

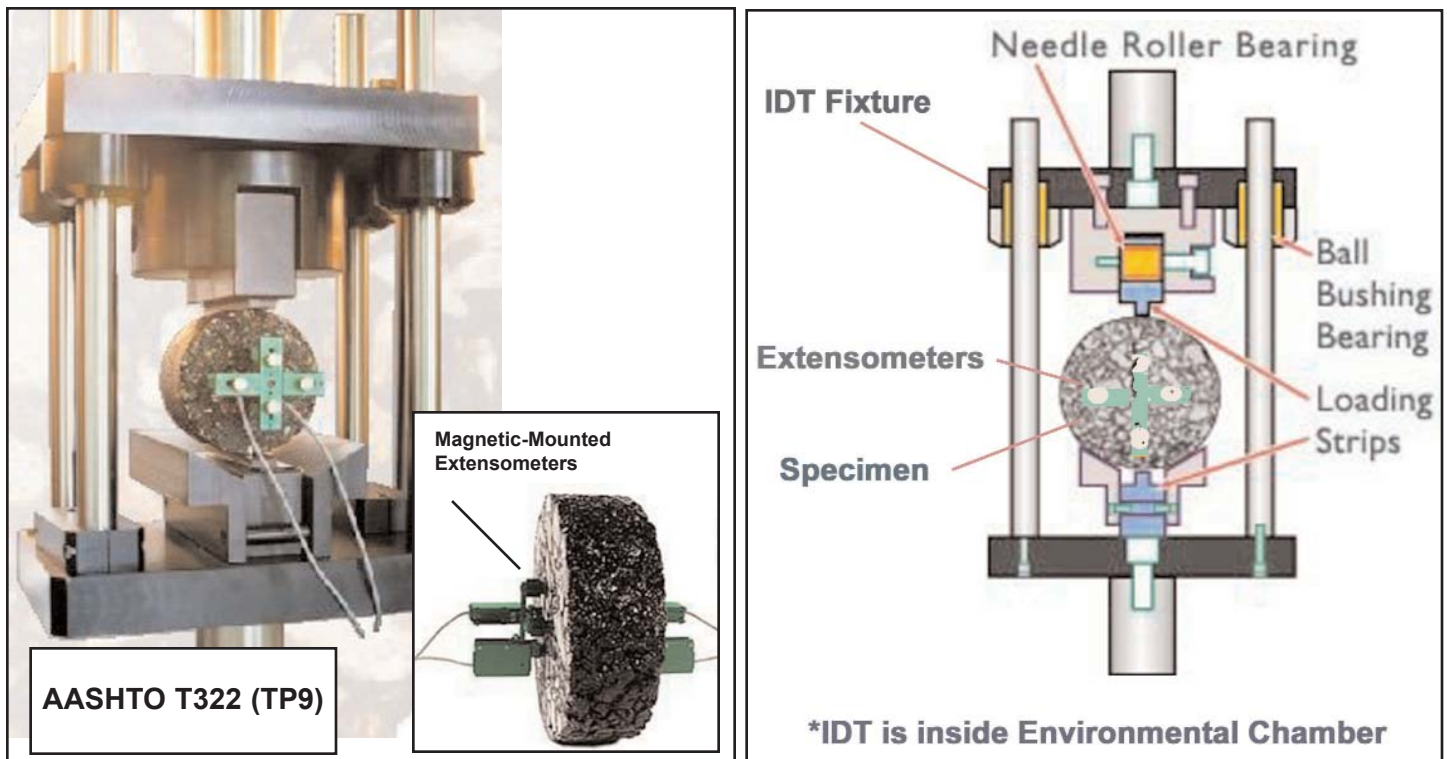
Asphalt Creep Compliance Pre-Programmed Testing Software

Procedures Covered

AASHTO T322 (Supersedes AASHTO TP9)

System Configurations:

AASHTO T322, a dynamic testing frame, an indirect tensile (IDT) fixture, an environmental chamber, a load cell, face magnetic-mounted horizontal and vertical extensometers. Requires Interlaken UniTest Control System to run pre-programmed software.

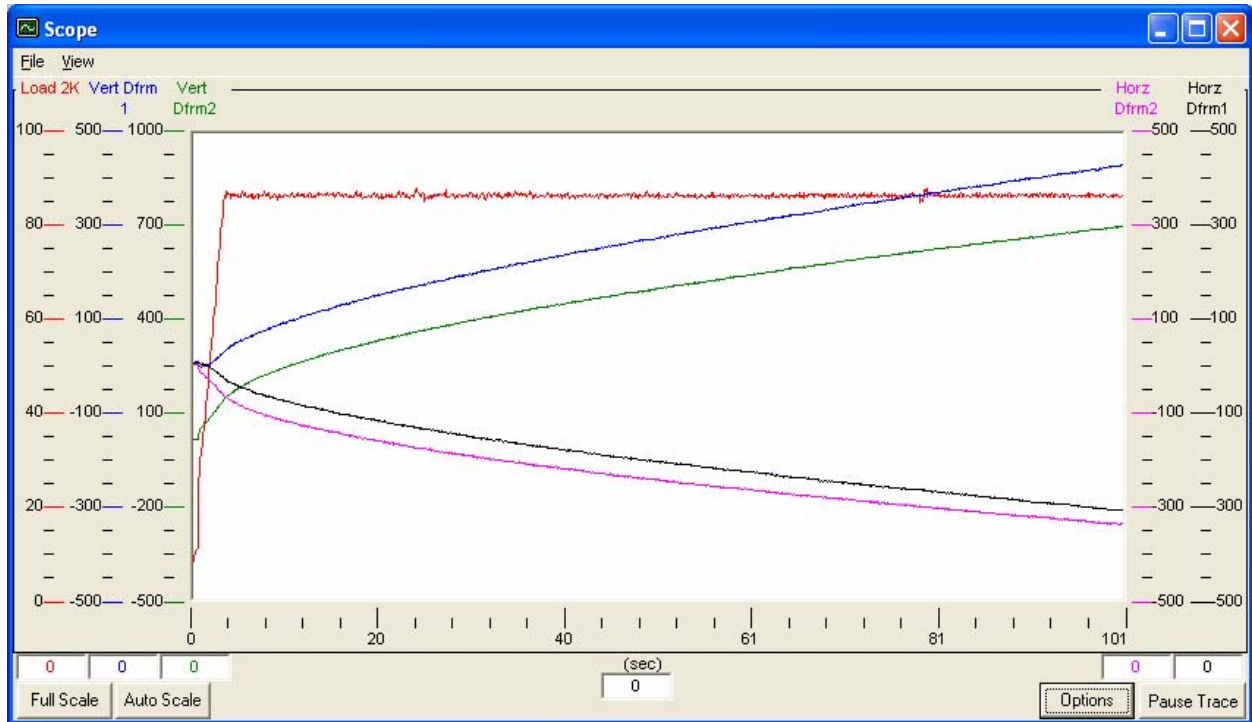


Background:

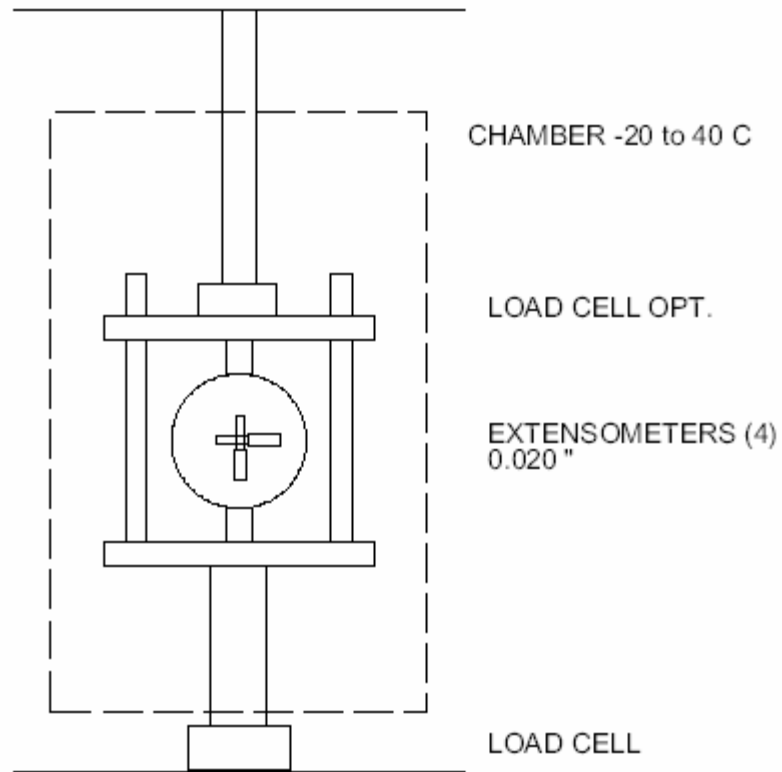
This application will perform the Creep Compliance Test in the AASHTO T322 (TP9) procedure. The strength test portion of that procedure is covered by the Asphalt Strength Test.

The loading waveform is a fast ramp which stops when a target for average horizontal deformation is reached.

This testing protocol provides a series of procedures for determining the tensile creep compliance at various loading times, tensile strength and Poisson's ratio of hot-mix asphalt (HMA) using indirect loading with an indirect tensile fixture (IDT).



A typical load and deformation plot is shown above. The load ramp is stopped when the average horizontal strain reaches a set level.



The load cells and deformation transducers are mounted as shown. Since the loads are high at lower temperatures the system load cell is usually used.

Selecting the Software

To start the application go to **Resilient Modulus-Asphalt** on the **Test** pull down menu.

Then select the **Define** option.

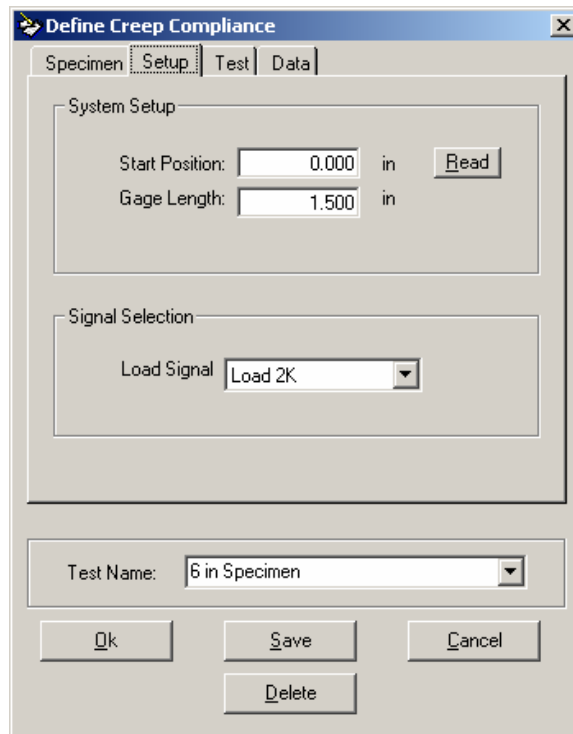
The screenshot shows a software dialog box titled "Define Creep Compliance". It has a tabbed interface with "Specimen", "Setup", "Test", and "Data" tabs. The "Specimen" tab is active, displaying a "Specimen & Operator Information" section with the following fields: "Project Name" (text box with "AET"), "Operating Technician" (text box), "Specimen ID" (text box), "Specimen Diameter" (text box with "6.000" and "in" label), "Specimen Thickness" (text box with "2.000" and "in" label), and "Comments" (text box). Below this section is a "Test Name" dropdown menu currently showing "6 in Specimen". At the bottom of the dialog are four buttons: "Ok", "Save", "Cancel", and "Delete".

Specimen Tab — User Inputs can be changed for the following variables:

- Project Name - General information
- Operating Technician - General information
- Specimen ID - General information
- Specimen Diameter - Used in calculations
- Specimen Thickness—Used in calculations
- Comments - General information

Test Name - Identifies a specific version of the test. Multiple versions can be created and saved.

All of the above fields are saved to the raw data file by default.



Setup Tab — User Inputs can be changed for the following variables:

Start Position—Move the actuator until the upper loading strip is close to the top[of the specimen, but not touching. The click on **Read** to set the start position.

Gage Length - Distance between gage point centers.

Load Signal - If the system has multiple load cells the one to be used is selected here

All of the above fields are saved to the raw data file by default.

The image shows a software dialog box titled "Define Creep Compliance" with a close button (X) in the top right corner. The dialog has four tabs: "Specimen", "Setup", "Test" (which is selected), and "Data".

Under the "Test" tab, there are two main sections:

- Control:** This section contains three input fields:
 - Max Load: 10. mic-in
 - Load Rate: 10. mic-in/sec
 - Temperature: 0.0 °C
- Horizontal Deformation Limits:** This section contains two input fields:
 - Minimum: 50. mic-in
 - Maximum: 300. mic-in

Below these sections is a "Test Name" dropdown menu currently showing "6 in Specimen". At the bottom of the dialog are four buttons: "Ok", "Save", "Cancel", and "Delete".

Test Tab — User Inputs can be changed for the following variables:

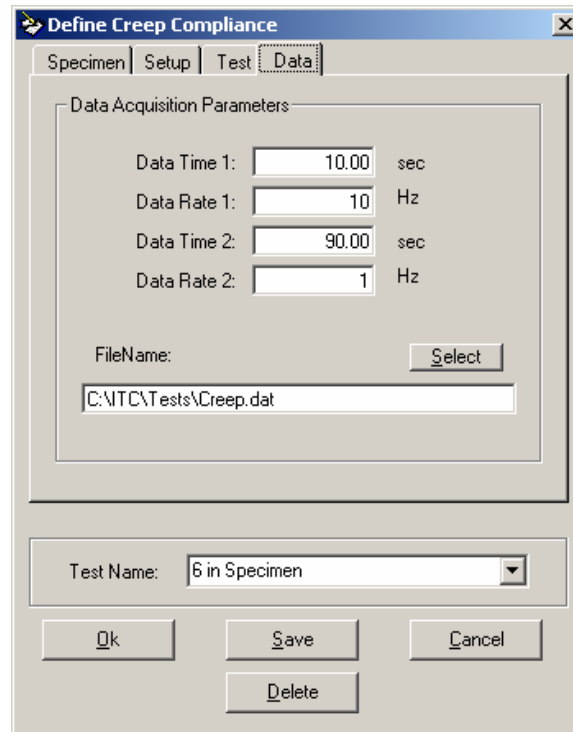
Max Load – Target load for the initial load ramp.

Load Rate – Loading rate for the initial ramp.

Temperature – Nominal test temperature.

Horizontal Deformation, Minimum – The average horizontal deformation where the loading ramp is halted.

Horizontal Deformation, Maximum – Upper limit of average horizontal deformation.



Data Tab — User input can also be changed for the following variables:

- Data Time 1 – Duration of the data segment sampled at Rate 1.
- Data Rate 1 – Sampling rate for the first segment of data.
- Data time 2 – Duration of the data segment sampled at Rate 2.
- Data Rate 2 – Sampling rate for the second segment of data.
- File Name – A file name for the data record can be entered.

