

# *Standard Methods of*

## TESTING PIN-TYPE, LIME-GLASS INSULATORS<sup>1</sup>



ASTM Designation: D 468 - 46

ADOPTED, 1942; REVISED, 1946.<sup>2</sup>

Reapproved in 1952 Without Change.

This Standard of the American Society for Testing Materials is issued under the fixed designation D 468; 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 are intended to apply to the testing of two types of pin-type lime-glass insulators:

(1) Those having a dry flashover of 85,000 v. or less, and used for supporting conductors of primary and secondary power distribution systems.

(2) Those used for supporting conductors of open-wire communication and signal lines.

### ROUTINE TESTS

2. Routine tests shall consist of visual inspection for physical and structural defects; electrical characteristics of insulating material as to dielectric constant and dissipation factor; thermal shock test for homogeneity and uniformity of annealing; gaging for pin-hole formation; and mechanical test for structural strength, the tests being applied in that order. Thermal shock and mechanical strength tests shall be made only on insulators which are free from objectionable physical and structural defects and have passed visual inspection. Separate insulators shall be used for each

test, and insulators which have been gaged or tested shall be discarded.

### Structural Defects

3. The finish of the insulators as indicated by the presence or absence of structural defects, such as cracks, chips, folds, and stones, or other visible flaws covered in the purchaser's product specifications shall be determined by visual inspection.

Chips are defects caused by the fracture and complete removal of a portion of the insulator.

Folds are linear indentations of the surface of the insulator caused by the meeting and partial welding of a re-entrant portion of a surface which has been partially chilled in some previous stage of the process of manufacture.

Stones are foreign, solid, inorganic matter completely or partially surrounded by glass usually consisting of particles of refractory material, crystalline products due to combination of refractories and glass batch constituents, particles of an incompletely melted batch, or products of devitrification of the glass.

### Electrical Characteristics

4. Dielectric constant and dissipation factor shall be measured on plaque

<sup>1</sup> 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.

<sup>2</sup> Prior to adoption as standard, these methods were published as tentative from 1937 to 1942, being revised in 1938, 1939, and 1942.