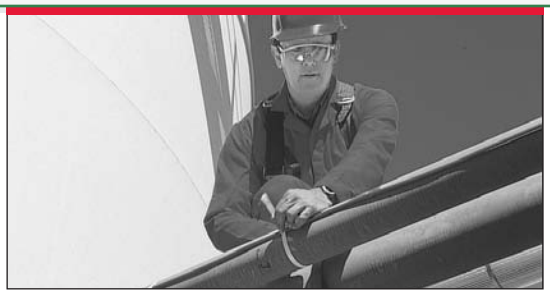

Standard for

# Installing and Maintaining Industrial Heat Tracing Systems

NEIS

Published by
National Electrical
Contractors Association

NECA

# NECA 202-2006

Standard for

# Installing and Maintaining Industrial Heat Tracing Systems

**An American National Standard**

Published by
National Electrical Contractors Association

# Table of Contents

*(This foreword is not a part of the standard)*

# Foreword

*National Electrical Installation Standards™ (NEIS®)* 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:

> Industrial heat tracing systems shall be installed in accordance with NECA 202-2006, *Standard for Installing and Maintaining Industrial Heat Tracing Systems* (ANSI).

Use of *NEIS* is voluntary, and the National Electrical Contractors Association (NECA) assumes no obligation or liability to users of this publication. Existence of a standard shall not preclude any member or non member of either organization 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 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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*Cover illustration courtesy of Tyco Thermal Controls*

| **Revision History** | | |
|---|---|---|
| NECA 202-2001 | 07/2001 | First publication |
| NECA 202-2006 | 09/2006 | Reaffirmation |

# 1. Scope

## 1.1 Products and Applications Included

This standard describes procedures for the installation, testing, and documentation of electrical freeze protection and process heat tracing systems. Heat tracing cable types covered by this publication include: self-regulating heating cables, and mineral insulated (MI) heating cables *(see Figures 1.1(a)-1.1(e) on the following page).*

System components used with these types of heat tracing cables included power transformers, control panels, temperature sensors, temperature controllers, contactors, circuit breakers, enclosures, conduit, wire, and all necessary auxiliary equipment and controls.

## 1.2 Products and Applications Excluded

The following types of heat tracing systems are specifically excluded from this publication:

1. Skin effect heating systems
2. Impedance heating systems
3. Inductance heating systems

## 1.3 Related Construction Materials

In addition to the electrical heat tracing components described in 1.1, this publication includes related construction materials including labels, adhesive tapes, attachment wire and components, and thermal insulation and cladding.

## 1.4 Regulatory and Other Requirements

a) All information in this publication is intended to conform to the National Electrical Code (ANSI/NFPA 70), and, in general, the typical recommendations of electrical heat tracing manufacturers. It is recommended that all work be performed in accordance with NFPA 70E, *Standard for Electrical Safety in the Workplace.* Installers should always follow the NEC, applicable state and local codes, manufacturer's instructions when installing electrical heat tracing. Articles 427 (ordinary areas) and 500 (Classified areas) of the NEC govern the installation of electrical heat tracing systems. IEEE 515 and 515.1 are accepted industry standards that also contain useful information about installing electrical heat tracing systems.

b) Only qualified persons familiar with the construction and installation of electrical heat tracing systems should perform the work described in this publication.

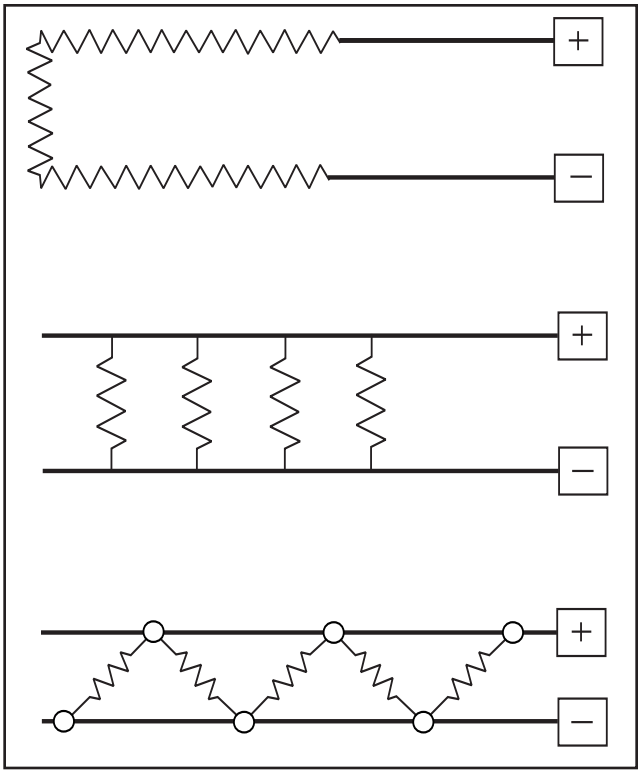


*Figure 1.1(a)—Types of electrical heating*