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Application and Installation Guidelines for Flexible and Liquid-tight Flexible Metal and Nonmetallic Conduits

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Contents

Tables

Figures

Foreword

These application and installation guidelines offer practical information on correct usage and industry recommended practices for the installation of Flexible Metal Conduit (Type FMC) and Liquid-tight Flexible Metal Conduit (Type LFMC) in accordance with the *National Electrical Code*® (*NEC*).

These guidelines have been developed by the NEMA Building Wire and Cable Group. The '" 'Group's Flexible Metal Conduit Technical Committee has committed to periodically reviewing them for any revisions necessary to address changing conditions, product listing and installation requirements, and technical progress. Comments for proposed revisions are welcomed and should be submitted to:

NEMA Technical Operations Department
National Electrical Manufacturers Association
1300 North 17th Street
Rosslyn, Virginia 22209

At the time of approval, the NEMA Building Wire and Cable Group's Flexible Metal Conduit Technical Committee had the following Members:

AFC Cable Systems, Inc., A part of Atkore International	New Bedford, MA
Anamet Electrical, Inc.	Mattoon, IL
Electri-Flex Company	Roselle, IL
Encore Wire Corporation	McKinney, TX
International Metal Hose Company	Bellevue, OH
Southwire Company	Carrollton, GA

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Section 1
APPLICATION GUIDELINES FOR FLEXIBLE METAL CONDUIT

1.1 CONSTRUCTION

1.1.1 General

Flexible Metal Conduit (Type FMC) is constructed in accordance with the *National Electrical Code*® (*NEC*) and complies with the safety requirements of Underwriters Laboratories (UL), UL 1 *Standard for Safety for Flexible Metal Conduit*.

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National Fire Protection Association, Inc.
1 Batterymarch Park
Quincy, MA 02269

1.1.2 Conduit

Flexible Metal Conduit (Type FMC) is constructed with an interlocked corrosion-resistant steel or aluminum strip and is manufactured in accordance with UL 1, which specifies strip thickness, splices, convolutions, interior surfaces, conduit diameters (internal and external) and the quality requirements of the aluminum strip and zinc-coated steel.

1.2 Grounding and Bonding

FMC is approved for bonding when installed in accordance with Articles 348 and 250 of the *NEC* but limited to 6-foot lengths when used for this purpose.

1.3 Equipment Grounding Conductor

One or more equipment grounding conductors are allowed but are not required. However, *NEC* Section 348.60 states that an equipment grounding conductor is required when FMC is used to connect equipment where flexibility is necessary to minimize the transmission of vibration from equipment or to provide flexibility for equipment that requires movement after installation.

1.4 Codes and Standards

1.4.1 *National Electrical Code*®

Flexible Metal Conduit Type FMC is designed, manufactured, and tested for use in accordance with the *National Electrical Code (NEC)* Article 348 and with UL 1.

1.4.1.1 Uses Permitted

NEC Section 348.10 specifies the permitted uses of FMC as follows:

“““““FMC shall be permitted to be used in exposed and concealed locations.””

These permitted uses are not all-inclusive but only guide where FMC may be used.

In addition to permitted uses covered in Section 348.10, FMC is permitted for installation as follows:

a. Outside Branch Circuits and Feeders;
b. Services;
c. Ducts or plenums used for environmental air;
d. In other spaces used for environmental air;