

DEPARTMENT OF COMMERCE

Bureau of Standards

Certificate

FOR

STANDARD TEMPERATURE SAMPLE

No. 45

Copper

MELTING POINT OR FREEZING POINT

1083 degrees Centigrade

Provided the metal is protected from oxidation and contamination.

Full details of the precautions that should be observed in freezing-point determinations are given in Bureau of Standards Circular No. 66 on Standard Samples for Thermometric Fixed Points.

The sample of metal furnished under the test number specified below is part of a special lot prepared for and under the specifications and inspection of this Bureau. The freezing points of selected samples of this lot of metal were determined by means of specially designed and accurately standardized platinum resistance thermometers and were found to have the value given above.

S. W. STRATTON,

Director.

BR. 2

Test No.

Washington, D. C.

marked with an arrowhead, and the habit is formed of starting this point under the right hand, one can easily keep track of the progress of the one-minute tests. In the one-minute tests the sieve should be tapped rather than struck, for a gentle vibration of the screen is all that is required. Any considerable blow on the sieve will throw the residue against the cover and very likely result in the loss of material. The one-minute tests are to be repeated until not more than 0.05 gram will pass through in one minute.

The essential points in the standard sieving operation may be summarized as follows:

1. Rotation of the sieve throughout the process, and particularly in the one-minute tests.
2. Guarding against loss of material. Most sieves are provided with covers which do not fit closely. If loss is suspected, sieve over white paper and always tap the sieve gently.
3. A good balance which may be relied upon to 5 milligrams is required. The ordinary cement laboratory balance, exposed to dust and rough usage, is not accurate enough for this work.
4. Washers, shot, and slugs should never be used on the sieve in standardizing tests.
5. Avoid important tests on damp days. Excessive humidity interferes with good sieving. It tends to decrease the percentage of cement passing the sieve, and, in general, to produce irregular results.