RHEOLOGY APPLICATIONS NOTE

Conversion of CSL\textsuperscript{2} Rheometer for Asphalt Measurements

The use of controlled stress rheology for the characterization of asphalt binders is growing based on the requirements of standard test methods developed by the U.S. Federal Highway Administration, AASHTO and the American Society for Testing & Materials (ASTM). TA Instruments supplies an instrument specifically configured to meet these requirements - the CSA 100 Asphalt Rheometer.

The CSA 100 is designed as a dedicated unit. However, there are many laboratories whose measurement needs include, but are not limited to, the characterization of asphalt. Hence, TA Instruments also supplies the individual hardware/software options which can be used to reconfigure the CSL\textsuperscript{2} Rheometer to make asphalt measurements. These reconfiguration options, which can be easily added to, and removed from, the CSL\textsuperscript{2} to facilitate its occasional use for asphalt measurements without compromising the CSL\textsuperscript{2}’s normal use as a powerful research-grade rheometer, include:

- Clip-on Temperature Control Cell (PN 50065). Temperature control is important during asphalt characterization. This is obtained by immersing the sample and test fixture in a water bath. The water bath easily clamps onto the standard peltier plate of the CSL\textsuperscript{2}, and an external circulator (PN 500020-901 [U.S.], PN 5405 [rest of world]) controls the temperature to within ± 0.1°C.

- Asphalt Software (PN 5398). Windows-based software pre-configured for minimum operator interaction and direct output of the "fail temperature" results in tabular, or optional plot, form.

- Parallel Plate Test Geometries (PN 5108 [8mm], PN 5125 [25mm]). The asphalt tests specify either an 8mm or 25mm diameter parallel plate geometry. These are the same geometries used for conventional rheology studies. Hence, they must be purchased only if you do not already have them as part of your CSL\textsuperscript{2} accessories.

For further details on configuring your CSL\textsuperscript{2} for asphalt characterization, contact your local TA Instruments Representative.

For more information or to place an order, contact:

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