



Recommended Practice on Static Electricity

2019



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NFPA[®] 77

Recommended Practice on

Static Electricity

2019 Edition

This edition of NFPA 77, *Recommended Practice on Static Electricity*, was prepared by the Technical Committee on Static Electricity. It was issued by the Standards Council on May 4, 2018, with an effective date of May 24, 2018, and supersedes all previous editions.

This edition of NFPA 77 was approved as an American National Standard on May 24, 2018.

Origin and Development of NFPA 77

An NFPA project addressing static electricity was initiated in 1936, and a progress report was presented to the NFPA in 1937. A tentative edition of NFPA 77 was adopted in 1941. This tentative edition was further revised and officially adopted by the NFPA in 1946. Revisions were adopted in 1950, 1961, 1966, 1972, 1977, 1982, 1988, 1993, 2000, and 2007.

The 2000 edition of NFPA 77 presented a totally revised overview of the subject of static electricity and its hazards, including the current level of understanding of static electricity and considerable new information explaining the fundamental aspects of the phenomenon and recommendations for evaluating and controlling potential hazards. Also included were sections addressing specific hazards of flammable gases and vapors and combustible dusts, sections on specific industrial processes and operations, a database of relevant properties of numerous commercially significant materials, a glossary of terms, and diagrams that showed acceptable methods of bonding and grounding.

The 2007 edition of NFPA 77 included the following amendments:

- (1) Numerous editorial changes to comply with the Manual of Style for NFPA Technical Committee Documents
- (2) Text that allowed use of self-checking bonding clamps and bond wires that continuously monitor the resistance to ground and verify that resistance is maintained within acceptable levels
- (3) Cautionary statements regarding the use of appropriate instruments based on the electrical classification of the area in which the instruments will be used
- (4) Cautionary statements regarding the use of high-voltage static neutralizers in electrically classified areas and the use of such static neutralizers as inductive neutralizers when deenergized or at failure
- (5) Correction of errors

The 2014 edition of NFPA 77 includes the following amendments:

- (1) The document has been reorganized into a more logical arrangement, and some large chapters have been divided into several small chapters that are focused on a single topic.
- (2) Many definitions that had been in Annex H, Glossary of Terms, have been moved to Chapter 2, because the defined terms are used numerous times in the body of the text.
- (3) The discussion in Chapter 5 of the mechanisms of static electric charging and discharging of same has been revised for clarity.
- (4) Information on the hazards of switch loading has been added to Chapter 9.
- (5) Recommendations for filling storage tanks have been rewritten.
- (6) Recommendations for flexible intermediate bulk containers have been rewritten.
- (7) Recommendations for web processes have been rewritten.

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The 2019 edition includes the following changes:

- (1) Updates to reference documents, Chapter 2, and Annex I to reflect current editions of the documents.
- (2) Changes to the definitions for *combustible dust* and *grounding*. These definitions reflect the use of the terms specific to NFPA 77.
- (3) Changes to the characterization of low, medium, and high resistivity powders in Chapter 15 to reflect generally accepted international standards.
- (4) Other editorial changes to meet Manual of Style for NFPA Technical Committee Documents requirements.

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Committee Scope: This Committee shall have primary responsibility for documents on safeguarding against the fire and explosion hazards associated with static electricity, including the prevention and control of these hazards. This Committee shall also have primary responsibility for conductive and static-dissipative floors, except as this subject is addressed by the Committee on Health Care Facilities.

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