

Approval Standard for Classification of Pallets and Other Material Handling Products as Equivalent to Wood Pallets

Class Number 4996

December 2015

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Foreword

The FM Approvals certification mark 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 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 the classification of pallets and other material handling products as equivalent to wood pallets.
- 1.1.2 Approval criteria includes, 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 sets fire performance requirements for pallets and other material handling products so that they can be classified as equivalent to wood pallets. This standard is not intended to determine the use and application of the material handling product. It is the responsibility of the manufacturer to determine the suitability of the product for it end use and for the end user to confirm the product meets their needs.
- 1.2.2 This standard specifically addresses pallets and other material handling products. Totes, boxes and similar products are not included in the Scope of this Standard.
- 1.2.3 Sprinkler protection requirements for pallets and other material handling products that are classified as equivalent to wood are not included or determined in this standard. See FM Global Data Sheets for guidelines.
- 1.2.4 The maximum size of the pallet or other material handling products is 16 ft² (1.5 m²) and the maximum aspect ratio of length to width is 1.35. The maximum aspect ratio limits are due to the development of fire spread in the research testing that was used to develop this Approval Standard. The requirement is to ensure pallet test geometry that is reasonably close to the originally tested geometry. "Half" and "quarter" size pallets may be tested and Approved by testing multiple stacks of pallets provided that the test area is less than or equal to the maximum allowed area or aspect ratio. The material handling product cannot collect water or liquids.

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 and loss control specialists was also considered.
- 1.3.2 The requirements of this Standard reflect tests and practices used to examine characteristics of pallets and other material handling components for the purpose of obtaining FM Approval. These requirements are intended primarily as guides, and strict conformity is not always mandatory. Material handling components 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, material handling components which meet all of the requirements identified in this Standard may not be FM Approved if other conditions that adversely affect performance exist or if the intent of this Standard is not met.
- 1.3.3 Meeting these requirements qualifies a product as an FM Approved pallet or other material handling products. Requirements prohibit component substitution or modification without prior authorization by FM Approvals.

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 potential fire hazards of these pallets and other material handling products by assigning a fire classification to the submitted sample.
- 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 are repeated as part of FM Approvals' product surveillance 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 surveillance audits conducted as part of FM Approvals' product surveillance 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 January, 1 2016 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:

ASTM D 1929 Standard Test Method for Ignition Properties of Plastics

ASTM E 2058 Standard Test Method for Measurement of Synthetic Polymer Material Flammability Using Fire Propagation Apparatus (FPA)

Test Procedure, *Test Method for Full Scale Fire Testing of Pallets and Other Material Handling Products*, FM Approvals, LLC.

Test Procedure, *Measurement of Synthetic Polymer Material Flammability Using a Fire Propagation Apparatus (FPA)*, FM Approvals, LLC.

1.9 Definitions

For purposes of this standard, the following terms apply:

Flash-Ignition Temperature – the lowest initial temperature of air passing around the specimen at which a sufficient amount of combustible gas is evolved to be ignited by a small external pilot flame.

Nestable Pallet - pallet whose legs fit inside of the next pallet when in an idle configuration.

Open Deck Pallet – pallet allows air flow and water flow through the pallet vertically, does not include openings for hand holds.

Other Material Handling Product – a portable product used for material handling that is not a pallet, i.e. skid.

Pallet – portable material handling product made from double deck or single deck. The pallet may have independent legs or various runner configurations designed for fork lift insertion.

Self-Ignition Temperature – the lowest initial temperature of air passing around the specimen at which, in the absence of an ignition source, the self-heating properties of the specimen approach ignition, or ignition occurs of itself, as indicated by an explosion, flame, or sustained glow.

Solid Deck Pallet – pallet does not allow airflow or water flow through the pallet vertically, does not include openings for hand holds.

2 GENERAL INFORMATION

2.1 Product Information

Pallets and other material handling components are supplied in a typical idle stack arrangement. They are usually manufactured from a mixture of plastic polymer and resin containing a fire retardant chemical. The pallets may be supplied as double deck, nestable or slave type (single deck) pallets. Other designs meeting the criteria of this standard may also be considered for Approval. Other material handling components are furnished in a variety of shapes, styles and sizes.

2.2 Approval Application Requirements

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

Approvals Manager, Building Materials 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.
- A complete set of manufacturing drawings, materials list, anticipated marking format, brochures, sales literature, spec. sheets, etc.
- 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 following:
- 2.3.2 Sample requirements to be determined by FM Approvals following review of the preliminary information.
- 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 sole discretion of FM Approvals.
- 2.3.5 The maximum allowable footprint of the sample/samples submitted for Approval shall be less than or equal to 16 ft² (1.5 m²) with a maximum aspect ratio of length to width of 1.35. The maximum aspect ratio limits are due to the development of fire spread in the research testing that was used to develop this Approval Standard. The requirement is to ensure pallet test geometry that is reasonably close to the originally tested geometry. "Half" and "quarter" size pallets may be tested and Approved by testing multiple stacks of pallets provided that the test area is less than or equal to the maximum allowed area or aspect ratio.

FM Approvals recognition and listing shall only be extended to pallet and other material handling component manufacturers who successfully meet all test performance criteria in addition to being under the FM Approvals' surveillance audit program:

- 2.4.1 Pallet and other material handling product manufacturers shall receive a listing in the Approval Guide as an FM Approved pallet or other material handling product for a classification as equivalent to wood pallets.
- 2.4.2 Recognition shall be limited to the specific resin and manufacturing process used to manufacture the products used in the test program.

2.5 Classification

The fire hazard classification used in this standard has been developed by FM Approvals and consists of monitoring several performance criteria during actual fire conditions. The values obtained during the fire tests are then compared to predetermined limits for each criterion. From this comparison, an assessment of performance can be made to determine if the product has met all Approval requirements for fire hazard classification as equivalent to wood pallets. The fire performance criterion is the minimum water application rate at which the sample must be controlled.

2.5.1 The water application rate applied directly to the top surface of the fuel load arrangement that controls the fire in the test arrangement.

2.6 Selection of Test Designs

Due to the relatively large number of pallet and other material handling component designs produced by each manufacturer, an attempt shall be made to "envelope" designs in order to minimize the number of tests. That is, based on the designs submitted for Approval, FM Approvals shall attempt to group similar designs together and select the particular designs that are deemed to be the most critical within that envelope. If testing is successful on the selected design, the other designs within that envelope would be FM Approved without additional full scale testing. The above is at the sole discretion of FM Approvals.

A typical program proceeds as follows:

- 2.6.1 A manufacturer submits designs for which recognition is desired.
- 2.6.2 FM Approvals reviews the designs and separates them into envelopes such as solid deck, slatted, gridded, double decked, nestable, etc. based on, but not limited to, their geometries, surface areas, volume of material and % of voids. Subcategories for each envelope may be justified in some cases.
- 2.6.3 The selected design is tested under the FM Approvals Water Application Apparatus (WAA) for fire classification as equivalent to wood pallets (see Paragraph 4.1 for details). These results are then used as a benchmark for all other testing by this manufacturer using the same resin. All other designs within the envelope receive the same Approval. Based upon analysis of the results of the fire tests, additional tests may, at the sole discretion of FM Approvals, be necessary.
- 2.6.4 This process is repeated until all envelopes have been classified or disqualified.

3 GENERAL REQUIREMENTS

3.1 Review of Documentation

3.1.1 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 For each material used to produce the product:
- A. Marking 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, etc., as appropriate.
- B. The model or type identification shall correspond with the manufacturer's catalog designation and shall uniquely identify the product as "FM Approvals Identified Material for Plastic Pallets or Other Material Handling Products". The manufacturer shall not place this model or type identification on any other product unless covered by a separate agreement.
- C. "FM Approvals Identified Material for Pallets or Other Material Handling Products" shall be displayed visibly and permanently on the product and/or packaging as appropriate. The manufacturer shall not use this designation on any other product unless such product is covered by a separate report.
- D. All markings shall be legible and durable.
- 3.2.2 For each pallet or material handling product:
- A. Marking on 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.
- B. 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.
- C. 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.
- D. All markings shall be legible and permanent including hot stamps or inclusive in the product mold. Stickers are not acceptable.

3.3 Drawings

Detailed drawings shall be submitted for each product design for which Approval is desired. As a minimum, the drawing shall show the product name/model number, length, width, height, thickness, size and location of all cut-outs and voids, volume, weight and surface area.

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 product run materials. The need to monitor the manufacturer of the test specimens shall be at the sole discretion of FM Approvals.

3.6 Allowable Materials

All materials used in the manufacturer of FM Approved pallets or material handling product shall be identical to those originally tested. Virgin material or regrind material may be used in conjunction with virgin material if the regrind material is included in the samples actually tested. The composition of the regrind material shall be identifiable and limited to the maximum percentage used in the test program.

3.7 Formulations

All FM Approved pallets or other material handling products shall be manufactured with identical resins, raw materials and additives as tested. The formulation for each product shall be kept on file at FM Approvals.

3.8 Design Changes

Subsequent new product designs, if any, shall be evaluated based on comparison between the new design and the benchmark data obtained for the particular design envelope, as applicable, if possible.

3.9 Formulation Changes

- 3.9.1 Approval of formulation changes involving a single major ingredient (resin, fire retardant, colorant) of a plastic component of a previously FM Approved pallet or other material handling product shall be based on a favorable comparison (+/- 10% or show improvement) of the flammability characterization of the component produced from the modified formulation with the flammability characterization of the originally FM Approved product. The maximum number of changes Approved using this method is limited to 5, after that a full scale fire test will be required.
- 3.9.2 Approval of formulation changes involving more than one major ingredient or a single major ingredient where flammability characterizations of the modified and previously FM Approved components do not compare favorably, shall be based on all the requirements of this standard.

4 PERFORMANCE REQUIREMENTS

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

4.1 Water Application Apparatus Fire Tests

4.1.1 In order to qualify as an FM Approval pallet or other material handling component, a minimum of one fire test shall be conducted using the FM Global 20-MW calorimeter together with a water application apparatus to determine the quantities of water needed for fire control and suppressions.

Fire testing shall be in accordance with Test Procedure, *Test Method for Full Scale Fire Testing of Pallets and Other Material Handling Products*, FM Approvals, LLC.

A. Conditions for Acceptance of the Water Application Apparatus Fire Test:

The fire must be controlled when a water application density of 0.15 gpm/ft² (5.9 mm/min) is applied within the 10 minute test time frame.

- 4.1.2 Extensive research has been conducted utilizing wood pallets such that their relative fire hazard and the appropriate sprinkler design requirements have been determined. As such, FM Approvals recognition will be extended to pallets and other material handling products containing plastic that are determined to be no more critical than wood pallets.
- 4.1.3 FM Approval recognition will not be extended to products that demonstrate a tendency to melt or drip excessively or form excessive pools of molten plastic that can readily spread to adjoining areas. Excessive melting, dripping or pooling shall be considered to have occurred if the molten material spreads and comes in contact with three sides of the barrier defined below.
- A. A 12 x 12 ft (3.66m x 3.66m) barrier, fabricated from steel angles, shall be placed on the floor and centered on the 2 x 2 x 2 core of the test array. The purpose of the barrier is to provide a means of quantifying the amount of molten plastic generated.

4.2 Quality Control Tests

- 4.2.1 Quality control tests shall be conducted as an aid in monitoring the quality controls exercised in the product manufacturing process in order to characterize the materials used in the formulations of the products. In addition, these tests can be used as the basis for determining the anticipated performance characteristics of any future changes in the resin formulation.
- 4.2.2 Ignition Properties The flash-ignition and self ignition temperatures shall be determined in accordance with ASTM D 1929 *Standard Test Method for Ignition Properties of Plastics*.
- 4.2.3 Ignition Characteristics and Fire Properties conducted using the FM Approval Fire Propagation Apparatus in accordance with ASTM E 2058 *Standard Test Method for Measurement of Synthetic Polymer Material Flammability Using Fire Propagation Apparatus (FPA),* Test Procedure, *Measurement of Synthetic Polymer Material Flammability Using a Fire Propagation Apparatus (FPA),* FM Approvals, LLC.
- A. Ignition Characteristics Based on the ignition tests, a plot of times to ignition and external heat flux values shall be created. A minimum heat flux below which ignition is not expected to occur and the thermal response parameter (TRP) are determined for the sample.
- B. Fire Properties From the combustion test, fire properties, such as chemical heat release rate, mass loss rate, generation of CO, chemical heat of combustion and optical density of smoke are measured as a function of time. The peak values shall be reported.

5 OPERATIONS REQUIREMENTS

A quality assurance program is required to assure that subsequent pallets or material handling products produced by the manufacturer shall present the same quality and reliability as the specific product samples 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 Surveillance Audit
- 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 must be an authoritative collection of procedures/policies. It must provide an accurate description of the quality management system while serving as a permanent reference for implementation and maintenance of that system. The system must 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 FM 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' FM Approved Product/Specification-Tested Revision Report.
- Records of all revisions to all FM Approved products shall be maintained.

5.2 Surveillance Audit

- 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 FM Approval Report. Manufacture of products bearing the FM Approval Mark is not permitted at any other location without prior written authorization by FM Approvals.

5.3 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
AREA:	in ² - "square inches"; (mm ² - "square millimeters") mm ² = in ² x 6.4516 x 102 ft ² - "square feet"; (m ² - "square meters") m ² = ft ² x 0.0929
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:	gpm or gal/min - "gallon per minute"; (L/min - "liters per minute") L/min = gal/min x 3.785
DISCHARGE DENSITY	gpm/ft ² – "gallon per minute per square foot"; (mm/min – "millimeter per minute") mm/min = gpm/ft ² x 0.0254

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.