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American National Standard for Test Methods for Electrical Power Insulators

National Electrical Manufacturers Association

National Electrical Manufacturers Association
1300 North 17th Street, Suite 900 • Rosslyn. VA 22209
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Foreword

(This foreword is not part of American National Standard C29.1-2016)

This standard comprises a manual of procedures to be followed in making tests to determine the characteristics of insulators used on electric power systems. This standard is not an insulator specification, but rather a test method to be used in conjunction with insulator specifications.

Suggestions for improvement of this standard will be welcome. They should be sent to National Electrical Manufacturers Association, 1300 North 17th Street, Suite 900, Rosslyn, VA 22209.

This standard was processed and approved for submittal to ANSI by Accredited Standards Committee on Insulators for Electric Power Lines, C29. Committee approval of the standard does not necessarily imply that all committee members voted for approval. At the time it approved this standard, the ASC C-29 Committee had the following members:

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1 Scope

This standard comprises a manual of test methods to be followed in making tests to determine the characteristics of electrical power insulators, as defined herein. Individual tests shall be made only when specified.

2 Definitions

Definitions as given herein apply specifically to the subject treated in this standard. For additional definitions see American National Standard Dictionary of Electrical and Electronics Terms, ANSI/IEEE 100.

2.1 Insulators and Parts

2.1.1 Insulator. An insulator is a device intended to give flexible or rigid mechanical support to electric conductors or equipment while electrically separating these conductors or equipment from ground or other conductors or equipment. An insulator may be comprised of one or more insulating parts to which connecting devices (metal fittings) are often permanently attached.

2.1.2 Shell. A shell is a single insulating member, having a skirt or skirts without cement or other connecting devices, intended to form a part of an insulator or an insulator assembly.

2.1.3 Pin Insulator. A pin insulator is an insulator having means for rigid mounting on a separable pin.

2.1.4 Post Insulator. A post insulator is an insulator of generally columnar shape, having means for direct and rigid mounting.

2.1.5 Cap and Pin Insulator. A cap and pin insulator is an assembly of one or more shells with metallic cap and pin, having means for direct and rigid mounting.

2.1.6 Line Insulator (Pin, Post). A line insulator is an assembly of one or more shells, having means for semirigidly supporting line conductors.

2.1.7 Apparatus Insulator (Cap and Pin, Post). An apparatus insulator is an assembly of one or more apparatus-insulator Units, having means for rigidly supporting electric equipment.

2.1.7.1 Apparatus Insulator Unit. An apparatus insulator unit is an assembly of one or more shells with attached metal parts, the function of which is to support rigidly a conductor, bus, or other conducting elements on a structure or base member.

2.1.7.2 Stack. An apparatus insulator stack is a rigid assembly of two or more apparatus-insulator units.

2.1.8 Suspension Insulator. A suspension insulator is an insulator with attached metal parts having means for nonrigidly supporting electric conductors.

2.1.8.1 Suspension Insulator Unit. A suspension insulator unit is an assembly of a shell and hardware, having means for non-rigid coupling to other units or terminal hardware.

2.1.8.2 String. A suspension insulator string is an assembly of two or more suspension Insulators in tandem.

2.1.9 Strain Insulator. A strain insulator is an insulator generally of elongated shape, with two transverse holes or slots.