

CRM BAM - PM - 120

Certified Reference Material (α -Alumina)

Method: Mercury Intrusion

High pressure range

CRM BAM-PM-120
Material: Beads of α -alumina

Certified properties:

- A) Pressure-volume curve between 0.1 MPa and 400 MPa
- B) Diameter-volume curve between 3.7 nm and 14708 nm
- C) Pore volume at selected intrusion pressure points as well as values for the pore diameter (see Table 1)

Table 1 Single values of certified properties

Property	Unit	\bar{X}	s
Pore volume at 100 MPa	mm ³ ·g ⁻¹	545,0	12,2
Pore volume at 195 MPa	mm ³ ·g ⁻¹	546,7	12,7
Pore volume at 200 MPa	mm ³ ·g ⁻¹	546,8	12,7
Pore volume at 395 MPa	mm ³ ·g ⁻¹	548,1	13,1
Mean pore width d_{50}	nm	228,0	5,9
Most frequent pore width $d_{p,m}$	nm	232,2	8,8

\bar{X} average of laboratory averages (certified value)

s standard deviation of laboratory averages

The number of laboratories (outlier free) participating in the interlaboratory tests was 25.

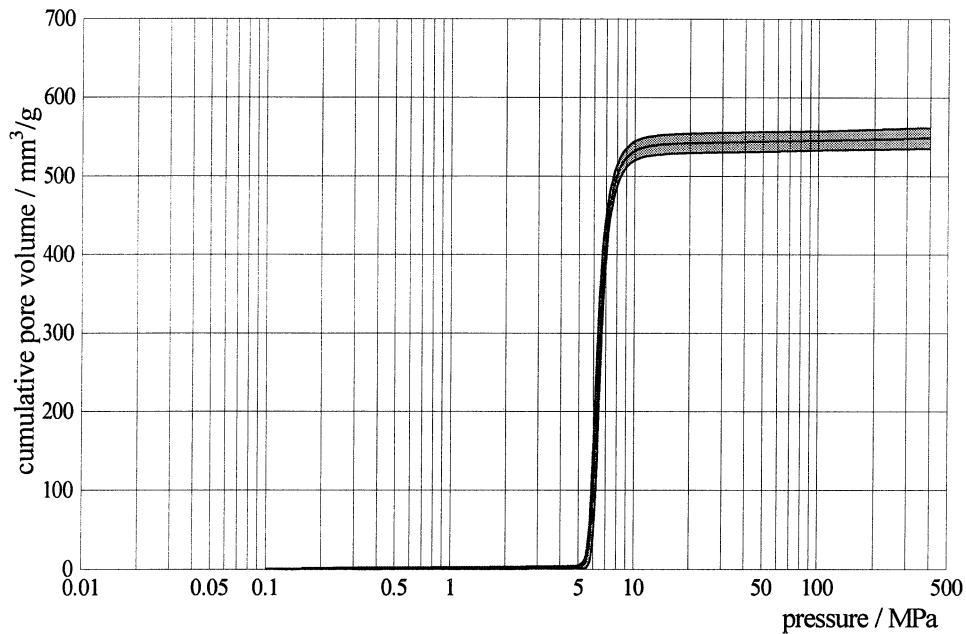
Table 2 Non-certified property

	Unit	Value
Specific surface area*	m ² ·g ⁻¹	9,6

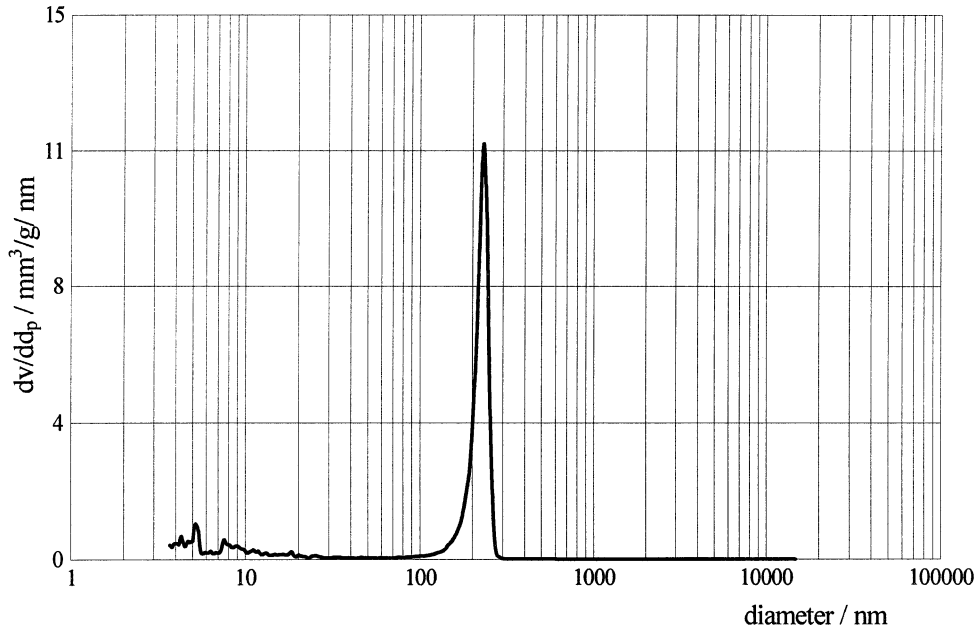
* only as additional information, given without uncertainty, calculated according to $A_{sp} = 4 \cdot V / d$ using the certified properties V_{200MPa} and d_{50}

Application

The reference material is intended for the calibration and checking of instruments for measurement of pressure / volume curve of solids.



Certified pressure/volume curve of CRM BAM-PM-120



Pore size distribution of CRM BAM-PM-120

Data evaluation

The pressure / volume curve should be extracted between 0.1 400 MPa.

The complete pressure / volume curve had been certified. The certificate contains these data.

Method

DIN 66 133

Evaluation of interlaboratory test according to BAM / BCR Guidelines including 25 laboratories.

Information regarding the sample

Density

Thermal and phase analysis

Particle size distribution

Morphology

Available unit size

15 g

Price

see price list

May be obtained from:

Bundesanstalt für Materialforschung und -prüfung

Division I.1 Inorganic Chemical Analysis; Reference Materials

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