



# ASTM International

October 27, 2008  
RPUG Meeting

# ASTM Overview

- Established in 1898
- Private, Not For Profit
- Provides forum for the development of technical consensus standards
- Over 30,000 members from over 100 countries
- 12,000 standards from 140 technical committees

# Technical Committee Examples

- Petroleum
- Plastics
- Environment
- Steel
- Soil and Rock
- Amusement Rides
- Consumer Products
- Water
- Fire
- Road and Paving Materials
- Concrete and Cement
- Pesticides
- Healthcare Informatics
- Ship Building
- Textiles

# E17 on Vehicle-Pavement Systems

- Formed in 1960
- 10 Technical Subcommittees, 6 Administrative
- 200 Members from 18 different countries
- 63 Approved Standards
- Meet Face-to-Face twice per year
- Virtual/teleconference meetings as needed

# E17 on Vehicle-Pavement Systems

**Committee Scope** - The stimulation of research, dissemination of knowledge and development of principles, techniques and standards for pavement management technologies, vehicle pavement interactions and Intelligent Transportations Systems (ITS).

# Membership

- Open to all stakeholders and those having an interest
- Do not have to be a member to participate
- \$75.00/year—Free Volume of standards
- Reduce barriers to participation
- Wider participation translates to better standards

# E17 on Vehicle-Pavement Systems

- E17 Stakeholders Represented
  - Equipment manufacturers
  - State DOT's
  - Federal Government (FHWA, FAA, NASA)
  - Tire/Auto manufacturers
  - Testing Facilities
  - Academia

# E17 on Vehicle-Pavement Systems

- **10 Technical Subcommittees**
  - [E17.14](#) Terminology
  - [E17.21](#) Field Methods for Measuring Tire Pavement Friction
  - [E17.23](#) Surface Characteristics Related to Tire Pavement Slip Resistance
  - [E17.24](#) Tire and Slider Characteristics
  - [E17.31](#) Methods for Measuring Profile and Roughness
  - [E17.33](#) Methodology for Analyzing Pavement Roughness
  - [E17.41](#) Pavement Testing, Evaluation, and Management Methods
  - [E17.51](#) Vehicle Roadside Communication
  - [E17.52](#) Traffic Monitoring
  - [E17.54](#) Archived Data User Service



## E17.21 Field Methods for Measuring Tire Pavement Friction

- E274-06 Standard Test Method for Skid Resistance of Paved Surfaces Using a Full-Scale Tire
- E445/E445M-88(2008) Standard Test Method for Stopping Distance on Paved Surfaces Using a Passenger Vehicle Equipped With Full-Scale Tires
- E503/E503M-88(2004) Standard Test Methods for Measurement of Skid Resistance on Paved Surfaces Using a Passenger Vehicle Diagonal Braking Technique
- E556-95(2006) Standard Test Method for Calibrating a Wheel Force or Torque Transducer Using a Calibration Platform (User Level)
- E670-94(2000) Standard Test Method for Side Force Friction on Paved Surfaces Using the Mu-Meter

## E17.21 Field Methods for Measuring Tire Pavement Friction (Continued)

- E1337-90(2008) Standard Test Method for Determining Longitudinal Peak Braking Coefficient of Paved Surfaces Using Standard Reference Test Tire
- E1859-97(2006) Standard Test Method for Friction Coefficient Measurements Between Tire and Pavement Using a Variable Slip Technique
- E1890-01(2006) Standard Guide for Validating New Area Reference Skid Measurement Systems and Equipment
- E1960-07 Standard Practice for Calculating International Friction Index of a Pavement Surface
- E2340-06 Standard Test Method for Measuring the Skid Resistance of Pavements and Other Trafficked Surfaces Using a Continuous Reading, Fixed-Slip Technique
- E2341/E2341M-05 Standard Test Method for Determining the Stopping Distance Number by Initial Speed and Stopping Distance at Traffic Incident Sites

## E17.23 Surface Characteristics Related to Tire Pavement Slip Resistance

- E303-93(2008) Standard Test Method for Measuring Surface Frictional Properties Using the British Pendulum Tester
- E660-90(2007) Standard Practice for Accelerated Polishing of Aggregates or Pavement Surfaces Using a Small-Wheel, Circular Track Polishing Machine
- E965-96(2006) Standard Test Method for Measuring Pavement Macrotexture Depth Using a Volumetric Technique
- E1845-01(2005)e1 Standard Practice for Calculating Pavement Macrotexture Mean Profile Depth
- E2157-01(2005) Standard Test Method for Measuring Pavement Macrotexture Properties Using the Circular Track Meter
- E2380-05 Standard Test Method for Measuring Pavement Texture Drainage Using an Outflow Meter

## E17.24 Tire and Slider Characteristics

- E501-08 Standard Specification for Standard Rib Tire for Pavement Skid-Resistance Tests
- E524-08 Standard Specification for Standard Smooth Tire for Pavement Skid-Resistance Tests
- E1551-08 Standard Specification for Special Purpose, Smooth-Tread Tire, Operated on Fixed Braking Slip Continuous Friction Measuring Equipment
- E1844-08 Standard Specification for A Size 10 × 4–5 Smooth-Tread Friction Test Tire

## E17.31 Methods for Measuring Profile and Roughness

- E950-98(2004) Standard Test Method for Measuring the Longitudinal Profile of Traveled Surfaces with an Accelerometer Established Inertial Profiling Reference
- E1082-90(2007) Standard Test Method for Measurement of Vehicular Response to Traveled Surface Roughness
- E1215-93(2007) Standard Specification for Trailers Used for Measuring Vehicular Response to Road Roughness
- E1274-03(2008) Standard Test Method for Measuring Pavement Roughness Using a Profilograph

## E17.31 Methods for Measuring Profile and Roughness (Continued)

- E1364-95(2005) Standard Test Method for Measuring Road Roughness by Static Level Method
- E1448-92(2004) Standard Practice for Calibration of Systems Used for Measuring Vehicular Response to Pavement Roughness
- E1703/E1703M-95(2005) Standard Test Method for Measuring Rut-Depth of Pavement Surfaces Using a Straightedge
- E2133-03 Standard Test Method for Using a Rolling Inclinator to Measure Longitudinal and Transverse Profiles of a Traveled Surface
- E2560-07 Standard Specification for Data Format for Pavement Profile

## E17.33 Methodology for Analyzing Pavement Roughness

- E1170-97(2007) Standard Practices for Simulating Vehicular Response to Longitudinal Profiles of Traveled Surfaces
- E1489-08 Standard Practice for Computing Ride Number of Roads from Longitudinal Profile Measurements Made by an Inertial Profile Measuring Device
- E1926-08 Standard Practice for Computing International Roughness Index of Roads from Longitudinal Profile Measurements
- E1927-98(2007) Standard Guide for Conducting Subjective Pavement Ride Quality Ratings
- E2034-99(2007) Standard Practices for Simulating Truck Response to Longitudinal Profiles of Vehicular Traveled Surfaces



## E17.41 Pavement Testing, Evaluation, and Management Methods (Continued)

- D1195-93(2004) Standard Test Method for Repetitive Static Plate Load Tests of Soils and Flexible Pavement Components, for Use in Evaluation and Design of Airport and Highway Pavements
- D1196-93(2004) Standard Test Method for Nonrepetitive Static Plate Load Tests of Soils and Flexible Pavement Components, for Use in Evaluation and Design of Airport and Highway Pavements
- D4602-93(2008) Standard Guide for Nondestructive Testing of Pavements Using Cyclic-Loading Dynamic Deflection Equipment
- D4694-96(2003) Standard Test Method for Deflections with a Falling-Weight-Type Impulse Load Device



## E17.41 Pavement Testing, Evaluation, and Management Methods (Continued)

- D4695-03(2008) Standard Guide for General Pavement Deflection Measurements
- D4748-06 Standard Test Method for Determining the Thickness of Bound Pavement Layers Using Short-Pulse Radar
- D5340-04e1 Standard Test Method for Airport Pavement Condition Index Surveys
- D5858-96(2008) Standard Guide for Calculating In Situ Equivalent Elastic Moduli of Pavement Materials Using Layered Elastic Theory
- D6433-07 Standard Practice for Roads and Parking Lots Pavement Condition Index Surveys
- D6951-03 Standard Test Method for Use of the Dynamic Cone Penetrometer in Shallow Pavement Applications

## E17.41 Pavement Testing, Evaluation, and Management Methods (Continued)

- D7228-06a Standard Test Method for Prediction of Asphalt-Bound Pavement Layer Temperatures
- E1166-00(2005) Standard Guide for Network Level Pavement Management
- E1656-06 Standard Guide for Classification of Automated Pavement Condition Survey Equipment
- E1777-96(2002) Standard Guide for Prioritization of Data Needs for Pavement Management
- E1778-98a(2008) Standard Terminology Relating to Pavement Distress
- E1889-97(2002) Standard Guide for Pavement Management Implementation
- E2583-07 Standard Test Method for Measuring Deflections with a Light Weight Deflectometer (LWD)

# ASTM Consensus Process

# General Overview of Different Levels of Balloting

**The Committee on Standards (COS)**

**Main Committee Ballot / Society Review**

**Subcommittee Ballot**

**Task Group**

# Voting vs. Non Voting Status

# Voting Rights - Voting vs. Non-Voting

- 1 official vote per interest (company)
- All are welcome to participate in technical discussions
- All members receive a ballot and are eligible to vote on technical issues
- All negatives are considered the same way
- **ONLY** voting members count toward numerical requirements of percent return and percent affirmative

# Subcommittee Balloting

- Subcommittee ballots Authorized by subchairman or a motion at the subcommittee meeting
- New standards and Major revisions
- Ballot Open for Minimum of 30 Days
- Qualifications for Valid Subcommittee Ballot – 60% return and 2/3 affirmative
- Negatives and Comments must be properly considered.

# Initiation of Main Committee Ballots

- **Submittal Requirements**
  - Results of subcommittee ballot
  - Name and affiliation of negative voters
  - Negative voters statements
  - Subcommittee negative resolution including rationale
- **Open for 30 Days**
- **Simultaneous with Society Review**



# Qualifications for Valid Main Committee Ballots

- 90% Affirmative of Combined Affirmative and Negative Votes
- 60% Return
- Successful Resolution of all Negatives

# Possible Resolution of Negatives

- Persuasive
- Withdrawn
- Not Persuasive – Requires a 2/3 affirmative vote from voting main committee members
- One persuasive negative causes the process to start over.

# Society Review

- In Tandem with Main Committee Ballot
- Notifications posted on ASTM Website
- Requirements
  - Disposition of All Negatives

# Committee on Standards (COS)

- 9 Member Group Representing ASTM Committees
- Due Process
- Appeals Based on Procedural Matters (NOT Technical)
- COS Ballot Procedures
- Final Approval

# Thank you

ASTM Website:

[www.astm.org](http://www.astm.org)

E17 Homepage:

[www.astm.org/COMMIT/E17.htm](http://www.astm.org/COMMIT/E17.htm)