
Standard Practice for Ultrathin Bonded Wearing Course Design

AASHTO Designation: R 108-22¹

Adopted: 2022

Technical Subcommittee: 5b, Bridge and Pavement Preservation



**American Association of State Highway and Transportation Officials
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1. SCOPE

- 1.1. This standard practice for ultrathin bonded wearing course includes a mix design evaluation for the asphalt surface mixture, usually $\frac{1}{2}$ to 1 in. (12.5 to 25.4 mm) thick, to determine the proportions of polymer-modified emulsified asphalt that is used as the tack coat, PG binder, mineral aggregate, mineral filler, and additives to produce an ultrathin bonded wearing course job-mix formula.
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2. REFERENCED STANDARDS

- 2.1. *AASHTO Standards:*
- M 295, Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete
 - M 303, Lime for Asphalt Mixtures
 - M 316, Polymer-Modified Emulsified Asphalt
 - M 320, Performance-Graded Asphalt Binder
 - M 332, Performance-Graded Asphalt Binder Using Multiple Stress Creep Recovery (MSCR) Test
 - M 346, Materials for Ultrathin Bonded Wearing Course
 - R 30, Laboratory Conditioning of Asphalt Mixtures
 - T 59, Emulsified Asphalts
 - T 209, Theoretical Maximum Specific Gravity (G_{mm}) and Density of Asphalt Mixtures
 - T 269, Percent Air Voids in Compacted Dense and Open Asphalt Mixtures
 - T 283, Resistance of Compacted Asphalt Mixtures to Moisture-Induced Damage
 - T 305, Determination of Draindown Characteristics in Uncompacted Asphalt Mixtures
 - T 312, Preparing and Determining the Density of Asphalt Mixture Specimens by Means of the Superpave Gyratory Compactor
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3. SIGNIFICANCE AND USE

- 3.1. The procedure described in this standard practice is used to produce an ultrathin bonded wearing course. The materials used in the design of ultrathin bonded wearing course can be found in M 346.