

Technical Bulletin

Factory Mutual Global (FM Global) & Factory Mutual Approvals

An understanding

FM Global – The organisation

FM Global is a USA based international property insurance and loss prevention engineering company with clients in more than 100 countries.

The business specialises in loss prevention services, primarily to large corporations throughout the world in the Highly Protected Risk property insurances market sector. FM Global is the consolidated name of the company, its legal name being Factory Mutual Insurance Company.

FM Global determines risk by bespoke engineering evaluation of the facilities to be insured, rather than access through historical insurance data and theory. This business approach is centered on the FM Global belief that property losses can be prevented or mitigated. FM Global engineering personnel regularly visit insured locations to evaluate hazards and recommend improvements to their property or work practices to reduce physical and financial risk.

FM Global work closely with both clients and material manufacturers, such as Kingspan, to reduce threats to insured properties and maintain operating reliability through state-of-the-art property loss prevention, research and engineering and comprehensive insurance products.

What is FM Approval

FM Global is worldwide industrial and commercial product certification and testing service through FM Approvals. Recognised and respected across the globe, FM Approvals certification assures customers a product or service has been objectively tested and conforms to the highest national and international standards.



FM Approvals is an international leader in third-party certification and approval of commercial and industrial products, including:

- Building products / materials
- Roofing products
- General purpose electrical equipment
- Fire detection, gas detection, signalling & other electrical
- Fire protection equipment
- Functional safety assessment & certification
- Hazardous location electrical equipment
- Smoke detection

An essential requirement for FM Approvals in considering property loss prevention is that real data is used to determine exactly how a given building product / material performs in an actual fire.

FM Approvals engineers use both full and small scale tests during product evaluations, to determine the products ability to limit fire spread. In the event the material e.g. Kingspan Tarec Kooltherm Pipe Insulation, passes the stringent FM tests, approval is granted and it will appear on the FM Approval Guide.

Any developments and improvements to the product are re-tested and the building designer / engineer can be assured that a continued presence in the FM Approvals Guide ensures the (Kingspan Tarec) product in question will perform according to expectations.

Kingspan Tarec have consulted with FM for in excess of 20 years.

How does a manufacturer, such as Kingspan Tarec, gain FM Approval

- The Process

FM Approvals offers worldwide certification and testing services of industrial and commercial property loss prevention products. This certification is recognized and respected across the globe, FM Approvals' certification process assures customers a product has been thoroughly tested and conforms to the highest international standards. Outlined below is the five-step process to gain FM Approval for Kingspan Tarec products:

Step 1: Manufacturer Request

Kingspan Tarec consult with FM Approvals requesting Approval for a product or assembly and provides location, scope of work, raw materials data, specifications and applicable literature and other accreditations.

Step 2: Proposal Issue and Manufacturer Authorisation

A proposal is provided by FM Approvals with scope of work, cost estimates, schedule, required tests and samples. For new customers, a one-time contractual agreement is also mailed for signature (Master Agreement). Kingspan Tarec then authorises the proposal and submits all requested material and information identified in the proposal.

Step 3: Review, Testing and First Audit

The FM investigator will witness the production of the material to be tested and sign / date every section. Once all necessary items are received, testing is scheduled and conducted. The investigator visits the Kingspan Tarec manufacturing facility / facilities to review quality control procedures, raw materials specifications, processes prior to product approval by FM Approvals.

Step 4: Report, FM APPROVED Mark and Listing

Once testing has been completed successfully, a report is prepared and reviewed for technical accuracy and quality. Samples are retained and archived as necessary. FM Approvals sends the final report to the manufacturer. Approval is effective as of date of report. The manufacturer may then label the product as FM Approved and the product is listed in the Approval Guide — an online resource of FM Approvals.

Step 5: Follow-Up Audits

Follow-up audits of manufacturing facilities are required in order to maintain FM Approved status.

Specifying FM approved products - what does this mean to the building owners (Client) and the designers

- Benefits to the client

Having FM approved building products within the fabric of the building can be a key consideration in the client's disaster recovery plans, allowing for damage limitation in a fire situation and so reducing down time and enabling the facility to re-start its activities quicker than if it had adopted non FM approved materials.

The use of FM approved products can reduce build costs, as there may not be a requirement to install a pressurised sprinkler system or adopt other fire resistant building materials to offer the appropriate protection.

Many building clients globally, although not insured by FM Global, recognised the benefits of FM product approvals and are requesting FM approved products and assemblies to provide themselves with corporate responsibility to their customers and workforce, whilst protecting their Professional Indemnity (P.I.).

The reduced losses that result from clients' FM Global loss-prevention efforts, can generate a performance differential that FM subsequently share with their clients / owners in the form of more capacity, broader coverage, competitive terms and conditions and credits in the form of substantial 'no claim' discounts.

- Benefits to building Designers and Engineers

Design professionals have been specifying FM approved products for decades to gain proven fire performance. Specifiers can be sure that FM Approved products will meet the criteria set out in the relevant accreditation, and avoid queries about the performance of key products.

Kingspan Tarec are subject to surveillance and Certificate Reviews to ensure the approved specification is always being met and Designers and Engineers can be assured of the quality of our products, services and raw materials.

Designers and Engineers can have confidence that the fire risks in the buildings they are designing, specifying or managing have been minimised.

FM Global rigorously assesses and approves fire safety products and their installation against published standards including: British Standards, European Standards and LPCB Loss Prevention Standards (LPS), ISO, NZ, AS and ASTM Standards.

- Benefits of FM Approval to a Manufacturer (Kingspan)

The work of FM benefits many sectors of our industry, from Kingspan Tarec who obtain the approval Certificates for their products, through to distribution, installers, contractors, architects and engineers, building control and ultimately the consumers who occupy buildings.

For over 100 years manufacturers have been using FM Approval to underpin the fitness for purpose of their products to help them win and secure specifications and sales.

The FM Approved logo is recognised globally by architects, engineers and building control personnel and complement manufacturers' own technical data with FM approvals impartial and unbiased information on the performance of the product.

Annually hundreds of building product manufacturers seek FM Approval. They have carried out market research and know what they need to have to maximise the business opportunities for their products. FM Global promotes the value of FM Approval to industry specifiers, purchasers, building developers, Fire Engineers / Regulators and global clients, through a range of media, helping FM Approval holders to succeed in a competitive industry.

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