
Standard Practice for Evaluating the Elastic Behavior of Asphalt Binders Using the Multiple Stress Creep Recovery (MSCR) Test

AASHTO Designation: R 92-18 (2022)¹

First Published: 2018

Reviewed but Not Updated: 2022

Technical Subcommittee: 2b, Liquid Asphalt



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1. SCOPE

- 1.1. This practice provides a means of evaluating the elastic behavior of an asphalt binder by using the results (percent recovery and non-recoverable creep compliance) from the Multiple Stress Creep Recovery (MSCR) test. The MSCR test is conducted using the Dynamic Shear Rheometer (DSR) at a specified temperature. It is primarily intended for use with residue from [T 240](#) (Rolling Thin-Film Oven Test (RTFOT)), but may also be run on residue from [R 28](#) (Pressurized Aging Vessel (PAV)).
- 1.2. The elastic behavior of an asphalt binder can provide insight to the technologist indicating to what extent, if any, the binder could be modified with an elastomeric polymer.
- 1.3. This practice may be used in conjunction with [M 320](#) or [M 332](#).
- 1.4. The values stated in SI units are to be regarded as the standard.
- 1.5. *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. REFERENCED DOCUMENTS

- 2.1. *AASHTO Standards:*
 - [M 320](#), Performance-Graded Asphalt Binder
 - [M 332](#), Performance-Graded Asphalt Binder Using the Multiple Stress Creep Recovery (MSCR) Test
 - [R 28](#), Accelerated Aging of Asphalt Binder Using Pressurized Aging Vessel (PAV)
 - [T 240](#), Effect of Heat and Air on Moving Film of Asphalt (Rolling Thin-Film Oven Test)
 - [T 315](#), Determining the Rheological Properties of Asphalt Binder Using a Dynamic Shear Rheometer (DSR)
 - [T 350](#), Multiple Stress Creep Recovery (MSCR) Test of Asphalt Binder Using a Dynamic Shear Rheometer (DSR)