

Equipment of the Road Engineering / Sealing Components Lab

Empa disposes of all relevant equipment which is required for the investigation of bituminous materials.

The most important equipment and appliance are:

Binder

- Beding Beam Rheometer (BBR)
- Dynamic Shear Rheometer (DSR)
- Penetrometer
- Fraass-Breaking point device
- Ring & Ball - device
- Ductilometer
- Pressure Ageing Vessel (PAV)
- Raabe tension test device for joints
- Highpressure-GPC
- Rolling Thin Film Oven Test (RTFOT)
- Atomic Force Microscope with Nanoscale Infrared Spectroscopy (AFM-FTIR)

Bituminous Mixture / Pavements

- Equipment for wet and dry sieving
- Extraction equipment
- Marshall testing machine
- Dynamic test devices
- Equipment for interlayer shear test of Pavement (static)
- Equipment for indirect tensile test
- Equipment for adhesion test of asphaltic plug joints
- 4Point bending test for fatigue tests
- "Orniéreur" – pneumatic rutting tester
- Model Mobil Load Simulator (MMLS)

Preparation / Compaction

- Mixer for bituminous mixture and mastic asphalt
- Marshall-compactor
- Superpave Gyrotory Compactor
- Compactors for "Orniéreur" – rutting tester
- Compactor for Model Mobile Load Simulator (MMLS)

Flexible Asphaltic Plug Joints

- JMS (Joint Movement Simulator) for testing the movement capacity for investigating the quasi-static cyclic expansion and adhesive properties of joints and adhesive force
- DJMS (Dynamic Joint Movement Simulator) for investigation the dynamic cyclic expansion and adhesive force
- Climatic chambers for JMS and DJMS tests (0°C - -20°C)

Servohydraulic testing machines, partly with climatic chamber (- 10°C - + 60°C)

- 150 kN Universal testing machine (UVP),
- three 10kN testing machines
- 100 kN testing machine
- 20 kN testing machine