



Member of the FM Global Group

Examination Standard for Diesel Engine Fire Pump Drivers

Class Number 1333

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Foreword

This standard is intended to verify that the products and services described will meet the 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 criteria for diesel engines used to drive fire pumps that supply water to fire protection systems. These diesel engines must have an extended service life, throughout which they must be capable of operating reliably at rated power and speeds during emergency fire incidents, despite being idle for extended periods.

1.2 Scope

- 1.2.1 This standard encompasses the design and performance requirements for diesel engines used in fire pump service that are designed and installed in accordance with local jurisdictional requirements.
- 1.2.2 This standard does not address national or local codes which require specific emission levels to be met by stationary diesel engine installations.
- 1.2.3 Accessories such as a Variable Speed Pressure Limiting Control System (VSPLC) may be examined within the scope of this standard.
- 1.2.4 This standard encompasses mechanical speed controller (governor style), in addition to electronic fuel management systems.
- 1.2.5 This standard encompasses diesel engines that are normally aspirated, turbocharged, twin turbocharged, and those fitted with aftercoolers.
- 1.2.6 This standard encompasses diesel engines with liquid cooling or open air cooling.
- 1.2.7 This standard encompasses diesel engines with operating speeds at or below 3600 rpm. Typical engine speeds are: 1000, 1200, 1450, 1760, 1800, 2100, 2350, 2400, 2600, 2800, 3000, and 3600 rpm.

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 diesel engines for the purpose of obtaining certification. Diesel engines 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 performance of the product as specified by the manufacturer and required for certification ; and,
 - As far as practical, the durability and reliability of the product.
- 1.4.2 An examination of the manufacturing facilities and audit of quality control procedures may be made to evaluate the manufacturer's ability to consistently produce the product which is examined and tested, and the marking procedures used to identify the product. Subsequent surveillance may be required by the certification agency in accordance with the certification scheme to ensure ongoing compliance