



ANSI/NEMA C29.12-2013

American National Standard for Insulators - Composite - Suspension Type



National Electrical Manufacturers Association
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American National Standard

**for Composite Insulators—
Transmission Suspension Type**

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National Electrical Manufacturers Association

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FOREWORD

(This Foreword is not part of American National Standard C29.12-2013.)

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 by the date of its next scheduled revision which is December 31st, 2015 to:

Senior Technical Director, Operations
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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 C29.12-2013**

for Composite Insulators—Transmission Suspension Type**1 SCOPE**

This standard covers composite suspension (tension) insulators with a minimum section length of 46 inches (1168.4 mm) made of a fiberglass-reinforced resin matrix core, polymer material weathersheds, and metal end fittings intended for use on overhead transmission lines for electric power systems. Mechanical and electrical performance levels specified herein are requirements for new insulators.

2. NORMATIVE REFERENCES**2.1 Referenced American National Standards**

This standard is intended to be used in conjunction with the following American National Standards. When these standards are superseded by a revision approved by the American National Standards Institute, the revision shall apply.

ANSI C29.1-1988 (R2012) *Test Methods of Electrical Power Insulators*

ANSI C29.11-2012 *American National Standard for Composite Insulators – Test Methods*

IEEE 4-1995 *Techniques for High Voltage Testing*

IEEE 100 -1984 *Dictionary of Electrical and Electronics Terms*

2.2 Other Standards

IEC 60695-11-10 *Fire Hazard Testing – Part 11-10: Test Flames – 50 W Horizontal and Vertical Flame Test Methods*

NEMA Publication Number 107-1987 *Methods of measurement of radio influence voltage (RIV) of high-voltage apparatus*

ISO-3452-1: 2008 *Non-Destructive Testing – Penetrant Testing – Part 1: General Principles*

ASTM B499-09 *Standard Test Method for Measurement of Coating Thicknesses by the Magnetic Method; Nonmagnetic Coatings on Magnetic Basis Metals*

ASTM A153-82 *Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware*

3 DEFINITIONS AND ABBREVIATIONS

See Section 3 of *American National Standard for Composite Insulators – Test Methods*, ANSI C29.11 and Section 2 of *American National Standard Test Methods for Electrical Power Insulators*, ANSI C29.1 for definition of terms not defined here.

3.1 Specified Mechanical Load (SML)

The SML is a value that has to be verified during a tensile load test. It forms the tensile loading basis for selection of a composite suspension insulator.

3.2 Routine Test Load (RTL)

The RTL is a load equal to 50% of the SML.

Abbreviations used in this document include:

- mA – milliamperes
- rms – root-mean-square