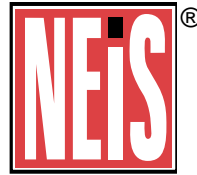




Recommended Practice for
Installing and Maintaining

Dry-Type Transformers

NEIS[®]



Published by
National Electrical
Contractors Association



An American National Standard

NECA 409–2002 *Recommended Practice for* **Installing and Maintaining** **Dry-Type Transformers**



Published by
**National Electrical
Contractors Association**



National Electrical Installation Standards™

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Table of Contents

Foreword	v
1. Scope	1
1.1 Products and Applications Included	1
1.2 Products and Applications Excluded	1
1.3 Regulatory and Other Requirements	1
2. Definitions	2
3. Receiving, Inspecting, Handling, and Storage	3
3.1 Receiving	3
3.2 Handling	3
3.3 Storage	4
3.4 Pre-Installation Checks	4
4. Installation	5
4.1 Environmental Conditions	5
4.2 Coordination with Other Trades	5
4.3 Supporting Transformers	5
4.4 General Installation Requirements	6
4.5 Electrical Circuit Connections	6
4.6 Grounding and Bonding	7
4.7 Transformer Accessories	7
5. Cleaning, Testing, and Commissioning	8
5.1 Cleaning	8
5.2 Visual and Mechanical Inspection	8
5.3 Acceptance Testing	8
5.4 Energizing Transformers	9
6. Site Cleanup	11
6.1 Restore Transformer Finish	11
6.2 Test Data and Manuals	11
6.3 Training	11
6.4 Spare Parts and Special Tools	11

7.	Inspections and Maintenance	12
7.1	Safety Procedures	12
7.2	Frequency of Inspections and Maintenance	12
7.3	Routine Inspections	12
7.4	Periodic External Cleaning, Inspection, and Maintenance	13
7.5	Periodic Internal Cleaning, Inspection, and Maintenance	14
7.6	Periodic Transformer Testing	15
7.7	Re-energizing Transformers	15
7.8	Final Infrared Scan	15
8.	Inspection and Re-energization After Adverse Operating Conditions	16
8.1	Inspection and Testing Following a Short-Circuit or Ground-Fault	16
8.2	Transformer Soaked By or Submersed Under Water	16
8.3	Inspection and Re-energizing Transformer Sprayed or Splashed with Clean Water	16
9.	Drying Transformers	17
9.1	General	17
9.2	Drying by Internal Heat	17
9.3	Drying by External Heat	17
9.4	Drying by Internal and External Heat	17
9.5	Determining Drying Time	17
10.	Inspections and Maintenance	19
10.1	General	19
10.2	Contact Resistance Test	19
10.3	Insulation Resistance Test	19
10.4	Polarization Index	19
10.5	Turns Ratio Test	19
10.6	Excitation Current Test	20
10.7	Winding Resistance Test	20
10.8	Core Insulation Resistance Test	20
10.9	High Potential Test	20
10.10	Infrared Scan	21
	Annex A: Transformer Troubleshooting Guide	22
	Table A.1. Transformer Troubleshooting Chart	22
	Annex B: Reference Standards	29

(This foreword is not a part of the standard)

Foreword

National Electrical Installation Standards™ are intended 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 shall be installed and maintained in accordance with NECA 409-2002, *Recommended Practice 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.

Everything in this publication is intended to comply with the edition of the *National Electrical Code®* in effect at the time of publication. *NEIS* are not intended to duplicate *NEC®* requirements. It is the responsibility of users of this standard to comply with state and local electrical codes when installing electrical products and systems.

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

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1. Scope

1.1 Products and Applications Included

This recommended practice describes installation procedures for single- and three-phase distribution and power transformers and associated accessories rated 600 Volts AC or less, and 0.25 kVA or more, of the following types:

1. Ventilated, indoor and outdoor, self-cooled or forced air cooled.
2. Nonventilated, indoor and outdoor, self-cooled or forced air cooled.

This publication applies to general purpose, dry-type, two-winding 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 apply to the following:

1. Transformers rated higher than 600 Volts,
2. Sealed dry-type transformers,
3. Specialty transformers such as control, industrial control, instrument, current, potential, meter-

ing, buck-boost transformers, or lighting and ballast transformers,

4. Autotransformers,
5. Cast coil transformers,
6. Arc furnace transformers,
7. Rectifier transformers,
8. Liquid-filled or oil-filled transformers,
9. Network transformers,
10. Unit substation transformers, or
11. Transformers with greater than two sets of windings.

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 transformers.

Only qualified persons familiar with the construction and operation of transformers should perform the work described in this publication.

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.