

Standard Methods of Test for CONDUCTING PATHS IN ELECTRICAL SLATE¹



A.S.T.M. Designation: D 273 - 40

ADOPTED, 1940.²

This Standard of the American Society for Testing Materials is issued under the fixed designation D 273; the final number indicates the year of original adoption as standard or, in the case of revision, the year of last revision.

Scope

1. These methods include two procedures for testing electrical slate for conducting paths or veins. The general fields of application and limitations of the two procedures are described in the sections on application which precede each of the methods. Both methods are nondestructive and may thus be used for routine factory or quarry inspection work.

METHOD A

Application of Method A

2. This method of test employs high voltage at very high frequencies obtained from a simple spark coil. Numerical readings are not obtainable with this test procedure, but it can be depended on to locate conducting paths or veins with considerable certainty and will, furthermore, give a rough, comparative indication of the impedance of the slate. It is recommended pri-

marily as a routine factory or quarry test, and since the apparatus required is very simple and inexpensive, it is applicable even where a comparatively small quantity of slate is to be tested. If the spark coil employed is of ordinary size, this method is much less hazardous to the operator than any method (such as Method B) which employs high voltage at commercial frequencies.

Apparatus

3. The apparatus shall consist of the following:

(a) *Spark Coil*³—A spark coil of the vibrator type capable of giving a spark from $\frac{3}{8}$ to 1 in. in length between needle points.

(b) *Current Source*.—Six volts direct current.

NOTE 1.—An automobile-type storage battery of about 100-amp-hr. capacity is suggested.

(c) *Electrodes*.—One electrode consisting of a sharp-pointed No. 8 B. & S. gage bare copper wire, about 4 in. in length, mounted on the end of a hard

¹ Under the standardization procedure of the Society, these methods are under the jurisdiction of the A.S.T.M. Committee D-9 on Electrical Insulating Materials.

² Prior to adoption as standard, these methods were published as tentative from 1927 to 1940, being revised in 1936.

³ A Model T Ford ignition-type spark coil has been found satisfactory.