

# Characterization methods for building materials

Norlab offers a whole range of testing and analysis instruments for building materials.

With regard to the measurement methods presented here, we mainly focus on the mineral starting, intermediate and end products in the field of building materials. Powder analysis is the main focus for the starting materials, e.g. particle size analysis. Examples of intermediates are cement slurries, which can be characterized with the DT-1202-Spectrometer even undiluted, whereas the cured or aged end products can be analyzed by mercury intrusion porosimetry to determine the pore size distribution. Density and surface determinations can be carried out on both the starting and the final products in order to evaluate changes in parameters as a result of the manufacturing process.

On the construction side, surface characteristics can be studied with the Dataphysics contact angle measuring systems: surface control before applying a coating, spreading behaviour of paint, affinity of paint to the surface, adhesion test.



Parameter	Method	Instrument
BET surface area and pore analysis	<a href="#">Gas adsorption</a>	<a href="#">3P micro series</a> <a href="#">3P meso series</a> <a href="#">3P sync series</a> <a href="#">3P surface DX</a>
<a href="#">Chlorine in concrete</a>	<a href="#">Laser-Induced Breakdown Spectroscopy (LIBS)</a>	<a href="#">Lightigo FireFly</a>
Density	<a href="#">Gas pycnometry</a>	<a href="#">3P densi 100</a>
Dispersion stability	<a href="#">Analysis of the transmission and backscattering behaviour</a>	<a href="#">MultiScan MS 20 dispersion stability analysis system</a>
Particle dispersibility studies	<a href="#">Non-invasive NMR liquid relaxation technology</a>	<a href="#">MagnoMeter XRS</a>
Particle shape	<a href="#">Image analysis</a>	<a href="#">BeVision D2</a> <a href="#">Bettersizer S3 Plus</a>
Particle size, concentrated dispersions	<a href="#">Acoustic spectrometry</a>	<a href="#">DT-1202</a> <a href="#">DT-100</a>
Particle size, nanometer range	<a href="#">Dynamic light scattering</a>	<a href="#">BeNano series</a>
Particle size, powders	<a href="#">Laser diffraction</a>	<a href="#">Bettersizer S3 Plus</a> <a href="#">Bettersizer S3</a> <a href="#">Bettersizer 2600</a> <a href="#">Bettersizer ST</a>
Pore volume and size distribution	<a href="#">Mercury intrusion porosimetry</a>	Contract analysis <a href="#">Please ask for a quote</a>
Solids concentration of suspensions	<a href="#">Non-invasive NMR liquid relaxation technology</a>	<a href="#">MagnoMeter XRS</a>
Surface characteristics	<a href="#">Optical contact angle measurement</a>	<a href="#">Optical contact angle systems</a>
Tap density	<a href="#">Tap volumetry</a>	<a href="#">BeDensi T Series</a>

Parameter	Method	Instrument
Water uptake and release	<a href="#">Dynamic vapor sorption (DVS)</a>	<a href="#">3P graviSorb series</a>
Wettability of solid surfaces	<a href="#">Dynamic contact angle measurement</a>	<a href="#">Dynamic contact angle measuring devices</a>
Wetted surface area of suspensions	<a href="#">Non-invasive NMR liquid relaxation technology</a>	<a href="#">MagnoMeter XRS</a>
Zeta potential, concentrated dispersions	<a href="#">Electroacoustic spectrometry</a>	<a href="#">DT-1202</a> <a href="#">DT-310</a> <a href="#">DT-300</a>