

Pressure Aging Vessel



Year of Purchase: 2008

Cost: USD 18121

Description

The Pressure Aging Vessel (PAV) has been developed to simulate in-service aging of asphalt binder after 5 to 10 years. The binder is exposed to high pressure and temperature for 20 or 65 hours (selectable up to 99) to simulate the effect of long-term oxidative aging.

The aging of asphalt binders during service is affected by ambient temperature and by mixture-associated variables, such of component proportions in the mix, aggregate properties and many more. This conditioning process is intended to provide an evaluation of the relative resistance of asphalt binders to oxidative aging at selected elevate temperatures and pressures. It is normally performed after initial conditioning using a Rolling Thin Film Oven (RTFOT).

Residue from this conditioning practice may be used to estimate the physical and chemical properties of asphalt binders after several years of i-service aging in the field and to compare these properties to pre-conditioning test results of the same binder.

The Pressure Aging Vessel PAV can be used as part of your Superpave performance based testing program.

The apparatus consists of stainless steel (AISI 304 with ASME and CE certifications) pressure vessel with encased band heaters and internal pressure and temperature controls. Data logs of both temperature and pressure are saved on USB stick or transferred to PC at the end of the test.

The user-friendly software allows the operator to view the vessel temperature and pressure in real-time, both asset targets and actual values, with a high rate of a refresh. It is also possible to view, in real time, the temperature and pressure graphs.

The instruments feature PID temperature control and highly efficient heaters that allow heating rate and temperature control exceeding the Standards' specifications.

Pre-heating of the instrument can be programmed (maximum 60° C for safety reasons) to allow the operator to find the PAV ready for the next test at any time. An acoustic alarm advises the operator when the test is finished.

The PAV requires a suitable compressed air tank with, 2.1Mpa minimum pressure.