drug interdiction, such as Customs and Border Control and the Drug Enforcement Administration, as well as manufacturers of field detection equipment and assays, will find the new standard beneficial.

The homeland security applications committee welcomes participation, particularly from the local, state, and federal first responder community, in the development of this proposed standard.

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D19/Water

## Corrosion in Petrochemical Pipelines

Refining, petrochemical, and pipeline companies could benefit from a new ASTM International test method (D8243) that will help detect quantities of a corrosion-inducing bacteria in water. The real-time detection of such bacteria allows faster and more accurate remediation, which in turn reduces corrosion costs in pipelines and equipment.

"Sulfate-reducing bacteria has been identified as a major contributor to microbiologically induced corrosion," says ASTM International member Alan McQuillin, senior vice president of operations and technology at Modern Water. He says the annual estimated cost of such corrosion to the oil and gas industry ranges from \$4 billion to \$30 billion.

"The proposed method allows for significantly faster and easier detection of the bacteria versus conventional test methods," McQuillin says.

Specifically, the test outlined in the standard uses the enzyme-linked immunosorbent assay to detect sulfate-reducing bacteria. Internal and external laboratories supporting petrochemical and pipeline companies could find the standard useful.

ASTM International's committee on water (D19) developed the new standard and welcomes participation in its standards developing work.

The next meeting of the committee is June 24-26 in Denver, Colorado.

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