



Approval Standard for Vegetative Roof Systems

Class Number 4477

June 2010

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 vegetative roof systems that are used within an FM Approved roof assembly.

1.2 Scope

- 1.2.1 This standard applies to all vegetative roof systems that are intended to be installed over an FM Approved single-ply, polymer-modified bitumen sheet, built-up roof or liquid applied roof cover assembly.
- 1.2.2 The roof cover assembly, over which the vegetative roof system is installed, shall meet the requirements of Approval Standard 4470 (Single-Ply, Polymer-Modified Bitumen Sheet, Built-Up Roof (BUR) and Liquid Applied Roof Systems for use in Class 1 and Noncombustible Roof Deck Constructions), with the exception of UV conditioning, susceptibility from hail storm damage, and performance in regard to fire from above the deck.
- 1.2.3 Any portion of the Single-ply, Polymer-Modified Bitumen Sheet, Built-Up Roof, and Liquid Applied roof cover systems that is not covered by the vegetative roof system (for example - vertical flashing at a parapet wall, where the membrane extends above the growth media) shall be qualified in accordance with all requirements of Approval Standard 4470.
- 1.2.4 The standard is intended to evaluate only those hazards investigated, and is not intended to determine suitability for the end use of a product.
- 1.2.5 This standard evaluates vegetative roof systems for their performance in regard to fire from above and below the structural deck, foot traffic and water leakage.

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 vegetative roof systems for the purpose of obtaining Approval. Products 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, products 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 when used as part of an FM Approved roof assembly 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 for use in a roof assembly;
 - the performance of the product for use in a roof assembly 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 Master Agreement and 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. Products FM Approved under a previous edition shall comply with the new version by the effective date or else forfeit Approval.

The effective date of this Standard is June 1, 2010 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 *Standard for Use of the International System of Units (SI): The Modern Metric System*, BSR/IEEE/ASTM SI 10.

1.8 Applicable Documents

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

ASTM International

- *Standard Test Method for Determining Water Migration Resistance Through Roof Membranes, ASTM D7281*
- *Fire Tests of Roof Coverings, ASTM E108*

FM Approvals LLC

- Approval Standard for Single-Ply, Polymer-Modified Bitumen Sheet, Built-Up Roof (BUR) and Liquid Applied Roof Systems for use in Class 1 and Noncombustible Roof Deck Construction, Class Number 4470.
- *Test Procedure, Test Method for Determining the Foot Traffic Resistance of Roof Coverings*

1.9 Definitions

For purposes of this standard, the following terms apply:

Adhesive – Adhesive is used in roof construction to adhere roof coverings to roof coverings as in lap construction. It is also used to bond roof coverings to the substrate below or to adhere insulation to the substrate. Depending on the use, the adhesive could be in either a liquid form, semi liquid form or a solid form as in a seam tape or as in hot asphalt which is solid until heated

Deck - The deck is the structural component of the roof assembly to which the roof system is secured.

Delamination - Separation of the plies in a roof membrane or system in any laminated roofing material or component, e.g., laminated layers of rigid insulation or the felt plies in a built-up roof or separation of any membrane from the substrate to which it is adhered.

Drainage/Retention Panel – Drainage panels are used to allow for proper drainage of water from the overlying saturated growth media and to retain water to provide the root system with access to moisture during dry periods.

Fasteners - A fastener is a mechanical securement device used alone or in combination with a stress distributor to secure various components of a roof assembly.

Filter Fabric – The filter fabric is used to retain growth media and prevent fine particles from being washed out of the growth media into the underlying drainage panel.

Fully Adhered - Fully adhered describes roof components that have been bonded to the substrate using a compatible adhesive throughout the entire surface of the roof.

Growth Media (Engineered Soil) – Made up of mineral soil and organic soil, the material that supports and nourishes the green roof vegetation; it provides water and nutrients to the plants, as well as anchorage for the root system.

Hardscape – Materials and features, such as stone ballast (roof gravel), concrete pavers, gravel stops, curbs, and grating used for bordering or enclosing vegetative roof system areas and intended to support foot traffic.

Heat Weld: A process of bonding overlapping edges of separate sheets or sections of polymer modified bitumen or thermoplastic roofing membranes by the application of heat and pressure to form a watertight seam.

Insulation: Insulation is any of a variety of materials designed to reduce the flow of heat, either from or into a building.

Moisture Retention Mat – A moisture retention mat is used to provide moisture to the growth media and the plant roots. The moisture retention mat is designed to allow for unimpeded root penetration. The moisture retention mat may or may not be used as the protection fabric for the waterproofing membrane.

Mechanically Fastened - Mechanically fastened describes roof covers or base sheets that have been attached to the substrate at defined intervals using fasteners with or without stress distributors.

Protection Fabric – Protection fabric is used to protect the root barrier and waterproofing membrane from damage due to growth media aggregate, hardscape materials, drainage panel edges, and damage during installation of the vegetative roof system.

Roof Assembly - A roof assembly is a system of interacting roof components (including the roof deck) designed to weatherproof and, normally, to insulate a building's top surface.

Roof System - A system of interacting roof components (not including the roof deck) designed to weatherproof and, normally, to insulate a building's top surface.

Root Barrier – A membrane designed to provide protection to the underlying waterproofing membranes from root penetration into the lap seams, as well as to provide protection from microorganisms in the growth media.

Stress Distributor/Plate - A stress distributor/plate is metal or plastic disk or bar designed to distribute a concentrated load over a larger surface area.

Protection Board (Cover Board) - A board stock placed over an insulation layer.

Waterproofing Membrane (Roof Cover) – The exterior surface of a roof assembly designed to protect the building components from the weather, over which the vegetative roof system is installed.

Wind Blanket – Organic or inorganic material placed over growth media and vegetation to minimize erosion and aid in the stabilization of the root systems in newly planted vegetation. The wind blanket may or may not be held in place with anchoring devices. They may be permanent, temporary or intended to biodegrade over time.

References

FM Global Property Loss Prevention Data Sheet 1-35 - Green Roof Systems

2 GENERAL INFORMATION

2.1 Product Information

Vegetative roof systems are constructed on site. They consist of several component layers beginning with the FM Approved roof assembly and ending with the vegetation. Component layers that may be found in a vegetative roof system are: the FM Approved roof assembly and waterproofing membrane, insulation, root barrier, protection fabric, drainage panel, filter fabric, moisture retention mat, growth media, and vegetation. Securements are used to hold the various components of the roof assembly together and generally consist of a combination of adhesives, welds and/or mechanical fasteners, whereas the vegetative roof system is loose laid, similar to a ballasted system.

2.2 Approval Application Requirements

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

Materials 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;
- The components that make up each roof assembly and vegetative roof system. All components in the finished roof assembly and vegetative roof system should be identified by manufacturer, product trade name, method of installation and the ratings desired for each combination.
- All ratings which are desired or expected for each assembly:
ASTM E108 Class A, B, or C with maximum roof slope.
- The number and location of manufacturing facilities.
- All documents shall contain 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 requested Approvals. Sample requirements are to be determined by FM Approvals following review of the preliminary information.
- 2.3.2 Requirements for samples may vary depending on design features, results of prior or similar testing, and results of any foregoing tests.
- 2.3.3 The manufacturer shall submit samples representative of production. Any decision to use data generated using prototypes is at the discretion of FM Approvals.
- 2.3.4 It is the manufacturer's responsibility to provide any necessary test fixtures, such as those which may be required to evaluate the products for Approval.

3 GENERAL REQUIREMENTS

3.1 Review of Documentation

During the initial investigation and prior to physical testing, the manufacturer's specifications and details shall be reviewed to assess the ease and practicality of installation and use. The Approval investigation shall define the limits of the Approval.

3.2 Markings

3.2.1 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, rating, capacity, etc., as appropriate.

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

3.2.2 The product trade name, model number or model 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.

3.2.3 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 FM Approvals Approval Report.

3.2.4 All markings shall be legible and durable.

3.3 Manufacturer's Installation Instructions

The manufacturer shall provide the user with printed instructions to demonstrate proper installation procedures to be followed by installers. As part of the Approval examination, and at the discretion of FM Approvals, at least one inspection of the field installation during and/or after completion shall be required. In some cases, a continued program of inspections shall be necessary to assess the application procedures or changes within the application techniques.

3.4 Calibration

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

3.5 Test Sample Production

All products submitted for testing shall be representative of production run material. The need to monitor the manufacturer of the test specimens shall be at the discretion of FM Approvals.

4 PERFORMANCE REQUIREMENTS

This standard is intended to evaluate vegetative roof systems as part of a finished roof assembly for its performance as it relates to fire from above and below the structural deck, foot traffic, and water leakage.

Tests of alternate constructions may be waived if considered less hazardous than those previously tested.

Additional tests may be required, at the discretion of FM Approvals, depending on design features and results of any foregoing tests. A re-test of an identical assembly following a failure shall be acceptable at the sole discretion of FM Approvals and with a technical justification of the conditions or reasons for failure. When, for a tested classification or rating, a test specimen fails to meet the Approval acceptance criteria for a given classification or rating, two successful test specimens of the same or similar construction must meet the Approval acceptance criteria to qualify for the given classification or rating.

In some cases, the finished roof assembly may include additional items in conjunction with the vegetation, such as wind blankets. FM Approvals may require that these items be tested as part of the finished roof assembly, even if these items are specified to be “temporary” by the manufacturer.

Prior to testing, roof assemblies shall be required to cure for a minimum period of 28 days. No watering of the sample will be allowed during the cure period to simulate drought conditions. A minimum ambient temperature of 70 F (22.2 C) shall be maintained. The test sample shall be subjected to natural sunlight for the duration of the 28 day period in greenhouse conditions or otherwise exposed to natural sunlight while protected from natural precipitation. The test sample vegetation shall be maturely developed and exhibit a minimum 90% coverage rate of the test sample.

4.1 Combustibility From Above the Roof Deck

Testing for combustibility from above the roof deck shall be in accordance with ASTM E 108, Fire Test of Roof Coverings.

4.1.1 Conditions of Acceptance for Combustibility from Above the Roof Deck – Spread of Flame Test

4.1.1.1 For Class A, the maximum flame spread of the sample materials shall not exceed 72 in. (1830 mm).

4.1.1.2 For Class B, the maximum flame spread of the sample materials shall not exceed 96 in. (2440 mm).

4.1.1.3 For Class C, the maximum flame spread of the sample materials shall not exceed 156 in. (3960 mm).

4.1.1.4 The vegetative roof deck sample shall contain the growth media and vegetation. All other components of the vegetation roof systems may be included in the roof deck sample at the option of FM Approvals.

4.1.1.5 There shall be no excessive lateral flame spread which is defined as flames extending to the two lateral edges of the exposed vegetation roof covering beyond 12 in. (305 mm) from the ignition source.

4.1.1.6 There shall be no portion of the vegetative roof covering material blown, or falling, off of the test deck in the form of flaming or glowing brands that continue to glow after reaching the floor.

4.1.1.7 There shall be no portion of the roof deck that falls in the form of particles that continue to glow after reaching the floor.

4.1.2 Conditions of Acceptance for Combustibility from Above the Roof Deck – Intermittent Spread of Flame and Burning Brand Tests for Classes A, B or C

- 4.1.2.1 There shall be no portion of the vegetative roof covering material blown, or falling, off of the test deck in the form of flaming or glowing brands that continue to glow after reaching the floor.
- 4.1.2.2 There shall be no exposure of the deck or sustained flaming on the underside of the deck.
- 4.1.2.3 There shall be no portion of the roof deck that falls in the form of particles that continue to glow after reaching the floor.

4.2 Combustibility From Below the Roof Deck

Testing for combustibility from below the roof deck shall be in accordance with *Test Procedure, FM Approvals Construction Materials Calorimeter*, FM Approvals, LLC.

4.2.1 Conditions of Acceptance for the Construction Materials Calorimeter Test

- 4.2.2 The roof assembly, when subjected to the Construction Materials Calorimeter Test, shall not exhibit fuel contribution rates in excess of the values shown in the following table.

<i>Time Interval.</i>	<i>Max Fuel Contribution Rate</i>	
	<i>Btu/ft²/min</i>	<i>kW/m²/min</i>
3 min.	410	77.6
5 min.	390	73.8
10 min.	360	68.1
Avg. (30 min)	285	54.0

- 4.2.3 There shall be no dropping of flaming particles into the furnace or uncontrolled flaming on the exterior surface of the sample.

4.3 Foot Traffic Resistance Test

Testing for foot traffic resistance of the drainage/retention panel shall be in accordance with *Test Procedure, Test Method for Determining the Foot Traffic Resistance of Roof Coverings*, FM Approvals, LLC.

4.3.1 Conditions of Acceptance for Foot Traffic Resistance

There shall be no signs of tearing or cracking of any vegetative roof system components causing one component to introduce itself into the another component layer due the material failure of any one layer.

4.4 Water Leakage Resistance Test

Testing for water leakage resistance of the root barrier shall be in accordance with *Standard Test Method for Determining Water Migration Resistance Through Roof Membranes*, ASTM D7281, ASTM International.

4.4.1 Conditions of Acceptance for Water Leakage Resistance

There shall be no signs of water leakage during the 7 day period. In addition, there shall be no signs of water leakage during or after the pressure cycles.

4.5 Wind Uplift Resistance

Installation of the above roof cover components (the vegetative roof system) shall be in accordance with *FM Global Property Loss Prevention Data Sheet 1-35 - Green Roof Systems*.

4.6 The roof cover assembly, over which the vegetative roof system is installed, shall meet the requirements of Approval Standard 4470 (Single-Ply, Polymer-Modified Bitumen Sheet, Built-Up Roof (BUR) and Liquid Applied Roof Systems for use in Class 1 and Noncombustible Roof Deck Constructions), with the exception of UV conditioning, susceptibility from hail storm damage, susceptibility to foot traffic damage and performance in regard to fire from above the deck.

4.7 Any portion of the Single-ply, Polymer-Modified Bitumen Sheet, Built-Up Roof, and Liquid Applied roof cover systems that is not covered by the vegetative roof system shall be qualified in accordance with all requirements of Approval Standard 4470.

5 OPERATIONS REQUIREMENTS

A quality assurance program is required to assure that subsequent vegetative roof system produced by the manufacturer shall present the same quality and reliability as the specific vegetative roof system examined. Design quality, conformance to design, and performance are the areas of primary concern.

- 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 sole 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.

APPENDIX A: UNITS OF MEASUREMENT

LENGTH:	in. - "inches"; (mm - "millimeters") mm = in. x 25.4 ft - "feet"; (m - "meters") m = ft x 0.3048
MASS:	lb - "pounds"; (kg - "kilograms") kg = lb x 0.454
HEAT:	Btu - "British thermal units"; (J - "joules") J = Btu x 1.0551 x 103
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.