

NFPA®

496

Standard for
Purged and Pressurized
Enclosures for
Electrical Equipment

2021



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NFPA® 496

Standard for

Purged and Pressurized Enclosures for Electrical Equipment

2021 Edition

This edition of NFPA 496, *Standard for Purged and Pressurized Enclosures for Electrical Equipment*, was prepared by the Technical Committee on Electrical Equipment in Chemical Atmospheres. It was issued by the Standards Council on March 15, 2020, with an effective date of April 4, 2020, and supersedes all previous editions.

This edition of NFPA 496 was approved as an American National Standard on April 4, 2020.

Origin and Development of NFPA 496

This standard was developed in two parts by the Technical Committee on Electrical Equipment in Chemical Atmospheres. The first part, addressing purged enclosures for electrical equipment in Class I hazardous (classified) locations, was adopted as a tentative standard at the 1966 NFPA Annual Meeting and as an official standard at the 1967 NFPA Annual Meeting. The second part, addressing pressurized enclosures for electrical equipment in Class II hazardous (classified) locations, was tentatively adopted at the 1970 NFPA Annual Meeting and officially adopted at the 1971 NFPA Annual Meeting.

The Technical Committee on Electrical Equipment in Chemical Atmospheres presented a complete revision of the entire standard for the 1974 edition. In 1980, the committee began another complete revision, which culminated in the 1982 edition.

In 1983, the technical committee recognized the need for specific requirements applicable to process control analyzers that have internal sources of a flammable or combustible material, such as a direct connection to the process stream. Two chapters were added to address analyzer enclosures and analyzer rooms or buildings. Additional changes were also made to certain existing portions of the text specifically to address problems in the interpretation of the existing text. The 1986 edition of NFPA 496 was the result of that effort.

In 1987, the technical committee recognized a need for editorial revisions to the figures in Chapter 2 as well as some minor editorial changes in Chapters 2 and 9 and Appendix A. The 1989 edition was the result of that effort.

Beginning in 1990, an ad hoc committee consisting of members of the Technical Committee on Electrical Equipment in Chemical Atmospheres started a major rewrite of the document to develop a more comprehensive standard and to reduce redundancy in the text. Definitions were added for further clarity, and references to Class III were deleted, since the standard did not cover that application and could create some confusion. The term *purging* was replaced with *pressurizing*, and *protective gas* was introduced as a new term. The requirements based on gross internal volume were deleted and replaced with general and specific requirements for all pressurized enclosures used in Class I and Class II locations. The result of the rewrite was the 1993 edition.

In 1997, the technical committee entered NFPA 496 into the revision cycle to update the requirements. The standard was updated to include definitions and references to Article 505 in *NFPA 70®*, *National Electrical Code®*, which deals with Class I, Zone 1, and Zone 2 locations. It also was changed to provide an exception for control rooms, where doors and other openings used solely for equipment relocation are permitted to be excluded from the calculation for outward air velocity from the central room.

In 2001, the Technical Committee on Electrical Equipment in Chemical Atmospheres entered NFPA 496 into the May 2003 revision cycle. The 2003 edition was significantly revised and reorganized for conformance with the 2000 *Manual of Style for NFPA Technical Committee Documents*. Additionally, technical changes included revision of the term *alarm* to clarify its function with