DIN EN ISO 11125-1 /Test Methods for Metallic Blast-Cleaning Abrasives Part 2: Determination of Particle Size Distribution / Testing Equipment

Description

3 Apparatus

Ordinary laboratory apparatus and glassware, together with the following:

3.1 Balance, capable of weighing to an accuracy of 0,1 g.

3.2 Test sieves, circular, with a height of 25 mm to 50 mm and a sieving area approximately 200 mm diameter, made of woven metal wire cloth. The frame of the test sieves shall be of metal. The range of nominal mesh apertures depends on the specification for the product to be tested and shall comply with the requirements of table 2 in ISO 565:1990 as indicated in table 1. The sieves shall have square openings. A lid and a residue pan shall also be provided.

NOTE 1 Smaller-diameter sieves may not produce accurate separation of the sample.

Sieves shall be regularly checked for calibration and freedom from retained abrasive.

Table 1 — List of sieve mesh apertures to be used (from ISO 565:1990; R20/3 and R40/3 sizes)

mm	mm	mm
0,045	0,355	1,40
0,053	0,425	1,70
0,063	0,500	2,00
0,075	0,600	2,36
0,125	0,710	2,80
0,180	0,850	3,35
0,250	1,00	4,00
0,300	1,18	4,75

3.3 Rotating and tapping machine, to agitate the sample. Sieving shall be carried out in a suitable type of sieving machine having both a rotatory movement and a vertical movement producing a sharp jolting or tapping action. The machine shall be placed on a solid base.

NOTE 2 Hand sieving, or other mechanical systems based on vibration or rotation only, will not produce accurate separation of the sample.

3.4 1/1 sample divider.

4 Sampling
Take a representative sample of the product to be

tested, as described in ISO 11125-1.

5 Procedure
Carry out the determination in duplicate.

5.1 Using the 1j1 sample divider (3.4), obtain a sample of approximately 100 g.

5.2 Weigh out, using the balance (3.1), (100 ± 0,5) g of the sample (mj

NOTE 3 Increased test-portion mass may lead to inaccurate separation.

5.3 Use all the test sieves listed against the grade under test as given in the grade and screening specification table in the appropriate part of ISO 11124 (see annex A) or, in the case of materials not covered by ISO 11124, as otherwise agreed between the interested parties.

5.4 Arrange the test sieves (3.2) with the largest-aperture sieve on the top and progress to the smallest aperture at the bottom, with a pan to catch any abrasive that falls through the finest sieve.

5.5 Place the test portion in the top sieve.

5.6 Place a cover over the top sieve.

5.7 Place the stack of sieves with the test portion in the rotating and tapping machine (3.3) and agitate for a minimum of 10 min for round abrasives and a minimum of 15 min for angular abrasives.

NOTE 4 The agitation time is chosen so that increasing it by 5 min will result in no more than a 0,5 % change in the cumulative mass retained for any sieve in the stack.

5.8 Carefully remove the top sieve from the stack and transfer any retained abrasive on to the balance pan. Brush the sieve clean of any trapped abrasive and add this to the balance pan. Weigh to the nearest 0,1 g and record this result (mj). Repeat for all the sieves in the stack, including the retaining pan, adding each fraction retained to that previously weighed. Calculate and record the cumulative percentage retained for each sieve. If less than 99 % of the original mass is re-captured, retest.

6 Expression of results
For each test sieve used, and for the residue in the

pan, calculate the percentage of material retained R, expressed as a percentage by mass, using the equation:

$$R = \frac{m_1}{m_0} \times 100$$

where

m_0 is the mass, in grams, of the test portion;

m_1 is the mass, in grams, of the residue on the sieve (or in the pan).

If the duplicate determinations of cumulative material retained for each test sieve differ by more than 10 % (relative to the higher result), repeat the procedure described in clause 5 .

Calculate the mean of two valid determinations of cumulative material retained.

Report the result to the nearest 1 %.

Vibration Sieve According to ISO 11125-1

- Digital setting of amplitude of vibration
- including 8 pcs of sieve mesh as per customer request range
- Including wet sieve equipment as option
- Digital set of test time
- Digital display

Category

1. Equipment for Standards
2. Standards