

NEMA FB 11

PLUGS, RECEPTACLES,
AND CONNECTORS
OF THE PIN AND SLEEVE
TYPE FOR
HAZARDOUS LOCATIONS

NEMA Standards Publication No. FB 11-2000

*Plugs, Receptacles, and Connectors
of the Pin and Sleeve Type for Hazardous Locations*

Published by:

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Foreword

This standards publication applies to plugs, receptacles, and connectors of the pin and sleeve type for use in hazardous locations. These standards are used by the industry to provide guidelines for the manufacture and proper application of reliable plugs and connectors. They allow widespread product availability and competitive manufacturing.

One of the primary purposes of this standards publication is to encourage the production of reliable plugs, receptacles, and connectors of the pin and sleeve type.

Correctly constructed wiring devices are, however, only one factor in minimizing potential hazards that may be associated with the use of electricity. The reduction of hazard involves the joint efforts of the various equipment manufacturers, the installer, and the user. The manufacturer of these devices has limited or no control over the following:

- a. Environmental conditions
- b. System design
- c. Equipment selection and application
- d. Installation
- e. Operating practices
- f. Maintenance

This publication is not intended to instruct the user of wiring devices with regard to these factors, except insofar as suitable equipment to meet needs can be recognized in this publication. This standards publication is necessarily confined to defining the construction requirements for plugs, receptacles, and connectors of the pin and sleeve type. It also provides recommendations for proper selection and use under normal and certain specific abnormal conditions. Since any wiring devices can be installed, operated, and maintained in such a manner that hazardous conditions may result, conformance with this publication does not by itself assure safe operation. When, however, devices conforming with these standards are properly selected and installed in accordance with the *National Electrical Code* and are properly maintained, the hazards to persons and property will be minimal. These recommendations represent a consensus of good safe practice.

These standards provide information on performance and testing of plugs, receptacles, and connectors, thus providing information to the manufacturer and user as to the functional capability of the products.

NEMA standards publications are subject to periodic review. They are revised frequently to meet changing conditions and technical progress. The user should secure the latest editions.

Proposed or recommended revisions should be submitted to:

Vice President, Engineering
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1300 North 17th Street, Suite 1847
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This standards publication was developed by the Pin and Sleeve Plugs and Receptacles Section. Section approval of the standard does not necessarily imply that all section members voted for its approval or participated in its development. At the time it was approved, the group/section was composed of the following members:

Appleton Electric Company—Skokie, IL
Arrow Hart Wiring Devices—Syracuse, NY
Bryant Electric Incorporated—Milford, CT
Crouse Hinds—Syracuse, NY
Daniel Woodhead Company—Northbrook, IL
Hubbell Incorporated—Bridgeport, CT
Joy Molded Rubber Products—La Grange, NC
Killark Electric Manufacturing Company—St. Louis, MO
Leviton Manufacturing Company Incorporated—Little Neck, NY
Meltric Corporation—Franklin, WI
Panel Components—Oskaloosa, IA
Pass & Seymour / Legrand—Syracuse, NY
R. Stahl Incorporated—Salem, NH
Thomas & Betts Corporation—Memphis, TN
W. T. Storey Incorporated—Dalmatia, PA

The standards or guidelines presented in a NEMA standards publication are considered technically sound at the time they are approved for publication. They are not a substitute for a product seller's or user's own judgment with respect to the particular product referenced in the standard or guideline, and NEMA does not undertake to guarantee the performance of any individual manufacturer's products by virtue of this standard or guide. Thus, NEMA expressly disclaims any responsibility for damages arising from the use, application, or reliance by others on the information contained in these standards or guidelines.

Section 1 GENERAL

1.1 SCOPE

The requirements in this publication apply to all plugs, receptacles, and connectors up to 600 volts alternating current, 250 volts direct current, and all current ratings up to 200 amperes.

This publication covers the ratings, materials, construction, performance, and tests of pin and sleeve devices that are used for the connection of circuits to transmit and distribute electrical energy for normal conditions of installation and service in hazardous locations as defined by Article 500 of the *National Electrical Code*. This publication does not apply to devices used in flammable anesthetizing locations.

This publication is not intended to be used for third party certification of pin and sleeve devices.

1.2 REFERENCED STANDARDS

In this publication, reference is made to the standards listed below. Copies are available from the indicated sources.

American National Standards Institute

1430 Broadway
New York, NY 10018

ANSI B46.1-1995	<i>Surface Texture</i>
ANSI/NFPA 70-1996	<i>National Electrical Code</i>
ANSIML 20-1990	<i>General-Use Snap Switches</i>
ANSIJUL 98-1994	<i>Enclosed and Dead-Front Switches</i>
ANSI/UL 486A-1997	<i>Wire Connectors and Soldering Lugs for Use with Copper Conductors</i>
ANSIJUL 514A-1996	<i>Metallic Outlet Boxes</i>
ANSIJUL 1010-1995	<i>Receptacle-Plug Combinations for Use in Hazardous (Classified) Locations</i>
ANSI/UL 1682-1993	<i>Plugs, Receptacles, and Cable Connectors, of the Pin and Sleeve Type</i>
ANSI/UL 1686-1998	<i>Pin and Sleeve Configurations</i>

American Society for Testing and Materials

100 Barr Harbor Drive
Conshohocken, PA 19428-2959

E 28-97	<i>Standard Test Methods for Softening Point Resins Derived from Naval Stores by Ring-and-Ball Apparatus</i>
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Canadian Standards Association

178 Rexdale Boulevard
Rexdale, Ontario M9W 1R3 CANADA

C22.2 No. 0-M91 (R1997)	<i>General Requirements - Canadian Electrical Code, Part II Attachment Plugs, Receptacles, and Similar Wiring Devices for Use in Hazardous Locations: Class I, Groups A, B, C, and D; Class II, Group G, in Coal or Coke Dust, and in Gaseous Mines</i>
C22.2 No. 159-M1987 (R1999)	
C22.2 No. 182.1-1988 (R1993)	<i>Industrial Type, Special Use Attachment Plugs, Receptacles, and Connectors</i>
C22.2 No. 182.2-1987 (R1999)	<i>Industrial Locking Type, Special Use Attachment Plugs, Receptacles, and Connectors</i>