



Approval Standard for Diesel Leak Detectors

Class Number 7745

December 2009

Foreword

The FM Approvals certification mark is intended to verify that the products and services described will meet FM Approvals' stated conditions of performance, safety and quality useful to the ends of property conservation. The purpose of Approval Standards is to present the criteria for FM Approval of various types of products and services, as guidance for FM Approvals personnel, manufacturers, users and authorities having jurisdiction.

Products submitted for certification by FM Approvals shall demonstrate that they meet the intent of the Approval Standard, and that quality control in manufacturing shall ensure a consistently uniform and reliable product. Approval Standards strive to be performance-oriented. They are intended to facilitate technological development.

For examining equipment, materials and services, Approval Standards:

- a) must be useful to the ends of property conservation by preventing, limiting or not causing damage under the conditions stated by the Approval listing; and
- b) must be readily identifiable.

Continuance of Approval and listing depends on compliance with the Approval Agreement, satisfactory performance in the field, on successful re-examinations of equipment, materials, and services as appropriate, and on periodic follow-up audits of the manufacturing facility.

FM Approvals LLC reserves the right in its sole judgment to change or revise its standards, criteria, methods, or procedures.

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1 INTRODUCTION

1.1 Purpose

- 1.1.1 This standard states Approval requirements for diesel leak detectors.
- 1.1.2 Approval 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 any diesel leak detector. Diesel leak detectors which do not precisely conform to these requirements may be approved if they meet the intent of the standard. Conversely, those that do conform may not be approved if they do not meet the intent of the standard or if other conditions govern. The detection of other hydrocarbons will be considered as applicable.

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, and loss control specialists was also considered.
- 1.3.2 The requirements of this standard reflect tests and practices used to examine characteristics of diesel leak detectors for the purpose of obtaining Approval. Diesel leak detectors having characteristics not anticipated by this standard may be FM Approved if performance equal, or superior, to that required by this standard is demonstrated, or if the intent of the standard is met. Alternatively, diesel leak detectors which meet all of the requirements identified in this standard may not be FM Approved if other conditions which adversely affect performance exist or if the intent of this standard is not met.

1.4 Basis for Approval

Approval 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 FM Approvals; 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 is 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. These examinations may be repeated as part of FM Approvals' product follow-up program.

1.5 Basis for Continued Approval

Continued Approval is based upon:

- production or availability of the product as currently FM Approved;
- the continued use of acceptable quality assurance procedures;

- satisfactory field experience;
- compliance with the terms stipulated in the Approval report;
- satisfactory re-examination of production samples for continued conformity to requirements; and
- satisfactory Facilities and Procedures Audits (F&PAs) conducted as part of FM Approvals' product follow-up program.

Also, as a condition of retaining Approval, manufacturers may not change a product or service without prior authorization by FM Approvals.

1.6 Effective Date

The effective date of an Approval standard mandates that all products tested for Approval after the effective date shall satisfy the requirements of that standard.

The effective date of this Standard is January 1, 2012 for compliance with all requirements.

1.7 System of Units

Units of measurement used in this Standard are United States (U.S.) customary units. These are followed by their arithmetic equivalents in International System (SI) units, enclosed in parentheses. The first value stated shall be regarded as the requirement. The converted equivalent value may be approximate. Appendix A lists the selected units and conversions to SI units for measures appearing in this standard. Conversion of U.S. customary units is in accordance with the American National Standards Institute (ANSI)/Institute of Electrical and Electronics Engineers (IEEE)/American Society for Testing Materials (ASTM) SI 10-97, "Standard for Use of the International System of Units (SI): The Modern Metric System."

1.8 Applicable Documents

The following standards, test methods, and practices are referenced in this standard:

- NEMA 250 – Enclosures for Electrical Equipment
- ANSI/IEC 60529 – Degree of Protection Provided by Enclosures (IP Code)

2 GENERAL INFORMATION

2.1 Product Information

Diesel leak detectors may be for the detection of diesel floating on the surface of water or pooling on a flat surface. The detector consists of a sensor and a control unit. The detector may be capable of detecting other hydrocarbon fuels but this standard is limited to the detection of diesel fuel.

As an alternate to diesel, naphtha (lighter fluid) can be used as a test liquid.

2.2 Approval Application Requirements

To apply for an Approval examination the manufacturer, or its authorized representative, should submit a request to

Electrical Director
FM Approvals
1151 Boston-Providence Turnpike
PO Box 9102
Norwood, MA 02062
U.S.A.

The manufacturer shall provide the following preliminary information with any request for Approval consideration:

- A complete list of all models, types, sizes, and options for the products or services being submitted for Approval consideration;
- general assembly drawings, complete set of manufacturing drawings, materials list, anticipated marking format and electrical schematics, nameplate format, brochures, sales literature, spec. sheets, installation, operation and maintenance procedures, and
- the number and location of manufacturing facilities.
- All documents shall identify the manufacturer's name, document number or other form of reference, title, date of last revision, and revision level. All documents shall be provided with English translation.

2.3 Requirements for Samples for Examination

- 2.3.1 Following authorization of an Approval examination, the manufacturer shall submit samples for examination and testing based on the review of the preliminary information.
- 2.3.2 The test samples shall be a complete assembly with all components mounted in a manner consistent with the manufacturer's instructions and intended application.
- 2.3.3 Requirements for samples may vary depending on design features, results of prior or similar testing, and results of any foregoing tests.
- 2.3.4 The manufacturer shall submit samples representative of production. Any decision to use data generated using prototypes is at the discretion of FM Approvals.
- 2.3.5 It is the manufacturer's responsibility to provide any necessary test fixtures required to test their specific design.

3 GENERAL REQUIREMENTS

3.1 Review of Documentation

During the initial investigation and prior to physical testing, the manufacturer's specifications, technical data sheets, and design details shall be reviewed to assess the ease and practicality of installation and use. The product shall be capable of being used within the limits of the Approval investigation.

3.2 Required Features

- 3.2.1 Means shall be provided to mount the detector securely and independently of the wiring.
- 3.2.2 The detector shall be capable of withstanding normal handling and installation.
- 3.2.3 Means shall be provided to identify a detector in alarm. If the detector is equipped with an integral alarm indicator LED, it shall be red in color.
- 3.2.4 Diesel leak intended for use in hazardous locations shall comply with FM Approval requirements for hazardous location electrical equipment in addition to this standard.
- 3.2.5 The detector and enclosure shall be suitable for the intended environmental exposures as determined by testing in accordance with acceptable national, regional, or international electrical codes.
- 3.2.6 Detectors rated at or above 30 V ac and 60 V dc require a proper ground terminal to be provided.
- 3.2.7 The detector shall be capable of producing an output that will produce a detection signal to a remotely located control within 30 seconds when diesel is detected. The detector shall produce a signal within 200 seconds when a power failure or fault in the detector wiring disables the detector.

3.3 Markings

- 3.3.1 Marking on the product or, if not possible due to size, on its packaging or label accompanying the product, shall include the following information:
 - name and address of the manufacturer or marking traceable to the manufacturer;
 - date of manufacture or code traceable to date of manufacture or lot identification;
 - model number, size, ratings, and applicable precautionary information.

When hazard warnings are needed, the markings should be universally recognizable.

- 3.3.2 The model or type identification shall correspond with the manufacturer's catalog designation and shall uniquely identify the product as FM Approved. The manufacturer shall not place this model or type identification on any other product unless covered by a separate agreement.

3.3.3 The Approval Mark (see Appendix B) shall be displayed visibly and permanently on the product and/or packaging as appropriate. The manufacturer shall not use this Mark on any other product unless such product is covered by a separate report.

3.3.4 All markings shall be legible and durable.

3.4 Manufacturer's Installation and Operation Instructions

The manufacturer shall provide the user with

- instructions for the installation, maintenance, and operation of the product;
- facilities for repair of the product and supply replacement parts; and
- services to ensure proper installation, inspection, or maintenance for products of such nature that it would not be reasonable to expect the average user to be able to provide such installation, inspection, or maintenance.

3.5 Calibration

All examinations and tests performed in evaluation to this standard shall use calibrated measuring instruments traceable and certified to acceptable national standards.

4. PERFORMANCE REQUIREMENTS

4.1 Minimum detection level

Based on amounts specified by the manufacturer, the detector shall respond to the defined diesel exposure in less than 30 seconds. Certain detector samples will be subjected to a baseline sensitivity test to establish sensitivity by which the results of other tests in the program will be measured. This will establish baseline sensitivity.

4.1.1 Minimum detection level, dry floor

This requirement applies to detectors intended to detect a pool of diesel on a dry level floor. The detector sample shall be installed on a flat dry surface. Diesel shall be introduced to establish the baseline sensitivity according to the manufacturer's performance claims which must represent a minimum exposure that the detector will respond to consistently.

4.1.2 Minimum detectable film of fuel floating on water

This requirement applies to detectors intended to detect a pool of Diesel floating on water. The detector sample shall be installed in a water filled sump. Diesel shall be introduced to establish the baseline sensitivity according to the manufacturer's performance claims which must represent a minimum exposure that the detector will respond to consistently.

4.2 Maximum/Minimum height of water in sump

The range of water depth that detector can be installed and still respond to a detectable film of fuel floating on water shall be specified by the manufacturer. The detector will be tested at the maximum and minimum

water depths specified by the manufacturer. The baseline sensitivity shall not shift more than 10% at the extremes of the water depth range. This shift is defined as a reduction in the time require to the exposure defined in the baseline sensitivity test.

4.3 Detector Failure Modes

Any failure of the detector shall result in the detector indicating an alarm state. Tests will be conducted by introducing short circuit faults, open circuit faults and any other type of faults deemed to be appropriate for the construction of the detector.

4.4 Resettable Detectors

Detectors that can be reset and reused after going into an alarm state shall be capable of restoring operation without any changes to the operating characteristics. The baseline sensitivity shall not shift more than 10% following 500 fuel detection/reset cycles. This shift is defined as a reduction in the time require to the exposure defined in the baseline sensitivity test.

4.5 Humidity Cycling and Conditioning

a) The detector sensor shall remain functional and produce no false indication of alarm when subjected to a change from 50% relative humidity at 70°F (21°C), to 90% relative humidity at 100°F (38°C) in 15 minutes.

b) The detector and control unit shall remain functional, with no trouble signal or change in operating characteristics, shall have less than 10% shift in measured baseline sensitivity, and shall produce no false indication of alarm when subjected to a humidity test as follows:

1) For detectors intended solely for indoor dry environments, a relative humidity of 93%±2% and temperature of 90°F±3°F (32°C±2°C) for a period of 24 hours.

2) For detectors intended for indoor/outdoor damp or wet environments, a relative humidity of 95%±3% and temperature of 140°F±3°F (60°C±2°C) for a period of 24 hours.

c) The detector and control unit shall remain functional, with no trouble signal or change in operating characteristics, shall have less than 10% shift in measured baseline sensitivity, and shall produce no false indication of alarm when subjected to 4 hours at the rated high and low ambient temperature rating.

4.6 Voltage Range

The device shall produce no trouble signal or false detection and less than 10% shift in measured sensitivity when operated between 85% and 110% of rated input voltage. If an absolute voltage range, beyond the 85% and 110% of nominal, is specified by the manufacturer, the unit will be tested at the extremes of the range.

4.7 Vibration

4.8.1 Requirement

The detector assembly shall be subjected to 24 hours duration at a total displacement of 0.02 in. (0.5 mm) while swept every 30 seconds through a vibration frequency range of 10 to 30 Hz. No impairment of function is allowed; the detector shall operate properly after this exposure.

4.8 Dielectric Strength

The detector assembly shall be capable of withstanding a high potential between input terminals and ground, for one minute without arcing or breakdown.

- A. For an operating voltage of 30Vac (60Vdc) or less, a potential of 500Vac (710Vdc) shall be applied between input terminals and enclosure ground for one minute.
- B. For an operating voltage greater than 30Vac (60Vdc), a potential of 1000Vac + twice the rated voltage shall be applied between input terminals and enclosure ground for one minute.

4.9 Bonding

Any accessible conductive surface which is likely to become energized in the event of a fault shall be bonded to the protective ground terminal with a circuit resistance of less than or equal to 0.1 ohm. This requirement applies to heat detectors in which the maximum voltage is greater than 30 V rms or 60 V dc. The bonding conductor(s) shall be green or green with one or more yellow stripes. The size of the bonding conductor(s) shall be at least equivalent in size to the primary circuit conductors.

4.10 Dust Test

The sensitivity of the detector shall not be reduced by the accumulation of dust. Two detector samples are placed un-energized in the air tight dust chamber. Approximately 2 ounces (0.06kg) of cement dust, maintained in an ambient room temperature of approximately 73.4 +/- 3.6F (23 +/- 2 C) at 20-50% relative humidity and capable of passing through a 200 mesh screen, are to be circulated for 15 minutes by means of compressed air or blower to completely envelop the sample in the chamber. The air flow is maintained at an air velocity of at least 50fpm (0.25m/s). The baseline sensitivity shall not shift more than 10% following this exposure.

4.11 Static Discharge Test

The intended performance of the detector shall not be impaired or a false detection obtained when the detector is subjected to static electric discharges. Two detector samples are mounted on the underside of a 3/4 inch (19.1mm) thick plywood panel in its intended mounting position and connected to a nominal power source in accordance with the manufacturers instructions. If an electrical junction box is normally employed, it shall be properly connected to earth ground for the purpose of this test. A 250 Pico farad low leakage capacitor, is charged through a 1,500 ohm resistor for a minimum of 2 seconds to a 10,000 Vdc power source. Once charged, it is then discharged through an insulated 3 ft long probe with 1/2 in. (12.7 mm) spherical ends by attaching one probe to the detector and the other to earth ground. Discharges shall be applied at 5 minute intervals to different positions on the surface of the detector as well as locations accessible during cleaning or field adjustments. A total of 10 discharges are made with the probe, with an additional 10 discharges to the accessible internal locations unless the detector is marked that no field servicing is possible.

4.12 Stability

The detector shall be able to withstand at least 30 day period in standby operation with the ambient temperature cycled between the rated temperature extremes six cycles per day for a total of 180 cycles. There shall be no false detection nor any evidence of instability. The test shall be conducted consistent with the manufacturer's intended installation environment (outdoor, submerged in water, buried...etc.) Detectors for use in locations where water may be present shall be submerged in water for this test.

4.13 Extraneous Transients

No false signal will be generated when the detector is subjected to extraneous transients from sources which are described below:

One powered sample of the detector will be subjected to extraneous transients described below at a distance of 24 inches.

a) radio frequency transmissions with radiation power levels equivalent to 5 Watts at 24 inches (0.6 m) in the 27 MHz, 150-174 MHz, 450-467 MHz, 850-870 MHz, and 900-920 MHz bands.

b) A sequential arc (Jacob's ladder) generated between two 15 in. (0.4 m) long, No. 14 AWG (2.1 mm) solid copper conductors attached rigidly in a vertical position to the output terminals of an oil burner ignition transformer or gas tube transformer rated 120 volts, 60 hertz primary; 10,000 volts, 60 hertz, 23 mA secondary. The two wires are to be formed in a taper, starting with a 1/8 in. (3.2 mm) separation at the bottom (adjacent to terminals) and extending to 1.25 in (32 mm) at the top.

c) operation of an electric drill rated 120 V, 60 Hz, 2.5 A.

d) operation of a soldering gun rated 120 V, 60 Hz, 2.5 A.

e) Operation of a 6 in (150 mm) diameter solenoid-type vibrating bell with no arc suppression and rated 24 V dc.

The detector will produce no false detection or trouble signal in the presence of these extraneous transients, and it will respond satisfactorily to a baseline test in the presence of the extraneous transients.

4.14 Surge Transient Tests

Protection against line surge transients will be a requirement for each submitted detector. One powered sample of the detector will be subjected to transient waveforms having peak levels of 100, 500, 1000, 1500, and 2400 V dc, as delivered into a 200 ohm load. This requirement applies to all field wiring terminals that have a possibility of being subjected to line-induced voltage (i.e., initiating device circuits, power circuits, and remote/auxiliary connections).

4.15 Enclosure Requirements (including Polymeric)

The detector enclosure must meet Type 1 enclosure ratings or IP40 as a minimum for indoor applications. It is not necessary to mark the product for Type 1 enclosures. Additional claims made by the manufacturer will be verified according to appropriate enclosure classifications.

4.16 Durability and corrosion resistance: in sea water, in mild acids

4.17.1 Requirement

The detector shall be compatible with the corrosion and acidic atmospheres that are specified by the manufacturer's claims.

- A. Detectors specified for use in sea water shall be subjected to the Corrosion Protection Test (200 Hour Salt Spray) defined in ANSI/NEMA 250.
- B. Detectors specified for use where solvent exposure is possible shall be resistant to chemical or physical change due to solvent exposure. As a result of chemical compatibility testing, there shall be no permanent change in baseline test response.

Test Chemical Representative Chemical Family

Acetone - Ketones
Gasoline - Aliphatic Hydrocarbons
Hexane - Aliphatic Hydrocarbons
Methanol - Alcohols
Ethyl - Acetate Esters
Acetic - Acid Acids

4.17 Additional Requirements

Additional tests may be required, at the discretion of FM Approvals, depending on design features and results of any foregoing tests.

Any test following a failure shall be acceptable only at the discretion of FM Approvals and with a technical justification of the conditions or reasons for failure.

5 OPERATIONS REQUIREMENTS

A quality control program is required to assure that subsequent detectors produced by the manufacturer at an authorized location, shall present the same quality and reliability as the specific detectors examined. Design quality, conformance to design, and performance are the areas of primary concern. Design quality is determined during the Approval examination and tests, and is covered in the Approval Report. Conformance to design is verified by control of quality and is covered in the Facilities and Procedures Audit (F&PA). Quality of performance is determined by field performance and by periodic re-examination and testing.

- Design quality is determined during the examination and tests, and is documented in the Approval Report.
- Continued conformance to this Standard is verified by the Facilities and Procedures Audit (F&PA).
- Quality of performance is determined by field performance and by periodic re-examination and testing.

5.1 Demonstrated Quality Control Program

5.1.1 The manufacturer shall demonstrate a quality assurance program which specifies controls for at least the following areas:

- existence of corporate quality assurance guidelines;
- incoming quality assurance, including testing;
- in-process quality assurance, including testing;
- final inspection and tests;
- equipment calibration;
- drawing and change control;

- packaging and shipping; and
- handling and disposition of non-conforming materials.

5.1.2 Documentation/Manual

There should be an authoritative collection of procedures/policies. It should provide an accurate description of the quality management system while serving as a permanent reference for implementation and maintenance of that system. The system should require that sufficient records are maintained to demonstrate achievement of the required quality and verify operation of the quality system.

5.1.3 Records

To assure adequate traceability of materials and products, the manufacturer shall maintain a record of all quality assurance tests performed, for a minimum period of two years from the date of manufacture.

5.1.4 Drawing and Change Control

- The manufacturer shall establish a system of product configuration control that shall allow no unauthorized changes to the product. Changes to critical documents, identified in the Approval Report, must be reported to, and authorized by, FM Approvals prior to implementation for production.
- The manufacturer shall assign an appropriate person or group to be responsible for, and require that, proposed changes to FM Approved or Listed products be reported to FM Approvals before implementation. The manufacturer shall notify FM Approvals of changes in the product or of persons responsible for keeping FM Approvals advised by means of FM Approvals' Form 797, FM Approved Product/Specification-Tested Revision Report or Address/Main Contact Change Report.
- Records of all revisions to all FM Approved products shall be maintained.

5.2 Facilities and Procedures Audit (F&PA)

5.2.1 An audit of the manufacturing facility is part of the Approval investigation to verify implementation of the quality assurance program. Its purpose is to determine that the manufacturer's equipment, procedures, and quality program are maintained to insure a uniform product consistent with that which was tested and FM Approved.

5.2.2 These audits shall be conducted periodically but at least annually by FM Approvals or its representatives.

5.2.3 FM Approved products or services shall be produced or provided at or from the location(s) audited by FM Approvals and as specified in the Approval Report. Manufacture of products bearing the Approval Mark is not permitted at any other location without prior written authorization by FM Approvals.

5.3 Installation Inspections

Field inspections may be conducted to review an installation. The inspections are conducted to assess ease of application, and conformance to written specifications. When more than one application technique is used, one or all may be inspected at the discretion of FM Approvals.

5.4 **Manufacturer's Responsibilities**

The manufacturer shall notify FM Approvals of changes in product construction, components, raw materials, physical characteristics, coatings, component formulation or quality assurance procedures prior to implementation.

5.5 **Manufacturing and Production Tests**

Test Requirement No. 1

The manufacturer shall... Detectors rated at 30 V rms or 60 V dc and above shall be dielectric tested on 100% of production. The power leads and/or relay terminal leads and associated circuitry shall withstand, for one minute with no insulation breakdown, the application of 1000 V ac, 60 Hz, or 1400 V dc with respect to the protective ground lead. Alternatively, test potentials 20% higher may be applied for at least one second. test potentials 20% higher may be applied for at least one second.

WARNING

The dielectric test required may present a hazard of injury to personnel and/or property and should be performed only under controlled conditions, and by persons knowledgeable of the potential hazards of such testing to minimize the likelihood of shock and/or fire.

APPENDIX A: UNITS OF MEASUREMENT

LENGTH:	in. - "inches"; (mm - "millimeters") mm = in. x 25.4
AREA:	ft - "feet"; (m - "meters") m = ft x 0.3048 in ² - "square inches"; (mm ² - "square millimeters") mm ² = in ² x 6.4516 x 10 ²
MASS:	ft ² - "square feet"; (m ² - "square meters") m ² = ft ² x 0.0929 lb - "pounds"; (kg - "kilograms") kg = lb x 0.454
PRESSURE:	psi - "pounds per square inch"; (bar - "bar") kPa = psi x 6.895 bar - "bar"; (kPa - "kilopascals") bar = kPa x 0.01 bar = psi x 0.06895
HEAT:	Btu - "British thermal units"; (J - "joules") J = Btu x 1.0551 x 10 ³
HEAT RELEASE RATE:	Btu/min - "British thermal units per minute"; (kW - "kilowatts") kW = Btu/min x 0.0176
TEMPERATURE:	°F - "degrees Fahrenheit"; (°C - "degrees Celsius") °C = (°F - 32) x 0.556
LIQUID:	gal - "gallons"; (L - "liter") L = gal x 3.785 L - "liter"; (dm ³ - "cubic decimeters") L = dm ³
FLOW RATE:	gal/min - "gallon per minute"; (L/min - "liters per minute") L/min = gal/min x 3.785

APPENDIX B: FM APPROVALS CERTIFICATION MARKS

FM Approvals certifications marks are to be used only in conjunction with products or services that have been Approved by FM Approvals and in adherence with usage guidelines.



FM APPROVED mark:

Authorized by FM Approvals as a certification mark for any product that has been FM Approved. There is no minimum size requirement for the mark, but it must be large enough to be readily identifiable. The mark should be produced in black on a light background, or in reverse on a dark background.



Cast-On FM Approvals marks:

Where reproduction of the FM Approved mark described above is impossible because of production restrictions, use these modified versions of the FM Approved mark. There is no minimum size requirement for the mark, but it must be large enough to be readily identifiable.



FM Approved Mark with “C” only:

Authorized by FM Approvals as a certification mark for any product that has been evaluated by FM Approvals in accordance with Canadian codes and standards. There is no minimum size requirement for the mark, but it must be large enough to be readily identifiable. The mark should be produced in black on a light background, or in reverse on a dark background.



FM Approved mark with “C” and “US”:

Authorized by FM Approvals as a certification mark for any product that has been evaluated by FM Approvals in accordance with US and Canadian codes and standards. There is no minimum size requirement for the mark, but it must be large enough to be readily identifiable. The mark should be produced in black on a light background, or in reverse on a dark background.

FM Approvals Certification Marks

USAGE GUIDELINES

All FM Approvals certification marks are the sole property of FM Approvals LLC (“FM Approvals”) and are registered or the subject of applications for registration in the United States and many other countries. They are for use only according to these guidelines.

FM Approvals certification marks may be used only on FM Approved products and related product packaging, in advertising material, catalogs and news releases. Use of FM Approvals certification marks on such material is not a substitute for use of the complete FM Approvals certification mark on FM Approved products and/or product packaging.

No FM Approvals certification mark or aspect thereof may be incorporated as part of a business name, Internet domain name, or brand name/trademark for products/product lines. This includes both design aspects (the FM Approvals “diamond,” etc.) and word aspects (“FM,” “Approved,” etc.). The use of any FM Approvals certification mark as a trademark is strictly prohibited.

The Approval Standard number or class number may not be incorporated as part of a business name, Internet domain name, or brand name/trademark for products/product lines. For example, a company may not say “ABC Company’s 4100 Fire Door is FM Approved”; the proper terminology is, “ABC Company’s Fire Door is FM Approved per Approval Standard 4100.”

FM Approvals certification marks, except for the FM Approvals Quality System Registration mark, may not be used on business stationery/cards/signage because this could mischaracterize the relationship with FM Approvals. Additionally, these items should not reference any FM Approvals certification mark.

Products or services may not be marketed under any mark or name similar to “FM Global,” “FM Approvals” or any of the FM Approvals certification marks. Further, products or services may not be marketed to imply a relationship beyond the scope of any Approval made by FM Approvals.

When an FM Approvals certification mark is used in advertising material or on product packaging, all material must reflect the specific circumstances under which the product was FM Approved. The material must clearly differentiate between products that are FM Approved and those that are not, and may not, in any way, imply a more substantial relationship with FM Approvals.

A company may not reference the intent to submit a product for Approval or the expectation that a company will have a certain product FM Approved in the future. For example, a company may not state, “Approval by FM Approvals pending” or “Approval by FM Approvals applied for.”

FM Approvals certification marks should not be preceded or followed by a qualifier that indicates a degree of certification or acceptability. For example, “exceeds,” “first” or “only” may not be used to qualify any FM Approvals certification mark.

Only original artwork issued by FM Approvals should be used. The FM Approvals certification marks should not be altered in any way other than to resize the artwork proportionately. Unacceptable uses of the marks include, but are not limited to, adding/deleting wording or artwork, reducing the artwork to an illegible size, animation or distortion.

The text of the FM Approvals certification marks may not be translated into any language other than English.

FM Approvals certification marks must appear in a size and location that is readily identifiable, but less prominent than the name of the owner of the certification or the manufacturer/seller/distributor of the certified products.