



ASPHALT AND BITUMEN TESTING EQUIPMENT

Asphalt and Bitumen Testing Equipment

Bitumen and asphalt are complex hydrocarbon materials whose performance in road construction, waterproofing, and industrial applications depends on a precise combination of physical and rheological properties. The quality, consistency, and long-term durability of bitumen products must be rigorously characterized at every stage — from production at the refinery to application at the paving site.

Torontech's bitumen and asphalt testing equipment portfolio is the most comprehensive available from a single petroleum testing specialist. The range covers every critical test category required for bitumen and asphalt characterization: flash point safety testing, viscosity at multiple temperatures, penetration grade classification, ductility, softening point, density, solubility, water content, and short-term and long-term aging simulation by rolling thin film oven (RTFO) and thin film oven (TFO) tests. Every instrument is engineered for precision, repeatability, and compliance with ASTM, EN, and AASHTO standards.

APPLICATIONS

Application

Torontech's bitumen and asphalt testing instruments serve every stage of the bitumen and asphalt value chain:

- Refinery bitumen production: Flash point, penetration grade, and viscosity testing during production to verify product specification compliance before dispatch.
- Road and pavement construction: Softening point (Ring-and-Ball), penetration, and ductility testing for acceptance inspection of paving-grade bitumen at the plant and on site.
- Modified bitumen and polymer-modified asphalt (PMA): Rotational viscosity and softening point testing characterize the enhanced rheological performance of SBS and EVA-modified bitumen products.
- Short-term aging simulation: The RTFO (Rolling Thin Film Oven, ASTM D2872) simulates the hardening of bitumen during hot-mix asphalt production, enabling prediction of in-service performance after mixing.
- Long-term aging evaluation: The Thin Film Oven (ASTM D1754) assesses bitumen durability and oxidation resistance over time.
- Waterproofing and industrial bitumen: Density, solubility, and ash content testing for bitumen used in roofing, waterproofing, and corrosion protection applications.
- Cutback asphalts and emulsions: Viscosity (Saybolt and kinematic) testing of cutback asphalt formulations for spray and surface treatment applications.
- Quality assurance and acceptance testing: Independent and third-party laboratories use the full Torontech range for bitumen specification compliance and dispute resolution testing.

FEATURES

Why Choose Torontech's Series for Your Asphalta and Bitumen Testing?

Torontech's bitumen and asphalt testing equipment range offers unmatched coverage, precision, and support for the global asphalt and road construction industry:

- Complete Test Coverage: From flash point safety testing and penetration grading to aging simulation and rotational viscosity — Torontech's range covers every bitumen test parameter required by ASTM D, EN, and AASHTO standards without the need for multiple equipment suppliers.

- Automatic and Manual Options: Both manual and automatic configurations are available for flash point (TT-92 / TT-92Z), softening point (TT-36 / TT-36Z), and penetration (TT-217Z) testing — providing the right level of automation for every laboratory budget and throughput requirement.
- Viscosity Measurement at Every Scale: Torontech offers four complementary viscosity instruments for bitumen: Saybolt (TT-88), kinematic tube (TT-2170), capillary absolute (TT-2171), and rotational viscometer (TT-4402) — covering absolute and kinematic viscosity across the full temperature range relevant to bitumen handling, production, and application.
- RTFO and TFO Aging Testing: Torontech's Rolling Thin Film Oven (TT-2872) and Thin Film Oven (TT-1754) provide the industry-standard aging simulation tests that predict bitumen durability, giving asphalt producers confidence in the long-term performance of their products.
- Expert Application Support: Torontech's technical team has deep experience in bitumen and asphalt testing requirements, providing instrument selection guidance, method compliance support, and calibration services tailored to the asphalt industry

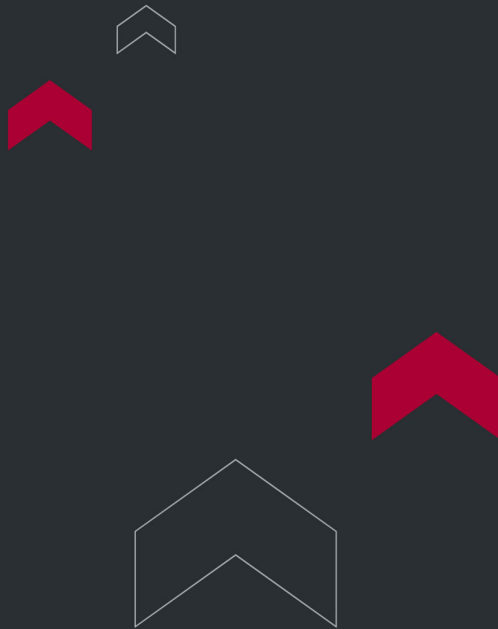
TECHNICAL SPECIFICATIONS

How to Choose: Bitumen & Asphalt Instrument Comparison

Use the table below to identify the right Torontech instrument for your specific bitumen or asphalt testing requirement:

Instrument	Model	Standard
Manual Cleveland Open Cup Flash Point Tester	TT-92	ASTM D92
Automatic Cleveland Open Cup Flash Point Tester	TT-92Z	ASTM D92
Vacuum Distillation Apparatus	TT-1160	ASTM D1160
Dean Stark Distillation Water Content	TT-95	ASTM D95
Asphalt Kinematic Viscosity Bath	TT-2170	ASTM D2170

Instrument	Model	Standard
Apparatus for Viscosity of Asphalts	TT-2171	ASTM D2171
Density Of Asphalt Materials	TT-3289	ASTM D70
Smoke Point Apparatus for Kerosene	TT-1322	ASTM D1322
Ash Content for Petroleum Product	TT-482	ASTM D482
Automatic Penetration Tester	TT-217Z	ASTM D5
Solubility of Asphalt in Trichloroethylene	TT-2042	ASTM D2042
Digital Ductilometer	TT-113	ASTM D113
Rolling Thin Film Oven	TT-2872	ASTM D2872
Thin Film Oven	TT-1754	ASTM D1754
Asphalt Saybolt Viscometer	TT-88	ASTM D88
Rotational Viscometer for Asphalt Viscosity	TT-4402	ASTM D4402
Softening Point of Asphalt (Ring-and-Ball)	TT-36	ASTM D36
Apparatus for Softening Point (Ring-and-Ball)	TT-36Z	ASTM D36



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