



Member of the FM Global Group

**Examination Standard
for
Liquefied Petroleum Gas
Vaporizers, Gas-Air
Mixers and Vaporizer-
Mixers**

Class Number 7151,7156,7157

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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 Liquefied Petroleum Gas (LP-Gas) Vaporizers (Class No. 7151), Gas-Air Mixers (Class No. 7157), and Vaporizer-Mixers (Class No. 7156).
- 1.1.2 Testing and 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 surveillance program.

1.2 Scope

- 1.2.1 This standard is concerned with the details of construction, operation and testing of LP-Gas vaporizers, gas-air mixers, and vaporizer-mixers. LP-Gas vaporizers are intended to aid vaporization of LP-Gas by supplying heat to liquefied LP-Gas. Gas-air mixers are used to mix the LP-Gas vapor with sufficient air to supply a mixture of the necessary heating content for the application, often as a substitute for natural gas. Vaporizer-mixers combine both functions in a single, integrally connected assembly. In vaporizers, heat may be provided by direct application of flame to the portion of the vaporizer containing the LP-Gas, by electrically heating the LP-Gas-containing portion, or by heating a transfer medium which is then used to heat the LP-Gas-containing-portion. Mixers may entrain atmospheric air or be connected to a compressed air source. This standard may consider, as necessary, the suitability of portions of the equipment for Class I, Division 1 or 2 hazardous (classified) locations and does consider the suitability of electrical equipment for its intended environmental conditions. The requirements of this standard shall be used to measure and describe the performance of LP-Gas vaporizers, mixers, and vaporizer-mixers in response to exposure to controlled test conditions. The results of these controlled exposures shall not be used to described or appraise actual exposure conditions, since such conditions will vary widely.

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; in particular they are intended to correspond to those for vaporizers and gas-air mixers in NFPA 58, the Liquefied Petroleum Gas Code. 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 LP-Gas vaporizers, gas-air mixers, and vaporizer-mixers for the purpose of obtaining certification. Such products 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 based upon satisfactory evaluation of the product and the manufacturer 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 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.