

**TECHNOLOGY DEPLOYED IN MATC**

# ASPHALT MIXTURE PERFORMANCE TESTER (AMPT)

*Three unique tests: dynamic modulus, cyclic fatigue, and stress sweep rutting*

## HOW IT WORKS

The Asphalt Mixture Performance Tester (AMPT) includes three tests designed to fundamentally assess your asphalt mixture's stiffness, cracking potential, and resistance to rutting. In the dynamic modulus (DM) test, your asphalt mixture specimen is subjected to a sinusoidal compressive stress of various frequencies, measured as a function of time to ascertain the stiffness of your mixture. In the cyclic fatigue test, the cyclic tension is controlled by a constant actuator amplitude to generate the damage characteristic curve and the index-parameter  $S_{app}$ . The larger the  $S_{app}$  value, the less likely the mixture is to crack. In the stress sweep rutting (SSR) test, coefficients for the shift model and the index-parameter rutting strain index (RSI) are generated by applying pulsed loading blocks to specimens under confining pressure at two different temperatures. The smaller the RSI value, the less potential exists for the asphalt mixture to rut. Specimens are within 0.5 percent of the air voids target and are conditioned at the test temperatures before testing, either within the AMPT or in a conditioning chamber.



Image Source: FHWA  
SSR Specimen

**Get versatile, fundamental assessments with the AMPT suite of tests.**

## AMPT FEATURES

New AMPT and accessories cost is

**~\$110,000**



Meets multiple

**AASHTO STANDARDS:**

PP 99, R 84, TP 107, TP 132, TP 133, TP 134, T 378\*



**ADVANCED**  
technician needed to operate



**SPECIMENS REQUIRE**  
coring, cutting, and gluing



Testing of full suite for one sample

**~ 3 DAYS**



Current performance testing program evaluations of AMPT in: Florida, Maine, Maryland, Missouri

Learn more at <https://www.fhwa.dot.gov/MATC>

\* These standards and specifications are not FHWA requirements