



Member of the FM Global Group

Examination Standard for Explosion Suppression Systems

Class Number 5700

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Foreword

This standard is intended to verify that the products and services described will meet stated conditions of performance, safety and quality useful to the ends of property conservation. The purpose of this standard is to present the criteria for examination of various types of products and services.

Examination in accordance with this standard shall demonstrate compliance and verify that quality control in manufacturing shall ensure a consistent and reliable product.

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1 INTRODUCTION

1.1 Purpose

- 1.1.1** This standard states testing and certification requirements for explosion suppression systems. An explosion suppression system is designed to detect an incipient deflagration and suppress it in order to prevent the full impact of the deflagration from developing. Typically these systems consist of four basic components: the detector(s), a control unit, suppressant storage container(s), and suppressant dispersers.
- 1.1.2** An explosion is detected in the incipient stage, either by a rise in pressure or the presence of flame within the protected enclosure. The control unit then actuates the suppressant dispersers to envelop and arrest the explosion.
- 1.1.3** Certification criteria may include, but are not limited to, performance requirements, marking requirements, examination of manufacturing facility(ies), audit of quality assurance procedures, and a follow-up program.

1.2 Scope

- 1.2.1** This standard applies to the design, construction, operation, maintenance, and testing of a system for the suppression of a deflagration by introductions of a suppression medium.
- 1.2.2** This standard does not apply to devices or systems designed to protect against over-pressure due to phenomena other than internal explosions.
- 1.2.3** This standard only applies to systems designed to limit the pressure developed in the protected enclosure to a level that does not exceed the design strength of the enclosure.
- 1.2.4** This standard does not apply to systems for explosion isolation or suppression of detonations.

1.3 Basis for Requirements

- 1.3.1** The requirements of this standard are based on experience, research and testing, and/or the standards of other organizations. The advice of manufacturers, users, trade associations, jurisdictions and/or loss control specialists was also considered.
- 1.3.2** The requirements of this standard reflect tests and practices used to examine characteristics of explosion suppression systems for the purpose of obtaining certification. Systems having characteristics not anticipated by this standard may be certified if performance equal or superior to that required by this standard is demonstrated.

1.4 Basis for Certification

Certification is contingent upon satisfactory results of analysis of the product (compliance with this standard) and the manufacture of the product in the following major areas:

- 1.4.1** Examination and tests on production samples shall be performed to evaluate:
- the suitability of the product,
 - the proper operation and performance of the product as specified by the manufacturer and required by the certification agency and, as far as practical,
 - the durability and reliability of the product.