

Standard Method for
QUANTITATIVE DETERMINATION OF COATING
ON MINERAL-COATED PAPER¹



A.S.T.M. Designation: D 687 - 44

ADOPTED, 1944.²

This Standard of the American Society for Testing Materials is issued under the fixed designation D 687; the final number indicates the year of original adoption as standard or, in the case of revision, the year of last revision.

Scope

1. This method covers the procedure for the quantitative determination of the coating on the ordinary types of mineral-coated paper, in which casein (or other proteins) or starch, is the adhesive. It is not intended for testing special types of coated paper, in which lacquers, varnishes, or similar materials are used.

Reagent

2. *Enzyme Solution.*—Prepare an aqueous solution containing approximately 1.5 g. of a suitable enzyme (Notes 1 and 2) and 25 ml. of 0.1 *N* NaOH per liter.

NOTE 1.—The enzyme recommended by Sutermeister and Porter³ is trypsin, but some of the mixtures of enzymes used commercially for desizing cotton and degumming silk have been found to be more rapid in action, less expensive, and more stable.⁴

¹ Under the standardization procedure of the Society, this method is under the jurisdiction of the A.S.T.M. Committee D-6 on Paper and Paper Products.

² Prior to adoption as standard, this method was published as tentative from 1942 to 1944.

³ E. Sutermeister and L. W. Porter, "New Wrinkles in Paper Testing," *Technical Association Papers*, Technical Assn. Pulp and Paper Industry, Series XIII, Vol. 1, p. 206 (1930).

⁴ The preparation "Degoma D. L.," made by Röhm & Haas Co., 222 W. Washington Square, Philadelphia 5, Pa., is particularly suitable.

NOTE 2.—While an enzyme may not be essential if starch is the only adhesive used, it will not interfere with the removal of the coating in such cases, and it is essential where casein is the binder.

Test Specimens

3. The test specimen shall be cut from the sample in such a way to be thoroughly representative of the paper. The specimen shall consist of a sheet of the paper not less than 25 sq. in. in area.

Test Conditions

4. All test specimens shall be brought to a standard condition, prior to testing, in accordance with the Standard Method of Conditioning Paper and Paper Products for Testing (A.S.T.M. Designation: D 685) of the American Society for Testing Materials.⁵ Measurement and weighing of the specimens shall be done under the standard atmospheric conditions.

Procedure

5. (a) Measure the area of the test specimen with an accuracy of plus or minus 0.5 per cent. (If the test speci-

⁵ Appears in this publication, see Contents in Numeric Sequence of A.S.T.M. Designations at front of book.