

Determination of BET specific surface area

of AEROSIL[®], AEROPERL[®] and AEROXIDE[®] products
PA 0100 or ACM-107

1. Purpose

This test method describes the determination of the total specific external and internal surface area of disperse or porous solids by measuring the amount of physically adsorbed gas according to the method of Brunauer, Emmett and Teller (BET method).

The resulting surface area is a multipoint BET value and is expressed in m²/g.

2. Apparatus and Reagents

e.g. Gemini or Tristar, Micromeritics Instrument Corporation

with glass sample tubes (with stoppers)

e.g. Macsorb, Mountech Ltd.

Vacuum Pump

Degassing or vacuum station

Dewar Flasks

Analytical Balance, accurate to ±0.0001g

Liquid Nitrogen

Nitrogen gas, 99.99%, Helium gas, 99.99%

3. Sampling and sample preparation

A good mixing of the sample should be ensured. The preparation of the sample takes place according to ISO 9277.

4. Procedure

The determination of specific surface area (BET) will be arranged according to ISO 9277 reference. Volumetric or carrier gas procedures are possible employed measurements.