
Sent: Tuesday, 12 September 2017
To: Economics, Committee (SEN)
Subject: RE: Senate Economics References Committee - Hansard Transcript, 19 July 2017 - Non-conforming building products

Sorry for the late response – I thought this had been dealt with.

AFAC first became aware of possible counterfeit sprinklers in 2007 when Tyco Fire and Building Products released a building products alert bulletin.

At the time we alerted our fire investigators to be on the lookout for any sprinkler failures as a result of counterfeit products. A copy of the Tyco Bulletin dated September 2006 is attached.

In 2014 FM Approvals (Factory Mutual) in their Approved Product News Volume 30 No 2 provided advice of counterfeit products and other mark or name infringements from 45 countries/regions including Australia. Counterfeit products included sprinklers, valves and fire hose. A copy of this document is attached.

In June 2014 Fire Protection Association Australia issued a Safety Alert on Non-Certified Sprinklers. This safety alert referred to the a report provided to the International Fire Sprinkler Association by Underwriters Laboratories (USA) highlighting concerns associated with sprinklers that had no evidence of being certified by a reputable third party certification organization. A copy of the Safety Alert is attached.

In April 2015 Risk Logic issued a bulletin listing a number of sprinklers that had been counterfeited. A copy of this document is also attached.

All documents attached are available in the public domain and available on the internet.

Rob Llewellyn | Built Environment Consultant



Tyco Fire & Building Products Alerts Fire Protection Professionals to the Presence of Counterfeit Sprinklers in Asian Markets

Tyco Fire & Building Products recommends specific steps to verify sprinkler authenticity

FOR IMMEDIATE RELEASE

LANSDALE, PA (September 6, 2006) – Tyco Fire & Building Products announced today that it is aggressively combating the presence of counterfeit Tyco-branded sprinkler heads appearing in the Indian marketplace. Other sprinkler manufacturers have reported similar counterfeiting problems in the region.

Tyco Fire & Building Products is working closely with Underwriters Laboratories and Factory Mutual in this effort, and is taking necessary legal steps to stop counterfeit activity related to its products. As a result of legal proceedings brought by Tyco, approximately 1,100 counterfeit sprinkler heads were recently seized by Indian officials in Delhi. The sprinklers were manufactured in China and illegally imported; they have not been found outside the Asian market.

“The recent seizure of counterfeit sprinklers in Delhi shows how serious Tyco Fire & Building Products is about addressing this problem,” said Bill Hewitt, General Counsel for Tyco Fire & Building Products. “It’s a matter of protecting our industry-leading reputation, and even more importantly, the safety of our customers.”

Hewitt continued, “In the event of a fire, counterfeit sprinklers may fail to activate or may not operate as needed to control or suppress the fire. In addition, these sprinklers are not covered under Tyco’s warranty and have not been tested or approved by independent agencies, such as CCCF, Underwriters Laboratories, Factory Mutual, LPCB and Vds.”

The use of counterfeit sprinkler heads could result in problems such as:

- Premature or delayed response of the sprinkler head
- Incorrect spray patterns
- No warranty coverage by Tyco Fire & Building Products
- Loss of certification for the entire system

To ensure the authenticity and proper performance of sprinklers, Tyco Fire & Building Products offers the following recommendations:

- Buy “Tyco” sprinkler heads directly from Tyco Fire & Building Products outlets or authorized distributors. For a complete list of locations, call your Regional Tyco Fire & Building Products sales office. Visit www.tyco-fire.com for company contact information.
- Beware of “bargains” on “Tyco” sprinkler heads that seem too good to be true. Sprinkler products may be low-priced because they are counterfeit or defective.
- Check packaging and data sheets. They should be free of grammatical errors and not conflict with information found elsewhere.
- Look for the name and contact information of the manufacturer. If either is missing, be wary.
- Ask for the warranty or test certificate. If ordering high volumes, insist on a certificate of origin.
- Examine the sprinkler head’s frame, as it may not be of the same design shown in Tyco Fire & Building Products catalogues or on the company’s web site.
- Look for the □G□ or “JOB G5” mark on the sprinkler head’s glass bulb. Be careful to avoid “Tyco” sprinklers sold with a “JOB F5” mark on the bulb, as these are counterfeit products.

Tyco Fire & Building Products places the highest importance on stopping counterfeit product production and unauthorized use of its brand name, ensuring that customers purchase only the most reliable and proven fire protection solutions. You can further this effort by reporting any suspicious products or sales activity to your local Tyco Fire & Building Products sales representative.

About Tyco Fire & Building Products

Tyco Fire & Building Products is a leading manufacturer of water-based fire suppression system components and ancillary building construction products, distributing more than 30 million sprinklers worldwide every year serving customers in residential, commercial, industrial, and institutional building projects. It continually expands its capabilities through aggressive research and product development to provide its customers effective fire protection and construction solutions. More information can be found at www.tyco-fire.com.

Tyco International Ltd. Is a global, diversified company that provides vital product and services to customers in four business segments: Fire & Security, Electronics, Healthcare and Engineered Products & Services. With 2005 revenue of \$40 billion, Tyco employs approximately 250,000 people worldwide. More information on Tyco can be found at www.tyco.com.

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Fakes, Frauds and Phonies in the Marketplace



FM Approvals takes a closer look at an increasingly sophisticated market of counterfeiting and other infringements

The FM APPROVED mark is a powerful symbol indicating that FM Approvals, an accredited testing and certification organization has carefully evaluated a product or building system in accordance with established standards and verified the product's performance. FM Approvals is dedicated to encouraging the development and use of FM Approved products and services that improve and advance property loss prevention. As a member of the FM Global Group, FM Approvals supports the loss prevention needs of FM Global insureds worldwide.

By misusing or misappropriating the FM APPROVED mark, a manufacturer and its distributors are illegally infringing on the rights of manufacturers of legitimate FM Approved

products, as well as potentially endangering the property and safety of anyone who purchases and installs these illegally marked products. Over the past decade, as FM Global's business has expanded around the world, so too has the awareness and use of FM Approved products and services.

Since the early 2000s, FM Approvals has seen a major shift in its customer base from predominantly North American-centric to a truly global distribution. In fact, last year a full 47 percent of customers who obtained product approval during the year hailed from outside the Americas, up from 19 percent in 2002. During this period of growth, the increase in incidents of infringement on the FM APPROVED mark and the outright counterfeiting of look-alike FM Approved products has risen correspondingly.

Counterfeiting and other unauthorized uses of FM Approvals' certification marks have the potential for causing considerable harm to FM Approvals' customers and the public at large. It is FM Approvals' policy to diligently pursue and stop counterfeiting and other misuses whenever they are brought to its attention. FM Approvals classifies infringements into the following four general categories:

- **Counterfeit**—a product that is not FM Approved but bears the FM APPROVED mark(s) and is not made by the manufacturer of record (OEM); or a manufacturer claiming that it meets FM Approvals requirements.
- **Unauthorized product modification**—an FM Approved product currently manufactured that is inconsistent with currently Approved design (includes marking Approved product that has been determined to have quality assurance or performance deficiencies).
- **Misrepresentation of FM APPROVED marks or unauthorized use of intellectual prop-**

erty—a manufacturer using the FM APPROVED mark on a product that is not FM Approved and is the producer of the product.

- **Misuse of FM APPROVED mark and/or certificate**—an FM Approved product that is sold by someone other than the manufacturer of record (OEM).

Global impact growing

Over the past seven years, FM Approvals has received reports of counterfeit products and other mark or name infringements from 45 countries/regions, including China, India, the Middle East, South America, Turkey, Australia, Latvia, Vietnam and many others. Infringements range from outright counterfeit products—such as sprinklers, valves, fire

promote local regulations and standards that go beyond the minimum criteria for product quality when it comes to property loss prevention products in particular.”

In Brazil, for instance, Azimi notes that FM Approvals and FM Global are playing a key role in helping to promote the use of automatic sprinkler systems, including a founding role in the creation of the Brazilian Associations of Sprinklers (Associação Brasileira de Sprinklers) in 2011. “We hear reports that the majority of sprinklers entering Brazil are from unknown sources,” Azimi observes. “The incidents of counterfeiting, misrepresentation and other misuse are directly dependent on the regulatory and enforcement environment of each country. How strongly do they monitor the prod-

COUNTERFEITING AND OTHER UN-AUTHORIZED USES OF FM APPROVALS' CERTIFICATION MARKS HAVE THE POTENTIAL FOR CAUSING CONSIDERABLE HARM TO FM APPROVALS' CUSTOMERS AND THE PUBLIC AT LARGE.

hose, smoke detectors and radios—to counterfeit Certificates of Compliance (CoC) and Certificates of Registration.

FM Approvals new business development managers for the Americas, EMEA (Europe, Middle East and Africa), and Asia/Pacific are among the first to learn of counterfeiting and misuse reports from their regions. “Each country in a region sets its own standards and regulatory environment when it comes to product importation and quality certification,” notes Bob Azimi, manager of FM Approvals new business development for the Americas. “Our goal is always to help

ucts that are allowed into the country? We are working hard to champion on multiple fronts for regulations and codes to ensure that products critical to asset protection and loss prevention are actually going to work.”

The Asia/Pacific region has seen the highest number of cases of reported counterfeit products, with a number of cases from China and India, but increasingly from other countries as well. “It used to be that people were reluctant to report incidents of counterfeiting or misuse of the FM APPROVED mark,” says Abby So, FM Approvals manager of new business development for the



Profile view of an authentic Tyco TY3251 sprinkler (left) and the sprinkler identified as counterfeit (right).

region. “We see that attitude changing. More and more end users, designers and contractors are reaching out and asking us to verify whether a product is FM Approved.”

He believes the increase in reporting is a direct result of the growing awareness in the value of the FM APPROVED mark in the region. “End users want to be sure they are getting a legitimate FM Approved product, and contractors and distributors realize the value that the FM APPROVED certification mark brings and are more willing to report others who may misuse or misrepresent the mark. Counterfeit FM Approvals certificates are the most common thing we see, followed by products that have been falsely labeled as FM Approved.”

In the EMEA region, the challenges are mixed. According to Jean-Philippe Roisin, FM Approvals manager of new business development for the region, the environment in Europe is similar to that of North America. “We don’t see a lot of outright counterfeiting of products in Europe,” he notes. “The regulations here are quite strict and anybody playing that game would be subject to lawsuits and other direct actions. In Europe, we

see more cases of misinterpretation or misapplication of the FM APPROVED mark on the part of legitimate manufacturers of FM Approved products. It could be on a website or in advertising. Maybe the details of their Approved products are not quite right or not precise enough. In those cases, we go to the manufacturer and explain how they should be using the mark or information and it typically gets resolved quickly, without further action.”

Well-established notification process

The initial notification of a possible infringement on FM APPROVED certification marks, known as a Notification of Concern (NoC), can come from almost any source, including:

- FM Approvals’ engineer and/or auditor
- FM Global (field engineers, sales, account, claims, manager intellectual property, law and government affairs, engineering standards)
- Authority having jurisdiction (AHJ)
- End users
- Manufacturers or distributors
- Other (e.g., government, industry organization)

All NoCs are routed immediately to Tom McCarty, FM Approvals loss prevention coordinator within the quality assurance group. McCarty alerts the technical area manager for the product area impacted by the suspected infringement and enters the NoC into a central database used to track NoC status. The quality assurance team begins investigating the NoC to determine if action is needed.

The NoC investigation process includes a hazards evaluation to determine if the NoC represents a potential property loss risk to FM Global clients. If a clear risk is posed by the NoC or if counterfeiting is verified, a Product Alert (see sidebar) will be issued to the public containing information on how to identify the hazard such as a counterfeit sprinkler, for example.

In most cases, the manufacturer of the FM Approved product associated with the NoC is notified of the potential infringement. In other cases, the manufacturer will be asked to submit a plan to correct the infringement. If these measures fail to correct the situation, additional action may be taken, including litigation.

Many willing to pay the price

According to Bob Lovell, FM Approvals manager of auditing and quality assurance, a key problem outside of North America is that buyers are more willing to put price above quality. “It’s one thing to be cost-conscious, but if it means making a deal with an unqualified distributor or seller, that’s where you can run into counterfeit products, falsified certificates and misuse of the mark,” Lovell observes. “Unless you’re buying from the OEM or their legitimate distributor, you have to be careful of the source and check the Approval Guide to determine if the product is actually FM Approved.”

While counterfeit products—particularly sprinklers and other components of automatic sprinkler systems—are still discovered on a regular basis, that challenge is over-

shadowed in some respects by the increased prevalence of counterfeit certificates and counterfeit Approval reports. “The falsified certificate is supporting a product that is not FM Approved, yet purports to be,” Lovell notes. “It’s also surprising what people will accept. There’s the case where a counterfeiter imprinted their product with a triangle instead of the FM APPROVED mark. Even without a mark, the seller tells the buyer they will send an Approval certificate, which of course is falsified. And buyers often accept this as evidence of certification.”

Tom McCarty has seen it all when it comes to this issue. As the FM Approvals loss prevention coordinator, McCarty handles all reports of counterfeiting and other potential infringements from a variety of sources. “We see a lot of honest mistakes by legitimate manufacturers of FM Approved products,” he says. “For instance, a maker of ignitable liquid containers may have two products that are FM Approved, yet they may list seven or eight on their website and, usually inadvertently, implying that all their containers are FM Approved. We consider this misrepresentation of the FM APPROVED mark and we notify that manufacturer that they need to correct their website or literature. These are usually resolved quickly.”

In other cases, a distributor may be misrepresenting an FM Approved manufacturer’s product as its own. Beware: The product will not be in the *Approval Guide*. “We see this from time to time,” notes McCarty. “The distributor is not the manufacturer of record and may be misusing the FM APPROVED mark. We pursue those cases quite aggressively because that’s how we protect the integrity of the FM APPROVED mark and the integrity of our legitimate customers, the mark holders.”

Mark holders weigh in

“Counterfeiting is a big issue for Tyco Fire Protection Products and we take it very seriously,” notes James Golinveaux, who is a Tyco senior fellow and has worked with

FM Approvals for more than 25 years. Tyco is a leader in fire protection, detection and mechanical life safety solutions for commercial, industrial, institutional, governmental and residential customers. “We are in the life safety business and have to take counterfeiting seriously. Our customers trust the Tyco brand and believe they are buying a quality product that they can trust. We react very swiftly when we learn of any Tyco product that is being counterfeited. We have an established task group within Tyco that works with FM Approvals and other certification laboratories, as well as INTERPOL, local police and local governments to track down the source of counterfeits.”

In general, notes Golinveaux, if it sounds too good to be true it probably is. “Customers will hear of some fantastic deal or our distributors will find out that they are competing against another Tyco distributor in their region when there is no other legitimate distributor in that area. We encourage buy-

Mike Bosma, president of Viking Corporation, a leading manufacturer of fire protection products, notes that his company also pursues reports of counterfeiting very aggressively. “When I look upon counterfeiting, I tend to put it into three categories,” Bosma observes. “The first category is traditional counterfeiting, where someone copies your product, including your name and even certificate marks such as the FM APPROVED mark, with no regard for performance—the goal is for the counterfeit to look like the original. We primarily find this form of counterfeiting coming out of Asian countries, particularly China. We spend a good deal of time and money around the world pursuing product counterfeiters. It can be frustrating—you find one and shut them down and another one pops up a month or two later.”

“The second category is what I refer to as ‘bait-and-switch’ and this represents more of a problem for us because it extends

EACH OF THE TECHNICAL AREAS WITHIN FM APPROVALS—BUILDING MATERIALS, ELECTRICAL SYSTEMS AND FIRE PROTECTION—IS IMPACTED BY COUNTERFEITING AND CERTIFICATION MARK INFRINGEMENTS IN DIFFERENT WAYS.

ers who encounter significant discounting, wherever it’s found, to check with us and let us validate it. If people do find counterfeiting, we recommend they report to us and then back away—some counterfeit operations can be run by dangerous people. They are organized criminals in many cases and we have to be careful in how we approach them—that’s why we work with international police in our investigations.”

beyond the more limited counterfeit market. In these cases, a manufacturer may obtain an FM APPROVED mark for one or more of its products, but then they go to market with a lower quality product that does not meet FM Approvals standards. We also see this happening with other certification marks as well. We will go out and obtain samples of these suspect products. Even though they may have certification marks on them, the

Heads up! Product Alert makes a difference

One of the many tools used by FM Approvals to combat counterfeiting is the Product Alert, which provides customers, the general public, field engineers, auditors, authorities having jurisdiction and others with the latest information on counterfeit products, falsified certificates, and incidents of mark misuse or misrepresentation.

FM Approvals began issuing Product Alerts in 2007 as part of a new process for handling potential infringements. Product Alerts are initiated based on reports from a variety of sources, including end users, manufacturers, distributors, auditors and many others. Once sufficient evidence is collected—such as samples of counterfeit products, photographs, and/or copies of falsified certificates—FM Approvals drafts an alert, which is then reviewed by FM Approvals management, legal counsel and intellectual property manager. In many cases, a courtesy review is provided by the manufacturer of the legitimate FM Approved product that is being infringed upon.

Such was the case in July, when Viking Corporation informed FM Approvals that automatic fire sprinklers were being counterfeited in Malaysia with both the FM APPROVED mark and the Viking name. Viking obtained samples of the counterfeit sprinklers and sent some of them to the FM Approvals fire protection laboratory in West Glocester, Rhode Island.

A detailed comparison of the counterfeit and authentic sprinklers was conducted and a four-page Product Alert, complete with photos and descriptions of the counterfeit and authentic sprinklers was issued on Sept. 9, 2014. “We have hired local counsel to pursue the distributor of that

product under trademark infringement,” says Viking president Mike Bosma. “While most lawyers will tell you that because the counterfeiter is in Malaysia we may not get real satisfaction; however, what we can get is local pressure on the counterfeiter and information on how many of these counterfeits are on the market and where they may have been shipped. In that way, we can notify people who were in the supply chain and make them aware of these counterfeit Viking products.”

Tyco Safety Products Pvt. Ltd. of India assisted FM Approvals with a similar Product Alert last spring. The firm’s manager in India sent detailed photos of the counterfeit Tyco automatic sprinklers to FM Approvals. Working with local Tyco contacts, FM Approvals identified the counterfeit aspects of the sprinklers and created a five-page Product Alert, complete with comparison photos and descriptions. The alert was issued on March 24, 2014.

“We appreciate any assistance we can get in helping to alert the public when a counterfeit product has been identified,” notes Tyco senior fellow James Golinveaux. “Our main goal is always to track the product down to the source and shut them down. Bulletins such as the FM Approvals Product Alerts are an excellent way to inform field engineers and others who may come in contact with counterfeit products. It is very difficult for an end user to identify a counterfeit product when it looks like our product to the untrained eye. Bulletins are one of many tools we use to help stop counterfeiting.”

To find the latest Product Alerts, please visit the News and Alerts link under Customer Resources at fmapprovals.com.

actual materials or construction is not what was submitted when they got the approval or were tested.”

Bosma considers misrepresentation of data as a third category. “In our competitive world, certification marks and their meaning are very important,” he notes. “Sometimes we find that meaningful model numbers or part numbers and designations are purposely intertwined into a company’s marketing language so that the implication is that the product meets certain criteria that is not necessarily true. Fortunately, these abuses do not typically last very long before they are discovered and someone gets in trouble. It’s the bait-and-switch counterfeiters that really cause me to lose sleep because they are hard to catch, hard to prosecute and hurt the worst.”

Protecting the mark is critical

Each of the technical areas within FM Approvals—building materials, electrical systems and fire protection—is impacted by counterfeiting and certification mark infringements in different ways. Let’s take a look at each area and learn from the managers how this issue affects operations.

Building materials

The FM Approvals building materials group, based in Norwood, Massachusetts, USA, uses full- and small-scale testing to evaluate materials and assemblies based on a variety of standards. The group evaluates roofing and walls, cooling towers, fire protective coatings, fire stops, fire doors, fenestrations, pipe and duct insulation, pallets and many other products.

According to FM Approvals building materials technical area manager Cindy Frank, while the incidence of outright product counterfeiting for her group is quite low, the group does encounter frequent instances of unauthorized product modification and counterfeit certificates. “We typically learn about counterfeit certificates from FM Global field engineers,” Frank says. “The field engineer

may notice that the 'Approved' product is not in the *Approval Guide* but the Certification of Compliance documentation that has been provided to them indicates the product is approved. Knowing the *Approval Guide* is the authoritative source, they report the inconsistency to Tom McCarty."

In one recent case, a manufacturer of a pipe insulation was in the early stages of an FM Approvals certification program and chose to circumvent the process. "We had just written up the proposal and they had agreed to the testing program," Frank recalls. "Then a field engineer discovered a counterfeit Certificate of Compliance for the product that we hadn't tested yet. Primarily, we see this outside of North America where someone is claiming their product is FM Approved and assuming no one will check. We urge everyone to check the *Approval Guide* and check RoofNav®. If it's not listed in either of those sources, it's not FM Approved."

As for the manufacturer who falsified the CoC, "We ceased working with them," Frank notes. "They will never be able to enter the Approval process again, as this behavior was misleading and not the type of behavior that would be expected from a high-quality manufacturer. We can't take that risk of allowing them to become FM Approved because it's our end users who would pay the price."

According to Frank, all cases of unauthorized product modifications are misunderstandings involving manufacturers of legitimate FM Approved products. "It could be an unauthorized product modification is discovered during an audit or inspection, for instance," she says. The FM Global field engineer is frequently the source who provides us with unauthorized product modifications, however we do hear from competitors of our customers too. They have a vested interest in making sure that only FM Approved product is indeed listed as Approved. "Tom McCarty handles all our misrepresentation and noncompliance

issues. He'll open a dialogue with the manufacturer and work with them to resolve the issue."

Electrical systems

The FM Approvals electrical systems group, also based in Norwood, provides evaluation and certification services for a wide range of products and systems, including fire alarm and signaling systems, gas detection equipment, combustion control equipment and equipment for use in hazardous (classified) locations.

According to FM Approvals electrical systems technical area manager Jim Marquedant, the greatest issue facing his group and its customers is that counterfeit products will ultimately fail to perform when called upon and cast doubt on proven FM Approved products.

"For instance, we had a case recently where the maker of FM Approved land mobile radios got a call from one of its distributors informing them that an oil rig in the Gulf of Mexico had some radios that needed to be repaired," Marquedant explains. "The radios were imprinted with the FM APPROVED mark, but it was not an FM Approved radio. An unknown party unlawfully added the FM Approvals' certification mark. It was a safety concern because they were being used in a hazardous area. We got the batch of radios removed from the platform."

In another case, a counterfeit of an FM Approved smoke detector was discovered in Egypt last spring. The smoke detector was labeled with the name of the legitimate manufacturer of the FM Approved version, as well as the FM APPROVED mark. However, while it looked very similar on the outside, the internal mechanism was found to be very different and did not function as intended according to tests conducted on the counterfeit by the manufacturer.

"With the counterfeit smoke detectors and radios, both of these represent real risks

to end users," Marquedant emphasizes. "Customers believe they are receiving an FM Approved product certified to perform according to the manufacturer's specifications, be it for hazardous locations or fire protection purposes such as a smoke detector. It not only diminishes the reputation of the FM APPROVED mark, but can represent safety and conformance issues that can have real consequences."

Fire protection

The FM Approvals fire protection group, based in West Glocester, Rhode Island, evaluates and certifies a wide range of fire protection products and systems, including automatic sprinkler systems, valves, couplings, pipe, meters, fittings, hydrants, extinguishers, fire pumps and many other products.

According to FM Approvals fire protection technical area manager Rick Dunne, the rise in occurrence of infringements of the FM Approvals' certification marks hits his group especially hard. "Sprinklers seem to be a favorite target of counterfeiters in the fire protection industry," he observes. "Most of the cases of counterfeiting relating to our group that have been reported or investigated have involved sprinklers, but we've also seen cases of counterfeit valves and pipe fittings."

The fire protection group is a major supporter of the formalized policy for responding to infringements on the FM Approvals' certification marks. "We hear about counterfeits and other misuse of the mark from many sources," Dunne notes. "It could be an FM Global field engineer who discovers a counterfeit sprinkler or a distributor who was outbid on a deal and grew suspicious that the competitor's price was too good to be true—in most cases it is. When we receive a report, we act on it immediately. With our global scope, we have to be aggressive in chasing down every case." ■

[HTTP://WWW.FPAA.COM.AU/NEWS/2015/2015/06/SPRINKLER-CONCERNS-IFSA.ASPX](http://www.fpaa.com.au/news/2015/2015/06/sprinkler-concerns-ifsa.aspx)

SAFETY ALERT ON NON-CERTIFIED SPRINKLERS

Posted on : Thursday, 4 June 2015

The International Fire Sprinkler Association (IFSA) has identified a significant concern in certain regions of the world regarding the use of counterfeit fire sprinkler products, as well as those products that have no marking indicating that they have been certified by a reputable third party certification organization.

The use of faulty fire sprinkler products can cause a fire sprinkler system to be ineffective in controlling or suppressing a fire. This can put lives and property at risk.

A report provided to the IFSA by Underwriters Laboratories (UL) highlights the concerns associated with sprinklers that have no evidence of being certified by a reputable third party certification organization. These sprinklers were reported to be representative of ESFR (early suppression fast response) sprinklers installed in several storage facilities located in China.

Due to the small quantity of samples available for testing, the scope of UL's investigation was limited to conducting only 9 tests described in ANSI/UL 1767-2013, Standard for Early-Suppression Fast-Response Sprinklers, which includes more than 30 performance tests required for UL certification of an ESFR sprinkler. Many critical tests described in ANSI/UL 1767, including the large scale fire testing to investigate the ability of the sprinkler to suppress a fire, were not conducted as a part of this investigation.

Even though the scope of UL's investigation was limited, testing on the two sprinkler models covered by this report revealed that these sprinklers did not demonstrate compliance with ANSI/UL 1767 in the majority of tests conducted. Some of the key safety concerns highlighted in this report include the following:

O-ring Water Seal - Both sprinkler models utilized an O-ring type water seal. UL banned the use of O-ring type water seals more than 10 years ago and many of the sprinklers that utilized these seals have been recalled due to concerns related to non-operation as well as leakage in field installation environments.

Water deflector - Both sprinkler models were marked as ESFR sprinklers, but neither sprinkler was constructed with the type of water deflector that has demonstrated the ability to suppress a fire using ESFR sprinkler system design criteria as referenced in standard NFPA 13 - Installation of Sprinkler Systems. In fact, one of the sprinklers was fitted with an extended coverage deflector design rather than an ESFR type deflector design intended for standard coverage areas. Proper design of the water deflector is critical for a sprinkler to achieve its fire control or suppression objective.

Operating Characteristics - The link-type heat responsive element used for one of the sprinkler models operated very slowly or did not operate at all when a propane torch was applied. For the sprinkler model fitted with a glass bulb heat responsive element, the strut lodged on the splitter of the sprinkler in 8 of the 9 samples subjected to the Operation-Lodgement Test conducted over a range of inlet pressures. This lodged part caused a substantial portion of the water to be discharged upward above the deflector rather than downward as needed to effectively attack a high challenge fire.

IFSA has received information indicating that a significant number of counterfeit and non-certified sprinklers have been found in several regions around the world including, but not limited to, China, Brazil and countries in the Middle East. The IFSA plans to share additional information

regarding this important concern when additional data becomes available.

The full report prepared for IFSA by UL can be accessed at the following link:

http://www.sprinklerworld.org/product_articles/Non-Certified%20ESFR%20Sprinklers%20Report%2020150129.pdf

For additional information, contact Russell P. Fleming, P.E. - IFSA Managing Director



April 2015: COUNTERFEIT SPRINKLER HEADS

Counterfeit equipment and materials, no matter whether it is currency, watches or medicine, affect the reliability of the end user's systems as well as the reputation of the authentic manufacturers. Automatic sprinkler heads are no exception.

The two internationally recognized approval agencies, Underwriter's Laboratories and FM Approvals, constantly look for counterfeit equipment and materials that have their Listed/Approval mark on them. Counterfeit materials and equipment do not have to undergo these agencies' standards of manufacturing, operation and reliability. Therefore, it is unknown if these products will actually work as defined by these agencies and by the various installation standards, such as NFPA 13 and FM Global Property Loss Prevention Data Sheet 2-0.

Most of these counterfeit items for automatic sprinklers occur in Asia, Middle East and Europe, though they can be found worldwide. The following are current examples of well-known automatic sprinkler manufacturers and their authentic models that have been counterfeited:

Tyco International

- Upright model TY3151 head
- Pendent model TY3251 head
- Horizontal sidewall PS007 head
- Upright and pendent model T-ZSTZ-15 head
- Horizontal sidewall fire sprinkler (model number not on frame)

Nanjing Fire Protection Technology Co. Ltd.

- Pendent model NX005 head

Globe Fire Sprinkler

- Upright model TY3151 head
- Horizontal sidewall models GL5626 and GL5676 heads
- Upright models GL5651 and GL5661 heads
- Pendent model GL5651 head
- Concealed pendent model GL5681 head

Viking Group Inc.

- Upright model VK100 head

Kidde Fire Protection (dba Angus or GW Sprinkler)

- Angus model S K5.6

In addition, there are heads out there of unknown manufacturer and model, being marked as UL Listed and/or FM Approved.

Differences between authentic and counterfeit automatic sprinklers vary between manufacturers and their model(s). Please contact Risk Logic Inc. if you suspect that your fire protection system(s) has counterfeit equipment and need further help identifying those components that are authentic from those that are counterfeit.