AMERICAN NATIONAL STANDARD

NECA 202-2006

Standard for

Installing and Maintaining Industrial Heat Tracing Systems

Published by
National Electrical
Contractors Association

NECA

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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.

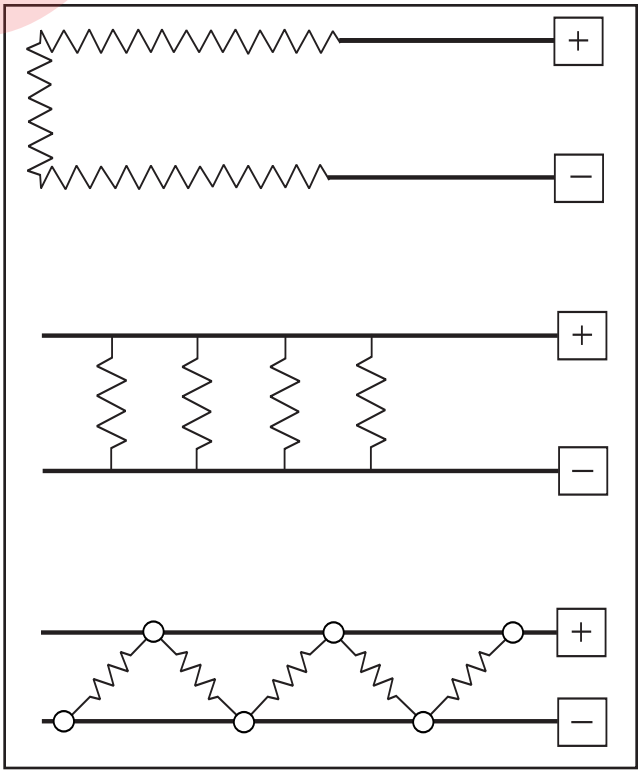

Figure 1.1(a)—Types of electrical heating

c) General requirements for installing electrical products and systems are described in NECA 1, *Standard for Good Workmanship in Electrical Construction* (ANSI). 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.

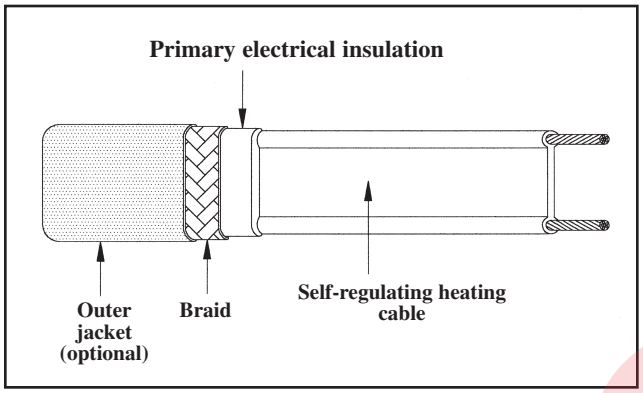

Figure 1.1(b)—Self-regulating conductor polymer heating cable

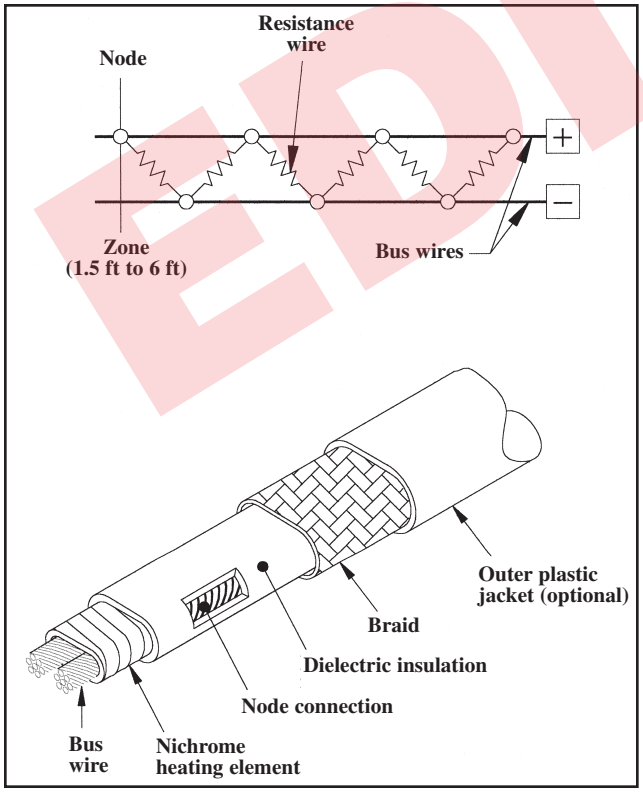

Figure 1.1(c)—Zone heaters – polymer heating cable

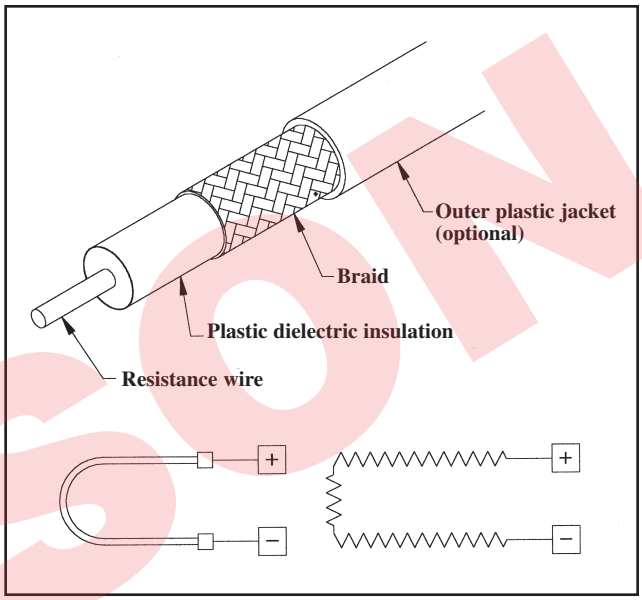

Figure 1.1(d)—Series resistance cables

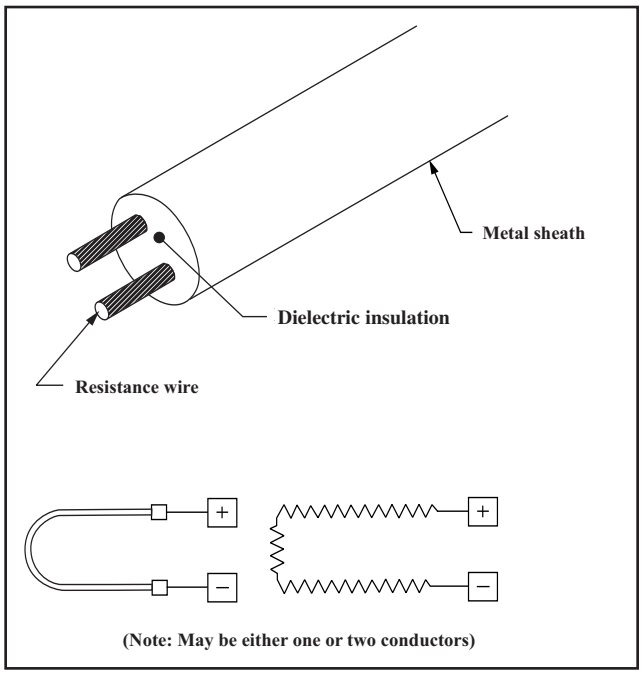

Figure 1.1(e)—Mineral insulated (MI) cable