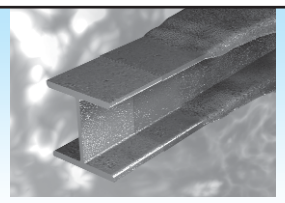
WHAT'SINSIDE



PROACTIVE FIRE TRENDS

• AUSTRALIA • CHINA • HONG KONG • INDIA • MALAYSIA • SINGAPORE • VIETNAM

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PROACTIVE FIRE TECHNOLOGIES HALF-YEARLY

ISSUE NO.20 FOR **JULY – DECEMBER 2007** Vol.10 No.2

Optimising fire protection for the modern built environment –

Popular fire industry classic undated. Get your copy of the Promat 2008 technical handbook today!

At the heart of every fire AND every fire risk is a singular idea that is as simple as it is dangerous: fire, despite its numerous benefits, is and always will be unpredictable, at best. It can happen – as it usually does – anywhere, anytime, when least expected.

All too frequently, fire is the result of short-sighted, penny wise pound foolish economies. The cost to property and life are expensive, frequently and sadly tragic. This unfortunate fact of life is further complicated by the way most of us increasingly live, for better or worse, in modern urban settlements of amazing complexity.

Cities and towns are growing rapidly, exponentially. The construction industry is booming proportionately but it is also changing equally fast. For most of us the process of protecting the places in which we prefer to live and work is a complicated process best left to the wisdom of government and private sector specialists.

In the final analysis, it is a matter of predicting the unpredictable with effective fire protection strategies, strategies that must be rooted firmly by lessons learnt the hard way, strategies based on experience and equal measure of intelligent, applied science.

CONTINUED ON PAGE 4

INDUSTRY REVIEW

Tall buildings pose tall order problems for designers and firefighters alike –

Planning for the realities of high rise living

They're frequently perceived as symbols of wealth, status, progress and development. The bottom line is somewhat less prosaic, the overwhelming majority of high rise buildings simply aim to offer pragmatic, cost effective solutions to the problems that bedevil every crowded metropolitan space. High rises comfortably accommodate the maximum number of people or businesses on as small a footprint of expensive land as possible.

Indeed, some high rise buildings capture the imagination and make remarkable architectural statements. The majority, however, project little of lasting aesthetic merit, preferring instead function over form and a victory for sensible, cost-effective practicality.

Love them or hate them, the modern high rise building, for work or for pleasure, has many benefits and – from the perspective of fire protection – some rather unexpected disadvantages.

Defining the modern high rise building

High rise buildings became possible with the invention of the modern mechanical lift/elevator and cost-effective building technologies. But high rise means different things to different people.

On Indonesia's Hindu tropical paradise island of Bali, for example, no modern "high rise" can be taller than a mature coconut palm. In the concrete canyons of Manhattan, the buildings sometimes seem to scrape the skies. In Taiwan, residents and visitors alike wonder how long the remarkable Taipei 101 structure will retain its title as the world's tallest high rise. New arcitectural dreams have a habit of working their way off drawing boards into soaring concrete and steel reality.

Height is clearly a relative matter in which most of us simply take high rise buildings for granted, They're simply there. But high rise structures continue to pose specific challenges for architects, engineers, fire science practitioners, fire fighters and emergency personnel.

Down-to-earth questions need to be asked and adequately answered if we are to better understand the dynamics of protecting high rise buildings in the built environment.

A high rise building from the perspective of a firefighter

Just "what is a high rise building, how does a high rise building fire differ from a low rise building fire" and "why can't the fire service extinguish fires in high rise buildings"?

A high rise building can be defined as a structure more than 75 feet high if an aerial ladder reaches only 75 feet or a structure more than 40 feet high if the highest ladder is only a 40-foot extension ladder. On the other hand, building occupants trapped in a burning high rise beyond the reach of rescue will surely have a different and altogether more terrifying interpretation of what "high rise" means.

When buildings are constructed beyond the reach of a fire department's highest ladder, two important firefighting strategies are removed from the firefighters purpose-built rescue repertoire. First, life-saving victim ladders are eliminated. Search and rescue can be accomplished only from inside stairways. People trapped at windows, when flames are between them and a stairway, will have little choice. Secondly, the ability to extinguish a fire with an outside master stream is no longer a practical solution.

In fact, the only strategy for a high rise fire beyond the reach of an aerial ladder is interior attack. Firefighters must extinguish the fire using handheld hose streams advancing through heat and smoke from an inside stairway. If this method fails, there is no alternative plan. An outside attack is not an option.

Myth vs. Reality of effective firefighting

Most fire and rescue departments are manned by well-trained professional personnel who know how perilous effective firefighting can be. It is an image often exaggerated by Hollywood and the media. Reality is dirty, dangerous and altogether rather different.

One of the best-kept secrets in America's fire service is that firefighters cannot extinguish a fire in a 20 or 30 thousand square foot open floor area in a high rise building.

A fire company advancing a 2½ inch (5cm) hoseline with a 1¼ inch (3cm) nozzle discharges only 300 gallons per minute and can extinguish only about 2,500 square feet of fire. The reach of most water streams is only 50 feet (18m). A modern open-floor office design, with cubicle workstations and dwarf partitions that do not extend to the ceiling, allows fire to spread throughout an entire 100 x 200 foot (10 x 20m) floor area.

A free burning 20,000 square foot (2,000m^2) floor area simply cannot be extinguished by a couple of firefighters spraying a hose stream from a stairway. In reality, firefighters try to maintain a defensive position in the stairway for as long as it takes. To successfully contain a high-rise fire to one floor, it takes 40 to 50 firefighters using a rapid-response, blitz attack. If this fails, it will take another 100 to 200 additional firefighters to control the fire and keep it from spreading to adjoining buildings.

If a community does not have the luxury of a large number of firefighters available, then every high rise building must be fully protected with an automatic sprinkler system.

POINT of VIEW

Going Forward, Creating Value

In the year just passed has seen 12 months of robust economic performance for most countries in Asia Pacific. For Promat companies in the region, 2007 witnessed strong business growth built on the back of solid fundamentals and consistent, prudent management policies. Our products and systems are synonymous with innovative quality and a continuing commitment to ongoing Research & Development. The Promat brand enjoys worldwide recognition for leadership in proactive fire protection. We aim to expand this reputation.

Much of our business growth in the region comes from the simple fact that there is increasing awareness for the need, advantages and benefits of optimising fire protection in the built environment. Indeed, more and more customers now understandably see proactive fire protection as a wise investment in a silent and effective partner dedicated to protection human life and property. We can be justifiably proud of the significant role we have played in building that awareness over the years. Promat is certainly well-positioned to continue creating and enhancing value while capitalising on this increasing and timely awareness.

To meet the demand for proactive fire protection products and systems, our factories are running at almost full capacity. We have taken the initiative to significantly increase production volume by mid 2008.

Despite the apparent buoyancy there are however some shadows on the horizon and some are already making themselves felt. Chief amongst them is the escalating price of oil and the upward trend it will likely play in increasing the general downstream costs of doing business. There's every reason to remain focused and confident but we will need to be vigilant and exercise considerable caution in the months ahead.

In another sign of Promat's continuing commitment to high standards and creating value for the company and customers alike, we have completely overhauled the technical bible of our business. Yes, that's right, as you can see from our cover story, we have launched the all new 2008 edition of the Promat Proactive Fire Protection Systems Application & Technical Handbook. This represnts considerable investment in terms of time and skills but at 380 pages it is twice the size of its predecessor. It is packed with 318 colour illustrations and 484 all new technical drawings. The latter, by the way, clearly and definitively demonstrate how Promat products and systems can be used in most modern fire protection applications.

The new handbook has all the information we need to ensure our customers get the best proactive fire protection available on the market today. I am sure you will agree that our new handbook will, as before, create considerable value for our company, our products and our professional systems! It is such good news we give it front cover treatment and continue it on pages four and five.

Elsewhere in this issue of Proactive Fire Trends – just for the record, it's our 20th PFT – you will find a comprehensive article on Planning For High Rise Living on this and the opposite page, concluding on page six. The sixth page also features a quick but very interesting focus on the new trend of Third Party Certification, spotlighting focus on installers and installation processes.

On page seven we run our usual and always helpful multilingual business friend while new PROMAPAINT® 120 and how it is put to effective use at the Adelaide, South Australia bus terminal, rounds out this dynamic issue on page eight.

Despite the generally positive outlook it is also clear that there will always be challenges on the road ahead, that's the nature of life and of business. For example, in some countries where building codes are not well entrenched and enforcement policies are perhaps not in place, there's a tendency to cut corners, in so doing compromising standards, the safety of human life and property. It is how we prepare ourselves to cope with these future challenges that will make the difference between success and failure.

Going forward, it is imperative for us at Promat to create additional value with our products and systems and while ensuring our customers understand the increased value of proactive fire protection to them and their property.

I wish you all continued success, I look forward to working with you all in the year ahead.

Erik D. van Diffelen
Managing Director
Promat Asia Pacific Organisations
Second quarter 2007

The critical importance of response time

Long response times allow flames to spread beyond firefighter control.Getting to the scene of the fire and getting connected quickly is critically important for all involved. The response time in a high rise building fire may be 15 minutes or more and it is also influenced by many factors.

In high rise buildings, unlike low rise structures, firefighters may have to walk through large open spaces. They then have to question building employees about the fire location, check alarm panels, locate stairs and see that air-conditioning systems are shut down as quickly as possible.

Firefighters also have to wait for elevators when the fire is above stair-walking distance. Firefighters using elevators must also control a complex key system that ensures elevators will not take them up to the floor where the fire is raging. They must leave the elevator two or more floors below the fire and walk up stairs. At the floor below, the fire hose and nozzles must be connected to a standpipe outlet valve. At the street level, supply hoses from the pump must be connected to the source inlet to the building.

After all this, many doors may have to be forced open before a search for the exact location of the fire is started. In a typical large office high rise, many rooms and cubicles within a 20,000 square feet (2,000m^2) smoke-filled floor plan may have to be searched before the actual fire is discovered.

If they're quick, professional and lucky, firefighters can then stretch their hoses and extinguish the fire. In many cases, firefighters discover at this point in time that the fire is too large to extinguish. Obviously, few if any of these delays exist in a low rise building fire.

The use of elevators and other building systems

Firefighter's battling a fire in a high rise building depend to a large extent on the structures built-in routine and emergency systems.

The elevator system must take them, their tools and equipment close to the fire. The standpipe system must provide water pressure and volume to the upper floors while a building's structure and communication system must allow radio transmission. If any of these building systems fail or are not present, firefighters will find it tough to do their job.

Despite sophisticated equipment and technologies, many building systems have been discovered to be defective or nonexistent. For example, an eight year study in New York City of 179 major fires revealed elevators failed at a third of the major fires.

Fire or water caused electrical malfunctions in elevators. At some fires, elevators took firefighters up to the fire floor instead of the floor two or more levels below the fire. At other fires, the elevators stalled, trapping firefighters inside. Also, some elevators would not return to the lobby.

It is clearly important that a building's support systems are design in at the planning stage.

Venting a "windowless" building

High rise buildings have sealed or locked windows which frequently require special keys. Venting by breaking thick glass windows is extremely dangerous because falling glass can injure firefighters and people on the sidewalk and also cut hose supply lines.

In many cases, high rise buildings therefore have to considered windowless buildings and firefighters must employ strategies that treat high rise situations like cellar fires that cannot be vented.

In such sealed buildings, huge volumes of heat and smoke generated by the fire become trapped within the structure and quickly spread dangerously throughout the structure.

The "stack effect" – the result of the temperature difference between the inside and outside of a sealed high rise building – causes smoke to spread up or down many floors during a fire in a high rise. The temperature difference creates within the sealed structure pressure differences capable of moving large volumes of smoke and heat uncontrollably. The stack effect is another reason window venting is ineffective during a high rise fire.

Heating and air-conditioning systems

Heating and air conditioning systems are essential to all high rise buildings. But they are a point of weakness because they form very effective transportation systems for fire to spread throughout the structure.

A central air-condition system in a high rise building interconnects 10 to 20 floors for the purpose of heating and cooling. Ducts, shafts and other holes for various services routinely penetrate fire resistant floors, walls and ceilings, perfect to allow rapid spread of fire and smoke.

In a headline high-rise hotel fire in Las Vegas, Nevada, fire and smoke spread through the central air-conditioning system and killed 85 people in upper floor rooms. The system was not equipped with smoke detectors arranged to shut down the system during an emergency.

Tragically, the fire dampers-shutters designed to stop spread of fire in ducts and shafts of the air-conditioning system did not close properly.

Standpipe systems circulate life saving water

Standpipes are like a building's circulation system, ensuring that life-saving water is available at all reachable points.

The standpipe system at the Los Angeles First Interstate Building was shut down for repairs at the time a fire occurred. There was insufficient water pressure for only the first 40 minutes of the fire because the building fire pumps were not operational and the standpipe hose lines were cut by falling glass.

Another serious design defect revealed itself in the installation of standpipe aluminum outlet valves inside the occupancies. The flames melted the aluminum valves, allowing water to drain from the standpipe system.

At the Philadelphia One Meridian Plaza high rise fire, pressure regulating valves on the standpipe outlet were set at low pressures and, without a special tool, were non-field adjustable, effectively firefighters from extinguishing the fire and exacerbating its spread.

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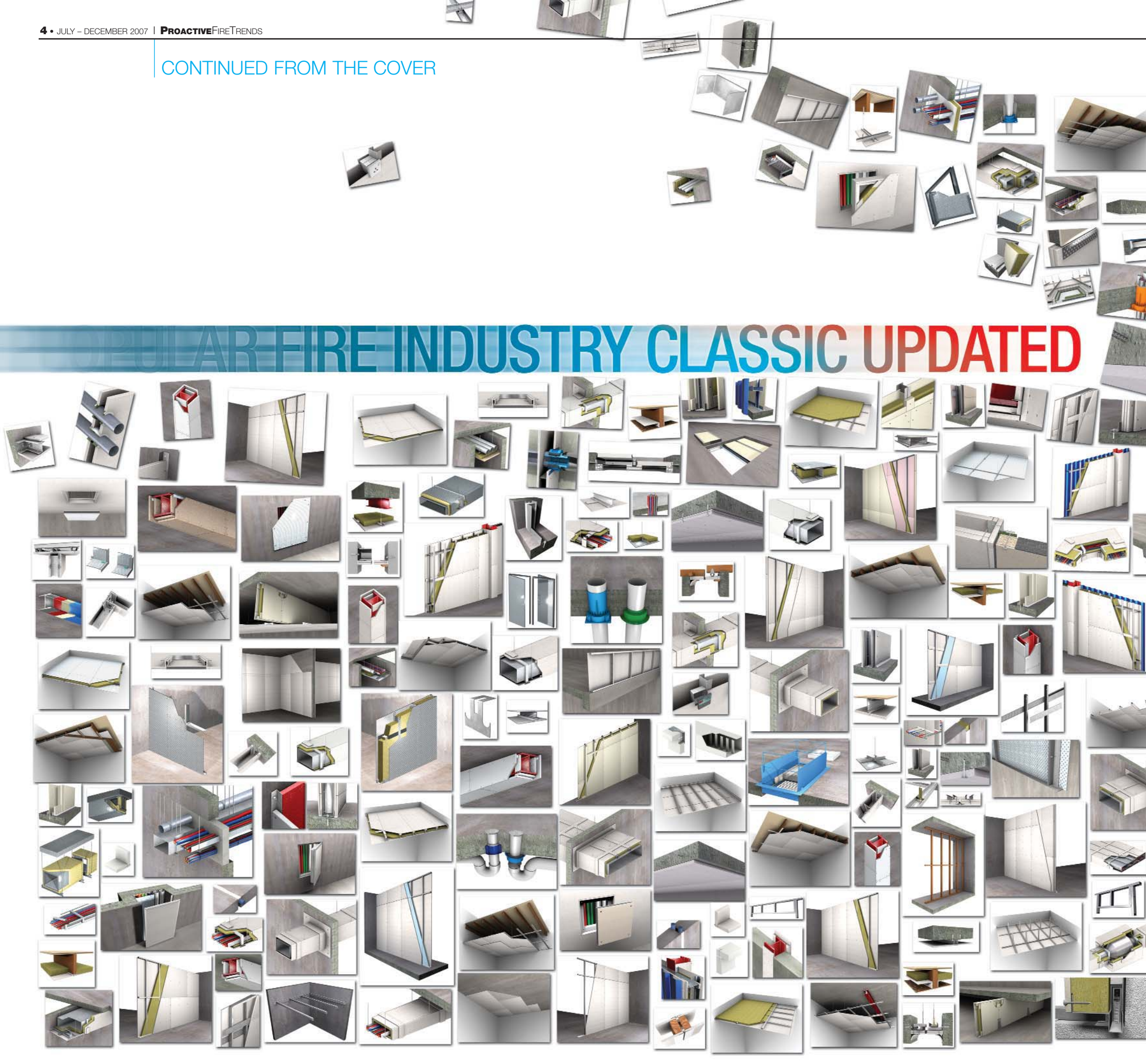


The NEW Promat Technical Handbook focuses on the interrelated issues of protecting the built environment

For the professionals at Promat International Asia Pacific, the science of modern fire protection technologies is routine, a matter of stock in trade. We've been doing it for more than 50 years, around the world. Our Research & Development programme is continuous and consistently applied and measured against most of today's internationally observed fire code standards.

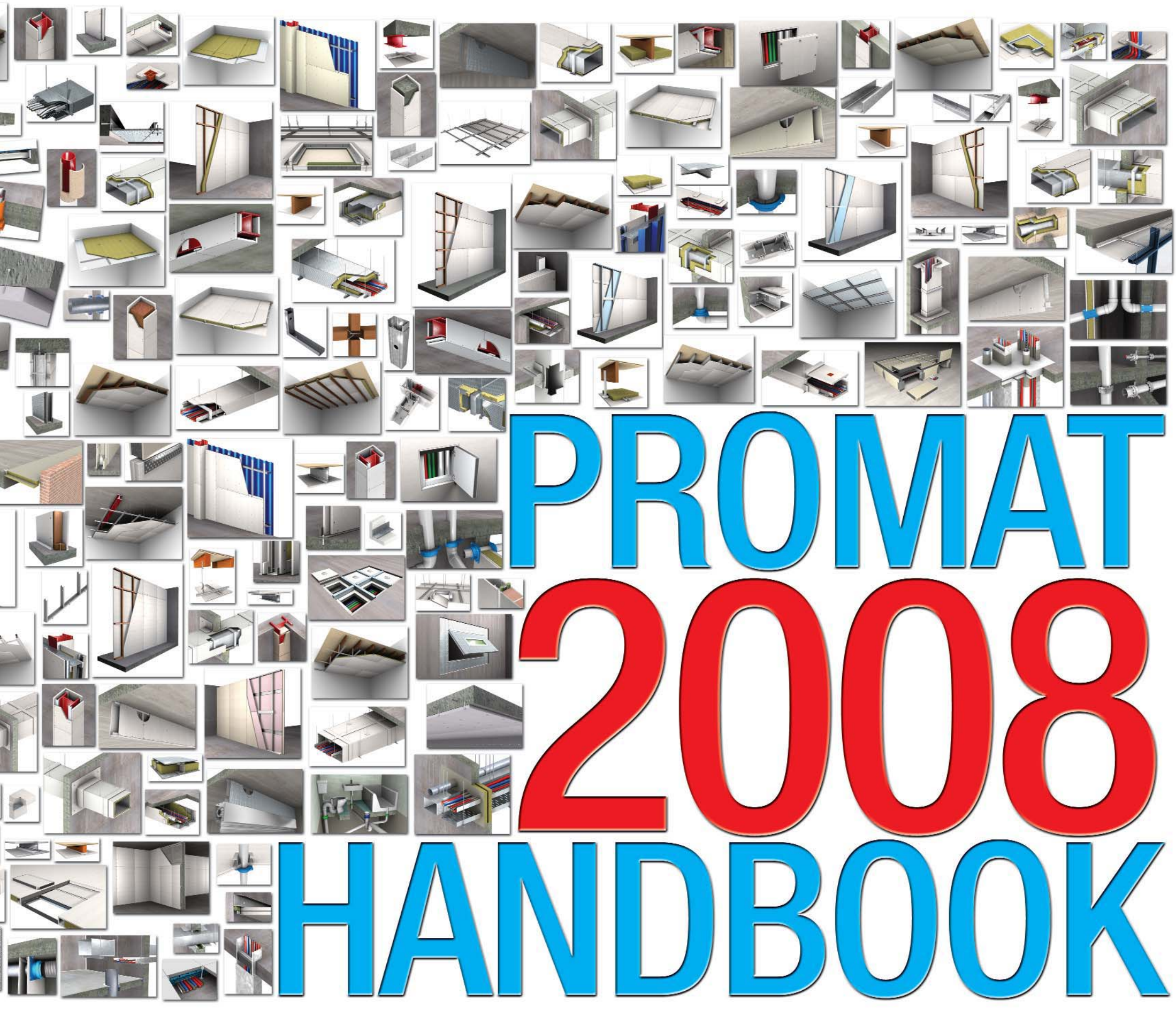
Not surprisingly, the company is one of the few acknowledged leaders in the business of optimising protection for the built environment.

Now, all the accumulated experience from a long and valuable learning curve, coupled to an expanded range of modern proactive fire protection products and professional systems is conveniently available in the pages of the new and updated Promat Proactive Fire Protection Systems Application & Technical Handbook.

At 380 pages, twice the size of its famous predecessor!

The new Promat Proactive Fire Protection Systems Application & Technical Handbook is comprised of 11 separate product or system focused sections. Each section deals with a separate product, product system and application. These include:

- Introduction/Overview/Principles/Standards
- Structural Steelwork
- Partitions & External Walls
- Ceilings & Floors
- Ventilation & Smoke Extraction Ducts
- Electrical & Mechanical Services Enclosures
- Cavity & Smoke Barriers
- Access Panels & Hatches
- Tunnel Fire Protection
- Concrete Upgrading
- Penetration Seals



PROMAT 2008 HANDBOOK

The introductory section provides a thoroughly concise but in-depth overview of the general principles of fire design, compartmentation and fire protection, internationally observed fire curves, environmental issues and the important relevance of international fire standards.

The contentious issue of prescriptive fire codes and performance based fire codes is also addressed in the handbook's introduction, with present AND future trends looking agreeably in favour of the latter discipline.

The new Promat Proactive Fire Protection Systems Application & Technical Handbook is carefully and deliberately designed in a convenient and modular way.

Readers can quickly access the information they require for a specific application but also see how it fits seamlessly into the overall scheme of a systemic fire protection plan for an entire building or complex of structures in any given built environment.

Each product module can therefore be seen as an integral part of a holistic approach to total fire protection in the built environment. Some sections such as Promat fire protection for Structural Steelwork, Partitions & External Walls and Ceilings & Floors are larger than the others.

However, this merely reflects the prevalence of these structural components and their importance to a strategy of overall fire protection. The fact of the matter is that each editorial section is given the same thorough focus of Promat products, systems and professional which all measure up to internationally-accepted benchmarks.

Readers might be surprised by the absence of fire protection glazing systems, a product for which Promat is justifiably famous. It is worth noting that the company's technical managers and editors of the new Promat Proactive Fire Protection Systems Application & Technical Handbook believe that Glazing Systems have their own unique dynamics best dealt with in separate literature. Interested readers who might require fire protection glazing systems or information about these systems are encouraged to contact the Promat Technical Department directly.

Extensively illustrated by state-of-the-art computer generated imagery, written in easy to read and understand language

If each and every picture speaks a thousand words, the new Promat Proactive Fire Protection Systems Application & Technical Handbook speaks clearly, voluminously and accurately for the science of professional proactive fire protection at its very best.

The 380 pages of the new Promat Handbook are illustrated, first and foremost with some 484 images generated by the latest AutoCAD CGI software in the skilled hands of Promat's technical designers.

Each of these strikingly handsome and realistic drawings is in full colour.

Readers will see and immediately understand the principles of Promat proactive fire protection, why and where it is applied, and of course the benefits of using the best integrated proactive fire protection systems money can buy.

In fact, the drawings are likely to become classics in their own right, such is their vivid and accurate realism. They are supported throughout the pages of the new Promat Proactive Fire Protection Systems Application & Technical Handbook by 318 other colour illustrations. These range, for example, from fire curves and storage systems to tools and workability, alongside colour photographs of Promat proactive fire protection in action in various applications around the world.

In the final analysis, the new Promat Proactive Fire Protection Systems Application & Technical Handbook is a balanced and in-depth look into the complexities of fire protection for the built environment. It graphically outlines in clear and easy to understand language, the benefits Promat proactive fire protection and continuing R&D into modern products and professional systems can bring to any developer, builder, architect, engineer or contractor interested in optimising fire protection for virtually any structure in the built environment. PFT

INDUSTRY REVIEW

Spotlight turns to standards for installers –

Third Party Certification aims to optimise performance of fire protection systems

The fundamental concept behind most Third Party Certification (3PC) systems is rooted deeply in the understanding that certification by a third party is impartial, scientifically objective and recognised by others to accurately reflect certain levels of acceptable quality standards. This is fortunately the case in most developed sectors of the fire protection industry and the reason why many customers prefer to choose fire protection systems that carry a recognised 3PC mark. Indeed, 3PC is increasingly synonymous with a high level of quality standards.

It is therefore not surprising that these days more and more developers, architects, engineers, owners and contractors are turning to installers of fire protection systems who are certified by a third party organisation.

It is logical and makes sense. Fire protection products and systems that subscribe to certain quality and safety systems should also be installed by installers who are certified to 3PC standards. In this way, the confidence in the product or system is matched by the confidence sure to be generated by reliable, high quality installation.

Defining Third Party Certification

3PC usually refers directly to a standard system of procedures in which a third party gives written assurance that a product, process or service conforms to specified requirements. The third party is a person or organisation recognised as being independent of the parties concerned.

The same definition is increasingly applied to installers and their installation processes. For example, the implementation of Quality Management System (QMS), based on ISO 9001: 2000 is now well recognised throughout the fire sciences and construction industries. Its implementation provides benefits including the improvement of management efficiency, consistency in service and product performance, higher customer satisfaction levels, improved customer perception, better productivity and efficiency.

3PC gained by installers of fire protection system extends and reinforces the manufacturer's quality reputation while providing reassurance that proper installation of fire protection systems has been carried out to the satisfaction of all concerned. Certificates are widely used to visually demonstrate achievement and compliance to specified criteria.

However, fire protection systems certified and complying to recognised standards do not always guarantee that proper installation will be carried out by the installer, an anomaly which is now being identified and addressed in more and more markets.

3PC for installers and installation in Australia

It should be noted that many fire protection system products require special skills in their installation. Certified and tested fire protection products will be wasted and possibly rendered dangerous if installed by installers who are incompetent.

In Australia, for example, an independent 3PC body for passive fire protection systems and services, Certifire Australia also provides customer assurance on the effectiveness of the installation of the fire protection systems.

Certifire Australia certification is gained by not only demonstrating that the product or system satisfies local and international code standard performance requirements but also by reassuring that system production, material handling, quality management AND installation is in accordance with any relevant quality assessment body.

In assessing and providing certification, Certifire Australia also takes into account the training and experience of the contractor responsible for installation and maintenance and inspection of previous projects. Assessment includes not only inspection of documents but also on-site checks of the operation and of the applicant's facilities and/or projects.

Installers who do not demonstrate the required skills and competency jeopardise the efficacy of the fire protection product and system and ultimately the safety of life and property.

Renewed emphasis on installers in the UK's construction industry

Competency of installers is also being by the British Woodworking Federation in the UK's BWF-Certifire Scheme. It highlights the important role that installers play to ensure that fire protection products remained certificated.

The BWF-Certifire Fire Door and Doorset Scheme, established by the fire door manufacturing industry, aims to promote the importance of using certified fire doors as a preventative measure for fire safety precaution.

Through the scheme, members can obtain a guarantee of the product they are using through assessment and certification of the design and production process and regular auditing. The Certifire Scheme offers clear and simple methods of tracing a fire door back through all stages of manufacture to ensure the quality of manufacture and maintain certification. It also acts to bring together fire door manufacturers, their suppliers, door converters, retailers and installers to work in an alliance to a recognised and accepted system of standards right across the supply and installation chain.

Until now, arguably the most overlooked aspect of the whole operation has been installation. Here, too, the BWF-Certifire Scheme has sought to address potential problems by insisting that specific and comprehensive installation instructions accompany every door shipped.

If the door is to remain certified to relevant product and building code standards, installers are left in no doubt that these new 3PC instructions are to be scrupulously and diligently followed. PFT

The importance of effective communications

As in all walks of life, effective communications are essential in a fire scenario, particularly in the command and coordination of firefighting a conflagration in a high rise building. Fire officers working to extinguish the fire must communicate with fire officer conducting search and rescue. Everyone on the upper floors must communicate with the command post in the lobby or street.

Unfortunately, the huge amount of structural steel framework used in most high rise structures interferes with many radio transmission frequencies.

Tests conducted on the 110 floor World Trade Center and the 102 floor Empire State Building revealed that fire department radios transmitted only to the 65th floor.

A central fact of life is that there can be no command control or coordination in a high rise fire without effective fire and rescue radio transmission. All new high rise buildings should be pre-tested to determine if radios can transmit to all floors. If not, antennas must be installed.

Effective evacuation strategies, the most important of all

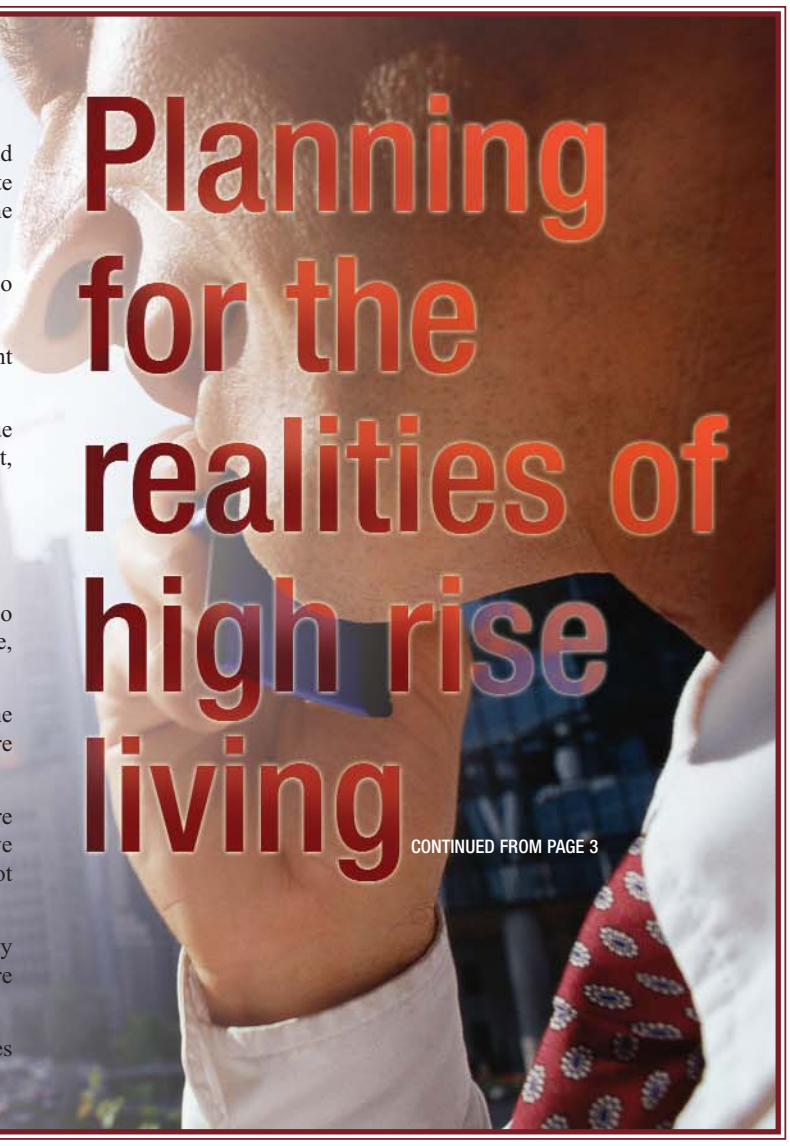
It is physically impossible for firefighters to order all people in a high rise building to leave during a fire. Similarly, it is also not possible for thousands of people to leave a burning building quickly. In most cases, given the sheer scale of the structure, evacuation takes several hours.

Most high rise firefighting strategies aim to "defend in place" which means they hope to extinguish the fire while most of the occupants remain inside the building. On the other hand, in a low rise building fire, an effective strategy can extinguish the fire and evacuate the people at the same time.

A successful "defend in place" strategy depends on at least two factors. First, the building must have the ability to contain fire to a particular area. Second, the occupants must obey the instructions of fire and rescue personnel, to either stay in place or move as may be necessary. Reality suggests otherwise as neither of these assumptions necessarily ring true. High rise buildings are not fire resistive and people leave the high rise buildings during a fire, regardless of instructions to do otherwise.

At the 9/11 World Trade Center terrorist explosion and in an earlier 26 February 1993 New York City high rise fire, many thousands of people left the building without instructions because the building communication system was damaged and fire department radios could not transmit to the upper floors of these high-rise steel structures.

Even at the best of times, in many unexpected situations, well-reasoned and empirically sound "defend-in-place" strategies can be extremely difficult to sustain. PFT



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为现代建筑提供最优化的防火系统 –

保全公司2008年最新版本产品和技术手册

做为一家跨国企业和建筑防火领域内的先驱和领导者，保全公司潜心致力于专业防火事业已经超过50年。亚太范围内，保全公司的专业工程师借助公司旗下的科研机构以及各种发展计划，针对当前区域内各国的建筑防火规范的发展全力进行着防火科技的研究并隆重推出最新版本保全预防式防火系统和技术手册。更多关注建筑物内的系统防火。

本手册涵盖了从防火产品到系统的所有相关知识，更多关注于建筑物内的系统防火，并将完美展现本公司在此领域内常年积累的专业技术和经验。

380页的超大篇幅，最新版本保全预防式防火系统和技术手册是原版本的两倍！本手册分为11个相对独立的篇章，每个篇章涵盖不同的产品，系统和具体应用。包括：

- 简介/总览/原则/规范
- 钢结构防火保护
- 防火轻质隔墙/外墙系统
- 防火吊顶和楼板
- 耐火通风和排烟管道
- 电缆防火包敷
- 防火防烟挡板分隔
- 防火维修检修口
- 隧道防火保护
- 混凝土防火保护
- 防火封堵

手册的简介部分详细介绍了防火设计的原则，防火分隔和防火保护的概念以及国际认可的火灾升温曲线和环境等因素，并且对国际通用的两种形式的防火规范 – 规范型和性能化防火规范 – 中的重要内容进行了阐述，并由此得出未来防火技术的发展趋势。

这本最新版的技术手册既有不同防火系统的详细介绍，也提供了以建筑物为整体考虑前提下的综合应用。读者可以便捷地根据自我需求来检索相关信息。

因此，尽管在篇幅上，对于钢结构的防火保护，防火轻质隔墙和外墙系统以及防火吊顶和楼板介绍颇多，但是包括任何其他手册中提到的系统，也都是建筑物防火设计中不可或缺的重要组成部分。它们都通过了各种相关的检测标准测试并最终被使用。

本手册没有收录防火玻璃系统。如有需求，可依照手册中提供的联络方式向保全相关地区内的机构索取单独的防火玻璃系统样本。

本手册中提供的图片和描述都经过保全公司专业人士处理。例如，出现在此380页手册中的484张图片，涉及从简单的火灾升温曲线，产品储运要求和加工工具，到应用于世界各国的保全预防式防火系统，都出自最先进的 AutoCAD CGI 软件，既简单明示，又建立在精确的数据和专业的措辞上。读者可以通过手册中的这些专业而精美的信息，全面了解保全预防式防火系统构成，系统的应用概况以及由此而展现出的保全公司在预防式防火领域中的领先优势和卓越表现。

这本涵盖了保全预防式防火系统的技术手册，图文并茂地诠释了保全公司对于预防式防火领域的产品理念和技术优势。它将有助于所有关心预防式防火的开发商，建筑商，设计师和其它相关技术人员了解这一领域的知识，产品和技术，并最终为建筑防火系统选择和提供优质有效的安全保证。

现在就开始向您周围的保全机构预订这本手册吧！PFT

ENQUIRY FORM

PROACTIVE FIRE TRENDS

This ENQUIRY FORM refers to ***PROACTIVE****FIRE TRENDS newsletter Vol.10 No.2 JULY – DECEMBER 2007.*

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☐ 2008 Promat Proactive Fire Protection Systems Application & Technical Handbook

☐ More information of PROMAPAINT® 120 Intumescent Coating

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☐ Please update me in your mailing list.

NEW PRODUCT

Introducing PROMAPAINT® 120

A safe, thin film water-based intumescent coating suitable for on and off-site application

Water-based intumescent coatings are safe to use during on and off site application. They are environmentally friendly. PROMAPAINT® 120, for example, has zero VOCs (volatile organic content) when tested to USEPA Method 8260B. It can therefore be used safely alongside other trades. There is no possibility of solvent build-up in confined spaces and no requirement for special flammable storage areas.

Achieve up to two hour FRL

PROMAPAINT® 120 has been independently tested by approved laboratories to meet the requirements of AS1530: Part 4 and many other international test standards. All materials are manufactured under ISO9001 accredited quality assurance and ISO14000 environmental procedures.

Economic loadings

The cost per litre or kilogramme of a coating can be very misleading. Products can vary considerably in the coating thickness (loadings) required to provide a specific fire resistance. A particular product may at first appear economically priced, based on its volume or weight cost, but taking into account the overall thickness of the coating required to achieve expected FRL, can prove very expensive per square metre.

Applied in a single coat

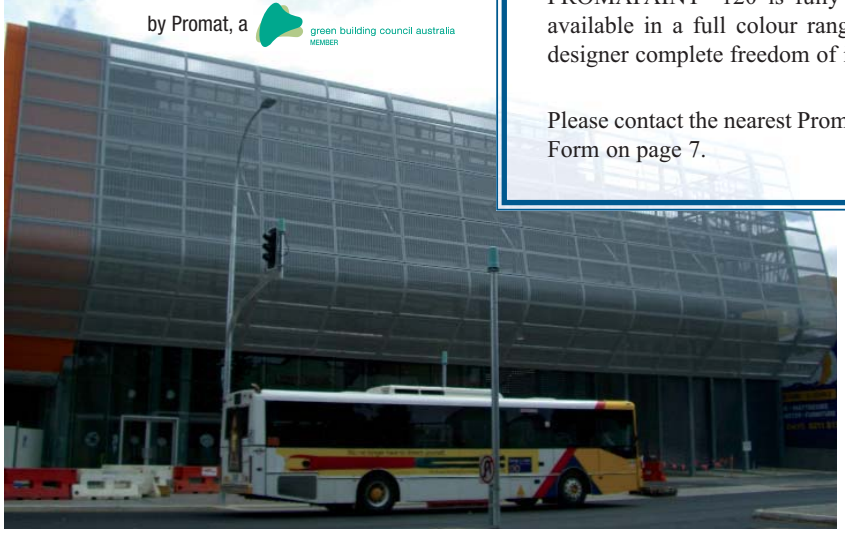
It is possible to apply PROMAPAINT® 120 in single coat application to a wide range of steel section sizes and achieve a high level of cosmetic finish.

Coloured cosmetic finish

PROMAPAINT® 120 is fully recoatable with approved top coats which are available in a full colour range (e.g. AS2700, RAL, NCS etc) providing the designer complete freedom of imagination with different colour schemes.

Please contact the nearest Promat office for more information or use the Enquiry Form on page 7.

Adelaide Bus Station, with structural steel protected by Promat, a green building council australia MEMBER



The latest major construction in Adelaide, the central “airport style” bus station, is nearing completion after receiving structural fire protected using PROMAPAINT® 120 water-based intumescent coating system. The site is part of an A$500 million redevelopment which includes 1300 new apartments, retail and commercial space and car park spaces for 600 vehicless.

The structure required FRL of 30 minutes for the trusses and beams and 60 minutes for the columns with the steel being used a visible architectural feature. The decision to select an intumescent coating was the obvious and most economical choice over other forms of proactive fire protection such as boards, vermiculite or cementitous sprays.

The use of intumescent coatings above 60 minute FRL is often not the most economical choice of protection system due to the high dry film thicknesses required, together with the limited steel section factors to which paint can be applied. In such instances other methods, such as boarding systems, should be adopted.

At the Adelaide bus terminal, coating was carried out on-site to avoid any damage during the erection and construction phase. Being an environmentally friendly water-based material, PROMAPAINT® 120 application continued alongside other trades without affecting construction deadlines.

PROMAPAINT® 120 is part of a coating system with steelwork, delivered to site blast cleaned to ISO8501-1: 1998, Preparation Grade Sa2.5 and an approved anticorrosive primer applied. Due to the potential damp atmosphere and vehicle emissions, an approved top seal was also applied, the colour of which matched the surrounding masonry and architectural steelwork.

It is critical that any intumescent material specified is independently tested by approved laboratories to meet the requirements of AS1530: Part 4 and other international test standards. Furthermore, the intumescent product should be specified as part of a system with the manufacturer’s approved primer and top seal, if required. Failure to do this can lead to expensive remedial work, possibly including blast cleaning of the existing primer. PFT

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www.promat-ap.com

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