

NFPA 51B

Standard for Fire Prevention During Welding, Cutting, and Other Hot Work

2003 Edition



NFPA, 1 Batterymarch Park, PO Box 9101, Quincy, MA 02269-9101
An International Codes and Standards Organization

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NFPA 51B

Standard for

Fire Prevention During Welding, Cutting, and Other Hot Work

2003 Edition

This edition of NFPA 51B, *Standard for Fire Prevention During Welding, Cutting, and Other Hot Work*, was prepared by the Technical Committee on Hot Work Operations and acted on by NFPA at its May Association Technical Meeting held May 18–21, 2003, in Dallas, TX. It was issued by the Standards Council on July 18, 2003, with an effective date of August 7, 2003, and supersedes all previous editions.

This edition of NFPA 51B was approved as an American National Standard on July 18, 2003.

Origin and Development of NFPA 51B

This standard was tentatively adopted at the 1960 NFPA Annual Meeting, and the first edition was adopted in 1962. Subsequent editions were published in 1971, 1976, 1977, 1984, 1989, and 1994. The 1999 edition was expanded to include other hot work operations, as defined in the document, to clarify the roles of fire watch, and to introduce a defined permit authorizing individual.

The 2003 edition has been modified to incorporate the following additions: a clear reference to ANSI Z49.1, *Safety in Welding, Cutting, and Allied Processes*, to ensure other non-fire-related hot work requirements are followed; a requirement for signs designating hot work areas as needed; further clarification in the annex of the role of fire watch and also more advisory material describing management responsibilities; requirements for consideration on non-horizontal spark or slag travel hazard; requirements and advisory material for the consideration of personal protective equipment; decision trees for: (a) when a permit is needed, and (b) when a fire watch is needed; and a new chapter, “Sole Proprietors and Individual Operators,” to consider the “one-person shops.” This edition has also been modified to comply with the updated NFPA *Manual of Style*.

Technical Committee on Hot Work Operations

Stephen E. Daily, *Chair*

Anheuser-Busch Companies, MO [U]

Rep. NFPA Industrial Fire Protection Section

Richard S. Anderson, GE Global Asset Protection Services, CA [I]

Gregory Baeten, Miller Electric Manufacturing, WI [M]

Rep. National Electrical Manufacturers Association

Mark E. Blank, FM Global, IL [I]

Christopher J. Bloom, CJB Fire Consultants, OR [SE]

Richard J. Clark, Royal & SunAlliance, NY [I]

Rep. American Insurance Services Group

Michael P. Eads, Road Sprinkler Fitters Local 669, IN [L]

Rep. United Association of Journeymen and Apprentices of the Plumbing and Pipe Fitting Industry of the U.S. and Canada

Martin H. Finkel, Environmental Safety & Health of Alaska, AK [SE]

Rep. Marine Chemists Association Inc.

Satya Prakash Garg, M/S Gas Authority of India Limited, India [E]

Dennis R. Howard, Safety Management, Inc., LA [SE]

August F. Manz, A. F. Manz Associates, NJ [M]

Rep. American Welding Society

Robert B. Nicholson, III, Eastern Propane Corporation, NJ [IM]

Rep. National Propane Gas Association

Michael F. O'Brien, Auburn Manufacturing, Inc., ME [M]

Charles C. Phillips, Oak Ridge National Laboratory, TN [RT]

Antony D. Tijerina, Tijerina Investigations, Inc., GA [SE]

Alternates

Joseph M. Bloom, Bloom Fire Investigation, OR [SE]

(Alt. to C. J. Bloom)

Stephen P. Hedrick, American Welding Society, FL [M]

(Alt. to A. F. Manz)

Wallie Williams, General Motors Corporation, MI [U]

(Alt. to S. E. Daily)

Amy B. Spencer, NFPA Staff Liaison

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NOTE: Membership on a committee shall not in and of itself constitute an endorsement of the Association or any document developed by the committee on which the member serves.

Committee Scope: This Committee shall have primary responsibility for documents on the prevention of loss of life and property from fire or explosion as a result of hot work. Hot work operations include, but are not limited to, cutting, welding, burning, or similar operations capable of initiating fire or explosion.

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Changes other than editorial are indicated by a vertical rule beside the paragraph, table, or figure in which the change occurred. These rules are included as an aid to the user in identifying changes from the previous edition. Where one or more complete paragraphs have been deleted, the deletion is indicated by a bullet (•) between the paragraphs that remain.

A reference in brackets [] following a section or paragraph indicates material that has been extracted from another NFPA document. As an aid to the user, Annex C lists the complete title and edition of the source documents for both mandatory and nonmandatory extracts. Editorial changes to extracted material consist of revising references to an appropriate division in this document or the inclusion of the document number with the division number when the reference is to the original document. Requests for interpretations or revisions of extracted text shall be sent to the technical committee responsible for the source document.

Information on referenced publications can be found in Chapter 2 and Annex C.

Chapter 1 Administration

1.1 Scope.

1.1.1* This standard shall cover provisions to prevent loss of life and property from fire or explosion as a result of hot work.

1.1.2 Installation and operation of arc cutting and welding equipment and operation of gas cutting and welding equipment shall be in accordance with ANSI Z49.1, *Safety in Welding, Cutting, and Allied Processes*.

1.2 Purpose. This standard shall provide guidance for persons, including outside contractors and property managers, who manage, supervise, and perform hot work.

1.3 Application.

1.3.1 This standard shall apply to the following hot work processes:

- (1) Welding and allied processes
- (2) Heat treating
- (3) Grinding
- (4) Thawing pipe
- (5) Powder-driven fasteners

- (6) Hot riveting
- (7)*Torch-applied roofing in conjunction with the requirements of NFPA 241, *Standard for Safeguarding Construction, Alteration, and Demolition Operations*
- (8) Similar applications producing or using a spark, flame, or heat

1.3.2 This standard shall not apply to the following:

- (1) Candles
- (2) Pyrotechnics or special effects
- (3) Cooking operations
- (4) Electric soldering irons
- (5) Design and installation of gas cutting equipment and welding equipment covered in NFPA 51, *Standard for the Design and Installation of Oxygen-Fuel Gas Systems for Welding, Cutting, and Allied Processes*
- (6) Additional requirements for hot work operations in confined spaces
- (7) Lockout/tagout procedures during hot work

1.4 Retroactivity. The provisions of this standard reflect a consensus of what is necessary to provide an acceptable degree of protection from the hazards addressed in this standard at the time the standard was issued.

1.4.1 Unless otherwise specified, the provisions of this standard shall not apply to facilities, equipment, structures, or installations that existed or were approved for construction or installation prior to the effective date of the standard. Where specified, the provisions of this standard shall be retroactive.

1.4.2 In those cases where the authority having jurisdiction determines that the existing situation presents an unacceptable degree of risk, the authority having jurisdiction shall be permitted to apply retroactively any portions of this standard deemed appropriate.

1.4.3 The retroactive requirements of this standard shall be permitted to be modified if their application clearly would be impractical in the judgment of the authority having jurisdiction, and only where it is clearly evident that a reasonable degree of safety is provided.

1.5 Equivalency. Nothing in this standard is intended to prevent the use of systems, methods, or devices of equivalent or superior quality, strength, fire resistance, effectiveness, durability, and safety over those prescribed by this standard.

1.5.1 Technical documentation shall be submitted to the authority having jurisdiction to demonstrate equivalency.

1.5.2 The system, method, or device shall be approved for the intended purpose by the authority having jurisdiction.

Chapter 2 Referenced Publications

2.1 General. The documents or portions thereof listed in this chapter are referenced within this standard and shall be considered part of the requirements of this document.

2.2 NFPA Publications. National Fire Protection Association, 1 Batterymarch Park, P.O. Box 9101, Quincy, MA 02269-9101.

NFPA 25, *Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems*, 2002 edition.

NFPA 51, *Standard for the Design and Installation of Oxygen-Fuel Gas Systems for Welding, Cutting, and Allied Processes*, 2002 edition.