

TECHNOLOGY DEPLOYED IN MATC

FHWA-HIF-23-030

RAPID SHEAR RUTTING TEST (IDEAL-RT)

Determine the rutting potential of your asphalt mixtures

HOW IT WORKS

The IDEAL-RT is a rapid compressive test that determines the rutting potential of asphalt mixtures during design and production phases through a shear strength-based parameter: Rutting Tolerance Index (RT_{Index}). Asphalt mixture specimens are conditioned and fabricated to 150 mm in diameter and 62 mm in height, with 7.0 ± 0.5 percent air voids. There is no notching or cutting of specimens needed. The specimen is placed into a cradle jig and is loaded at three points, creating two shear planes within the specimen. The test is run on specimens conditioned at an elevated temperature (typically 50°C) with a monotonic loading rate of 50 mm/minute of cross-headed displacement.

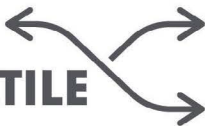
The larger the RT_{Index} value, the better the rutting resistance.



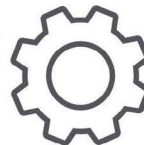
Image Source: FHWA Load Frame performing Ideal-RT

IDEAL-RT FEATURES

Highly
VERSATILE



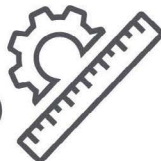
Quick Preparation and
OPERATION



Field Laboratory
ACCESSIBLE



Retrofit for existing load frame
COSTS ~ \$4,000



New load frame and equipment
COSTS ~ \$12,000



Tests at least
3 REPLICATES
for each sample



Generates a RT_{Index} for each sample in
<5 MINUTES



Meets
ASTM D8360
standards and specifications



Current Performance Testing Program Evaluations of IDEAL-RT in: Texas, Maine, Missouri, Kansas, and National Center for Asphalt Technology (NCAT).

LEARN MORE AT [HTTPS://WWW.FHWA.DOT.GOV/MATC](https://www.fhwa.dot.gov/matc)