



ANSI/NEMA C29.12-1997 (R2002, R2012)

American National Standard for Insulators Composite - Suspension Type



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American National Standard

**For Insulators Composite—
Suspension Type**

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National Electrical Manufacturers Association

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FOREWORD

(This Foreword is not part of American National Standard C29.12-1997 (R2002, R2012))

This first edition of this standard was based on a NEMA proposed standards publication for composite suspension insulators used on overhead transmission lines. It was developed at the request of American National Standards Committee on Insulators for Electric Power Lines, ASC C-29.

Suggestions for improvement of this standard will be welcome. They should be sent to the National Electrical Manufacturers Association, 1300 North 17th Street, 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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AMERICAN NATIONAL STANDARD**ANSI/NEMA C29.12-1997
(R2002, R2012)**

For Insulators Composite—Suspension Type**1 SCOPE**

This standard covers composite suspension insulators made of a fiberglass-reinforced resin rod core, polymer material weathersheds, and metal end fittings intended for use on overhead transmission lines for electric power systems, 70 kV and above. Mechanical and electrical performance levels specified herein are requirements for new insulators.

2 DEFINITIONS

See Section 3 of American National Standard for Composite Suspension Insulators for Overhead Transmission Lines—Tests, ANSI C29.11, and Section 2 of American National Standard Test Methods for Electrical Power Insulators, ANSI C29.1, for definition of terms.

3 GENERAL

3.1 Insulators shall conform in all respects to the requirements of this standard. The text, figures, and tables supplement each other and shall be considered part of this standard.

3.2 Manufacturer's drawings, if furnished, shall show the outline of the insulators, together with all pertinent dimensions, and mechanical, electrical, and leakage values. Any variations in these dimensions due to manufacturing tolerances shall be indicated.

4 MATERIALS**4.1 Core**

The core of the insulator shall consist of a fiberglass-reinforced resin rod. The rod shall be sound and free of defects that might adversely affect the insulator's electrical and mechanical properties.

4.2 Weathersheds

The weathersheds shall be made of polymer materials such as ethylene propylene or silicone elastomers. They may contain inorganic fillers and organic compounding agents.

4.3 Metal Parts

Metal parts, except for cotter keys, shall be made of a good commercial grade of malleable iron, ductile iron, steel, or aluminum. All ferrous parts, other than stainless steel, shall be galvanized in accordance with specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware ASTM A153-82(latest revision). Cotter keys shall be made from cold-drawn bronze, brass, or austenitic stainless steel wire.

5 DIMENSIONS AND CHARACTERISTICS

5.1 Dimensions and characteristics of the insulators shall be in accordance with manufacturers drawings. General tolerances shall be in accordance with C29.11 clause 5. End fittings shall be in accordance with figure 1 or meet the ball and socket gauge requirements shown in figures 12, 13, 14,