



Product Overview

The Pressure Aging Vessel (PAV) is a laboratory instrument designed to simulate the long-term aging characteristics of asphalt binders under controlled temperature and pressure conditions. The system reproduces the oxidative aging that occurs during approximately 7 to 10 years of pavement service life, enabling accurate evaluation of binder performance and durability.

The PAV process utilizes Rolling Thin Film Oven (RTFO) aged asphalt binder samples, which are subjected to elevated temperature and pressure inside a sealed vessel for a specified period. The aged samples are subsequently used for rheological and physical property testing to assess long-term pavement performance.

Designed in accordance with ASTM D6521, AASHTO PPI, and IS 15462 standards, the instrument provides precise temperature control, automated pressure regulation, and comprehensive data logging capabilities for reliable and repeatable test results.

Compliance Standards

- ASTM D6521
- AASHTO PPI
- IS 15462

Principle of Operation

RTFO-aged asphalt binder samples are placed in stainless steel pans and loaded into a preheated Pressure Aging Vessel. The vessel is heated to the specified test temperature and pressurized to approximately 300–305 psi (2.07–2.10 MPa). Samples are maintained under these conditions for 20 hours to simulate long-term field aging.

Upon completion of the test cycle, the samples are removed and degassed using a Vacuum Degassing Oven (VDO) before being subjected to further physical property evaluations.

Note: Specifications are subject to change, Photos shown above are Indicative, Actual Product can Vary.



Export Sales: +91-9829132777
 India Sales: +91-9588842361



IT-2013, Ramchandrapura Industrial Area,
 Sitapura Extension, Jaipur-302022, India.



info@tesca.in
 www.tescaglobal.com



Key Features

- Fully compliant with ASTM D6521, AASHTO PPI, and IS 15462.
- Simulates 7–10 years of asphalt binder aging.
- PLC-based automatic control system.
- User-friendly HMI touchscreen interface.
- Stainless steel pressure vessel construction.
- High-efficiency band heater system.
- Precise temperature and pressure regulation.
- Automatic test cycle control.
- Real-time monitoring of temperature and pressure.
- Data logging and PC data transfer capability.
- Programmable test duration up to 99.9 hours.
- Reliable and repeatable test performance.

Construction

The apparatus consists of a robust stainless steel pressure vessel equipped with encased band heaters, integrated temperature sensors, and pressure monitoring systems. The vessel is designed for safe operation under elevated pressure conditions and provides uniform heating throughout the testing cycle.

The system incorporates a PLC-controlled automation platform with HMI touchscreen operation, enabling precise control of test parameters and simplified user interaction. Temperature and pressure data are automatically recorded and can be transferred to a PC for documentation and analysis.

Standard Supply

The system is supplied complete with:

- Pressure Aging Vessel Main Unit
- Sample Containers
- Sample Container Rack
- Air Compressor with Storage Tank

Optional Accessories

Vacuum Degassing Oven (VDO)

Used for removal of entrapped gases from aged asphalt binder samples after completion of the PAV test.

Dynamic Shear Rheometer (DSR)

Recommended for evaluating rheological properties of aged asphalt binders.

Rolling Thin Film Oven (RTFO)

Used for short-term aging of asphalt binders prior to PAV testing.

Note: Specifications are subject to change, Photos shown above are Indicative, Actual Product can Vary.



Export Sales: +91-9829132777
 India Sales: +91-9588842361



IT-2013, Ramchandrapura Industrial Area,
 Sitapura Extension, Jaipur-302022, India.



info@tesca.in
 www.tescaglobal.com



Technical Specifications

Parameter	Specification
Compliance Standards	ASTM D6521, AASHTO PPI, IS 15462
Temperature Range	80°C to 120°C
Temperature Resolution	0.1°C
Test Duration	Up to 99.9 Hours
Vessel Volume	13 Litres
Pressure Medium	Air
Rated Working Temperature	110°C ± 5°C
Rated Working Pressure	2.1 MPa (Approx. 305 psi)
Temperature Control Precision	±0.1°C
Power Supply	AC 220 V ±10%, 50 Hz
Rated Power	1500 W
Rated Current	10 A
Overall Dimensions (L × W × H)	1230 × 680 × 720 mm.

Note: Specifications are subject to change, Photos shown above are Indicative, Actual Product can Vary.



Export Sales: +91-9829132777
 India Sales: +91-9588842361



IT-2013, Ramchandrapura Industrial Area,
 Sitapura Extension, Jaipur-302022, India.



info@tesca.in
 www.tescaglobal.com

