

Standard Methods of Test for WIRE AND FELT SIDES OF PAPER¹



A.S.T.M. Designation: D 725 - 45

ADOPTED, 1945.²

This Standard of the American Society for Testing Materials is issued under the fixed designation D 725; the final number indicates the year of original adoption as standard or, in the case of revision, the year of last revision.

Scope

1. (a) These methods of test cover four procedures for determining the wire and felt sides of paper. It is not always possible to make the distinction, this being particularly true of coated and other surface-treated papers, and of specialties made with variations in the usual paper-machine practice. When one of the procedures described in this method does not give a definite differentiation, it is advisable to try one or more of the other procedures.

(b) The wire side of paper is the side that was in contact with the wire of the paper machine; the other side is termed the felt side. It is desirable to have means of distinguishing between the two sides, because they generally differ in some physical characteristics.

Procedure A

2. Fold over a sheet of the paper and observe the relative smoothness of the two sides. Often the pattern of diamond-shaped impressions of the machine wire can be seen, thus identifying

the wire side. In viewing the paper, hold it in a horizontal position with the light striking it at an angle of about 45 deg. and with the line of vision of the eye also at an angle of 45 deg. to the surface of the paper. Observation with a microscope is helpful (Note).

NOTE.—Making a black smudge or mark on the paper surface by wiping with a piece of typewriter carbon paper blackens the high spots on the paper surface and sometimes makes the wire marks more easily visible. To do this, hold a small piece of carbon paper between the thumb and middle or forefinger, so that the black surface of the carbon paper is pressed into the surface of the paper under test by whichever finger is used. Using considerable pressure, slowly pull the carbon paper along the surface of the paper, thus producing a black mark about $\frac{1}{2}$ in. in width and 2 or 3 in. in length. During this operation, support the paper on a smooth surface, such as plate glass. Make such a mark on both sides of the paper across both the machine and cross directions as determined by the Standard Method of Test for Machine Direction of Paper (A.S.T.M. Designation: D 528).³ Use a fresh spot on the carbon paper in making each mark.

Procedure B

3. Dip the paper in water or in a weak sodium hydroxide solution, drain off the excess liquid, allow to stand for a

¹ Under the standardization procedure of the Society, these methods are under the jurisdiction of the A.S.T.M. Committee D-6 on Paper and Paper Products.

² Prior to adoption as standard, these methods were published as tentative from 1943 to 1945.

³ Appears in this publication, see Contents in Numeric Sequence of A.S.T.M. Designations at front of book.