



LABORATÓRIO NACIONAL  
DE ENGENHARIA CIVIL

**EM** TESTING  
and METROLOGY

# UPAVMAT

TRANSPORTATION DEPARTMENT

Av. do Brasil 101 • 1700-066 Lisboa • PORTUGAL  
tel. (+351) 21 844 30 00      lnecc@lnecc.pt

[www.lnecc.pt](http://www.lnecc.pt)

Pavements and Materials  
for Transport Infrastructures  
Laboratory

## Scope

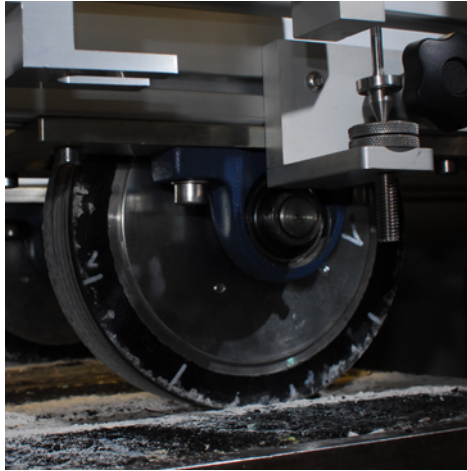
The Pavements and Materials for Transport Infrastructures Laboratory (UPAVMAT) of LNEC-EM is integrated in the Transportation Department of LNEC. Its activity is mainly focused on the laboratory and in situ characterisation of materials applied to road, airport and railway infrastructures, including new materials (recycled and/or other materials) that make it possible to reduce the consumption of resources. UPAVMAT also carries out tests for the performance evaluation of transport infrastructures.



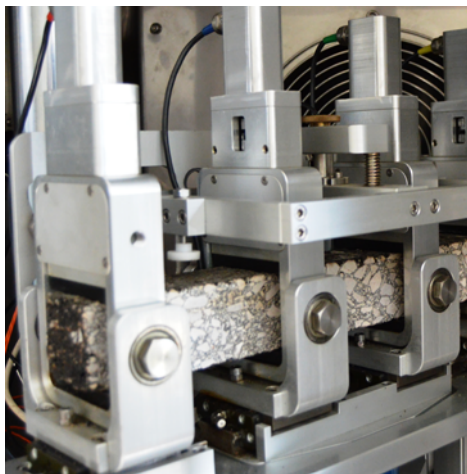
This Laboratory has been accredited by IPAC since 1998 and is integrated in LNEC-EM. Its origin goes back to 1995, when it was established with the purpose of providing assistance to the construction industry, research, technological development, and innovation. The studies and tests performed at UPAVMAT are essential for the selection of materials and for the definition of procedures, within the framework of the design, construction, maintenance and rehabilitation of transport infrastructures.

## Field of expertise

UPAVMAT is focused on the laboratory characterisation of materials used in road, airport and railway infrastructures, namely aggregates, bituminous binders, bituminous mixtures and materials treated with cement and other non-traditional binders, as well as new alternative materials, such as some types of waste or by-products.



It also performs the in situ characterisation of transport infrastructures by conducting a set of field tests with a view to assess the superficial and structural features, and involving the execution of non-destructive testing.



Apart from the laboratory and fields tests referred to above, as well as the direct support to the construction industry, UPAVMAT also develops other activities mainly related with:

- Study of both traditional and innovative construction materials and technologies to be employed on pavements;
- Support to the quality control during construction, operation and rehabilitation;
- Characterisation of the behaviour of transport infrastructures, support to the management

of maintenance actions and analysis of the lifetime of these infrastructures.

## Highlights

UPAVMAT has the appropriate human and technical resources to carry out the most recent standard tests in its field of activity. In addition, it has the capacity to deliver dissemination and training actions, to cooperate in research projects or to assist the industry in the development of innovative technologies and materials.



From among the intervention fields to which UPAVMAT contributes, special reference is made to the following:

- Studies about the viability of application of non-traditional and environmentally sustainable materials and innovative technologies in transport infrastructures.
- Evaluation of the quality and characterisation of transport infrastructures by traditional and non-destructive testing.
- Monitoring and modelling of the performance during construction, operation and rehabilitation of transport infrastructures.
- Management of the maintenance actions on infrastructures and analysis of their lifetime.
- Development of specifications and technical guides in support to the application of innovative materials.