

# Determination of mechanical properties of flooring systems

## Introduction

The determination of characteristics for strength and stiffness properties as well as deformations of large-area floors under installation conditions (system structures) is a requirement due to the specifications of several product and testing standards (inter alia, in connection with CE-marking) as well as resulting from practical requirements of the producers.

## General test method

In the course of the test the complete floor systems or system structures respectively are placed horizontally on an inflexible support. A determined load or a range of stepwise increased loads are put on. The resulting deformations are measured and the occurred damages are registered and analysed.



Testing machine - full view

## Specific test methods

Very different practical loading scenarios can be performed by the universal testing machine. It takes for instance:

- Determination of the performance of structural floor deckings under static and dynamic load (impact) according to EN 1195
- Determination of the values of strength, stiffness and deformation of large-area system structures in the domain of floors (e.g. substructure + impact sound insulation + floor) under static load
- Determination of characteristics for strength, stiffness and deformation properties of large-area wood-based materials
- Determination of over physical characteristics (e.g. acoustic properties) during specific loadings



Impact test of load-bearing flooring

## Examples of use

The following materials can be tested by the universal test machine:

- Structural floor deckings according to EN 1195
- Wood-based panels for use in construction according to EN 13986
- Floor underground installation (e.g. load-bearing sockets)
- Thermal insulation panels and mats
- Floor plates of vehicles, containers
- Scaffolding coverings, stage systems

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