Characterization methods for geological samples

Norlab offers a whole range of testing and sample preparation instruments for geology and mining.

In the field of geology pores play an important role for various processes, whereas sediments are often characterized by particle size and particle shape.

Laser-induced breakdown spectroscopy (LIBS) is an ideal method for elemental analysis of geological samples. Unlike X-ray fluorescence (XRF), LIBS has no difficulty in measuring elements lighter than silicon.

Parameter	Method	Instrument
BET surface area and pore analysis	Gas adsorption	3P micro series 3P meso series 3P sync series 3P surface DX
Correlative imaging with computed tomography and SEM	Laser-Induced Breakdown Spectroscopy (LIBS)	Lightigo FireFly
Density	Gas pycnometry	3P densi 100
Lithium detection in mining materials	Laser-Induced Breakdown Spectroscopy (LIBS)	Lightigo FireFly
Online classification of rocks and minerals	Laser-Induced Breakdown Spectroscopy (LIBS)	Lightigo FireFly
Particle shape	Image analysis	BeVision D2 Bettersizer S3 Plus
Particle size, nanometer range	Dynamic light scattering	BeNano series
Particle size, powders	Laser diffraction	Bettersizer S3 Plus Bettersizer S3 Bettersizer 2600 Bettersizer ST
pH for demanding applications	ISFET pH sensor Measuring soil pH	ConeFET probe for soil LanceFET probe for soil Si400 pH meter Si600 pH meter
Pore volume and size distribution	Mercury intrusion porosimetry	Contract analysis Please ask for a quote
Provenance study through unique chemical fingerprints	Laser-Induced Breakdown Spectroscopy (LIBS)	Lightigo FireFly
Structural analysis of rocks and investigation of inclusions	Laser-Induced Breakdown Spectroscopy (LIBS)	Lightigo FireFly
Tap density	Tap volumetry	BeDensi T Series
Water uptake and release	Dynamic vapor sorption (DVS)	3P graviSorb series

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