



Particle Size by Wet Sieve Analysis

Part No. 169-00

Instruction Manual

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Ver. 1.4

OFI Testing Equipment, Inc.
11302 Steeplecrest Dr. · Houston, Texas · 77065 · U.S.A.
Tele: 832.320.7300 · Fax: 713.880.9886 · www.ofite.com

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Components

- #169-01 Spray Cup
- #169-02 Screen, 200 Mesh, 75 μm
- #169-03 Gauge, 60 PSI, 2" Face, 1/4" NPT Connection
- #169-04 Screen, 325 Mesh, 45 μm
- #169-08 Pressure Regulator

Optional:

- #155-25 Digital Stopwatch
- #205-30 Dispersant Solution, 32 oz
- #206-04 Deionized Water, 32 oz
- #169-00-SP Spare Part Kit
 - #169-02 Screen, 200 Mesh, 75 μm , Qty: 12
 - #169-03 Gauge, 60 PSI, 2" Face, 1/4" NPT Connection

Procedure

1. Weigh 10 g \pm .01 g of barite obtained by tube sampling and quartering.
2. Place the barite in a mixing container with 44 mL of dispersant solution.
3. Hand-stir the sample and dilute it to approximately 350 mL with deionized water. Stir for five minutes with a mixer.
4. Wash the sample with the diluted dispersant solution onto a 75 μ m mesh sieve.
5. With a wash bottle, continue to wash the sample with approximately 400 mL of dilute dispersant solution.
6. Wash the material on the screen using tap water from a spray nozzle at 10 PSI (70 kPa) for two minutes. While washing, allow the bend of the nozzle to rest on the rim of the sieve and move the spray of water repeatedly over the surface of the screen.
7. After washing the sample with tap water, wash it at least twice with deionized water.
8. Transfer the residue from the screen to a tared evaporating dish. Use deionized water to remove the residue from the screen.
9. Dry the residue in an oven and then cool it in a desiccator. Weigh the residue to the nearest .01 g.
10. Repeat steps 1 - 9 above using 45 μ m screens with separate barite samples.

Calculations

Calculate m_d , w_r , and w_f from the equations below:

$$m_d = m_o \times \frac{100 - W_h}{100}$$

$$w_r = 100 \times \frac{m_r}{m_d}$$

$$w_f = 100 - w_r$$

Where:

- w_h = moisture content (%)
- m_o = mass of the original sample (g)
- m_d = mass of the dry sample (g)
- m_r = mass of the residue (g)
- w_r = residue remaining on the sieve (%)
- w_f = part of the material finer than the sieve (%)

Warranty and Return Policy

Warranty:

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- Neglect
- Adjustment by non-authorized sources
- Improper environment
- Excessive or inadequate heating or air conditioning or electrical power failures, surges, or other irregularities
- Equipment, products, or material not manufactured by OFITE
- Firmware or hardware that have been modified or altered by a third party
- Consumable parts (bearings, accessories, etc.)

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Items being returned must be carefully packaged to prevent damage in shipment and insured against possible damage or loss. OFITE will not be responsible for equipment damaged due to insufficient packaging.

Any non-defective items returned to OFITE within ninety (90) days of invoice are subject to a 15% restocking fee. Items returned must be received by OFITE in original condition for it to be accepted. Reagents and special order items will not be accepted for return or refund.

OFITE employs experienced personnel to service and repair equipment manufactured by us, as well as other companies. To help expedite the repair process, please include a repair form with all equipment sent to OFITE for repair. Be sure to include your name, company name, phone number, email address, detailed description of work to be done, purchase order number, and a shipping address for returning the equipment. All repairs performed as "repair as needed" are subject to the ninety (90) day limited warranty. All "Certified Repairs" are subject to the twelve (12) month limited warranty.

Returns and potential warranty repairs require a Return Material Authorization (RMA) number. An RMA form is available from your sales or service representative.

Please ship all equipment (with the RMA number for returns or warranty repairs) to the following address:

OFI Testing Equipment, Inc.
Attn: Repair Department
11302 Steeplecrest Dr.
Houston, TX 77065
USA

OFITE also offers competitive service contracts for repairing and/or maintaining your lab equipment, including equipment from other manufacturers. For more information about our technical support and repair services, please contact techservice@ofite.com.