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## NECA 409-2009

Standard for

# Installing and Maintaining Dry-Type Transformers

AN AMERICAN NATIONAL STANDARD



Published by  
National Electrical Contractors Association

*An American National Standard*

**NECA 409–2009**

*Standard for*

**Installing and Maintaining  
Dry-Type Transformers**



*National  
Electrical  
Installation  
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Published by  
**National Electrical  
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*(This foreword is not a part of the standard)*

# Foreword

*National Electrical Installation Standards™* are designed to improve communication among specifiers, purchasers, and suppliers of electrical construction services. They define a minimum baseline of quality and workmanship for installing electrical products and systems. *NEIS™* are intended to be referenced in contract documents for electrical construction projects. The following language is recommended:

Dry-type transformers should be installed and maintained in accordance with NECA 409-2009, *Standard for Installing and Maintaining Dry-Type Transformers* (ANSI).

Use of *NEIS* is voluntary, and the National Electrical Contractors Association assumes no obligation or liability to users of this publication. Existence of a standard shall not preclude any member or non-member of NECA from specifying or using alternate construction methods permitted by applicable regulations.

This publication is intended to comply with the edition of the National Electrical Code® (NEC®) in effect at the time of publication. Because they are quality standards, *NEIS* may in some instances go beyond the minimum safety requirements of the NEC. It is the responsibility of users of this publication to comply with applicable federal, state, and local electrical codes when installing electrical products and systems. Installers should also follow all manufacturer's installation instructions and ensure conformity to electrical ratings marked on such equipment.

Suggestions for revisions and improvements to this standard are welcome. They should be addressed to:

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To purchase *National Electrical Installation Standards*, contact the NECA Order Desk at (301) 215-4504 tel, (301) 215-4500 fax or [orderdesk@necanet.org](mailto:orderdesk@necanet.org). *NEIS* can also be purchased in .pdf download format at [www.neca-neis.org/standards](http://www.neca-neis.org/standards).

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# 1. Scope

## 1.1 Products and Applications Included

This standard describes the installation and maintenance procedures for single- and three-phase general purpose dry-type distribution and power transformers and associated accessories rated 600 Volts AC or less, and 0.25 kVA or more.

This publication applies to indoor and outdoor, ventilated and non-ventilated, single-phase and three-phase transformers used for supplying power, heating, and lighting loads for commercial, institutional, and industrial use in nonhazardous locations both indoors and outdoors.

It also covers periodic routine maintenance and troubleshooting procedures for transformers, and special procedures used after adverse operating conditions such as a short-circuit, ground-fault, or immersion in water.

## 1.2 Products and Applications Excluded

This publication does not cover single- and three-phase general purpose dry-type distribution and power transformers and associated accessories rated above 600 Volts AC, or any liquid-filled transformers (see NECA 410).

## 1.3 Regulatory and Other Requirements

All information in this publication is intended to conform to the National Electrical Code® (ANSI/NFPA Standard 70). Installers should always follow the NEC®, applicable state and local codes, and manufacturer's instructions when installing and maintaining dry-type transformers.

Only qualified persons familiar with the construction and operation of dry-type transformers should perform the work described in this publication. The term "qualified person" is defined in Article 100 of the NEC. Administrative functions and tasks such as receiving, handling and storing, required in Section 4 and other tasks can be performed under the supervision of a qualified person.

Other *National Electrical Installation Standards* provide additional guidance for installing particular types of electrical products and systems. A complete list of *NEIS* is provided in Annex B.