HEMPEL
Trust is earned

Cellulosic passive fire protection coatings

Uncompromising safety.
Unbeatable efficiency.

Rest assured. We have everything covered.

Intumescent coatings to protect assets, infrastructure and buildings during fire.

Structural steelwork is one of the leading materials used in the design of the majority of the world's infrastructure projects, from sports stadiums, airports and shopping malls to multi-storey office blocks and datacentres. Should fire occur in one of these buildings, unprotected steelwork can lose its integrity and strength in minutes. Applying a thin film intumescent coating from Hempel will ensure that your building, people and assets are protected for longer.

Hempel's cellulosic intumescent fire protection solutions are applied as a thin film coating. Designed to expand fire conditions, they provide thermal insulation protection to steelwork for a given period of time. This helps the steel retain its load bearing capacity for longer, allowing additional time for building evacuation and emergency response – and giving you peace of mind that your building and assets, and people's lives, are protected.

Hempel's cellulosic intumescent coating portfolio can cover any structural steelwork project. Our coatings offer the following benefits compared to similar products on the market:

- Increased durability
- Lower application costs
- Higher application efficiency
- Faster process times
- Excellent aesthetic finish

At Hempel, we don't believe that increased safety should lower your productivity. All our intumescent coatings provide some of the fastest drying and completion times in the industry.

They are also designed to minimise environmental impact. Our primers, intumescents and topcoats for cellulosic PFP systems are approved to 3rd party accredited Environmental Product Declarations (EPDs), with very low environmental impact values such as CO_2 emissions. All this helps contribute to achieving credits in green and sustainable building standards, such as LEED® and BREEAM®.

When it comes to fire protection, Hempel has you covered.

Maison Des Avocats, France
protected by Hempel intumescent coatings

Front cover: Park of Poland - Wręcza, Poland
protected by Hempel intumescent coatings

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Schiphol Airport - New Pier (The Netherlands) protected by Hempel intumescent coatings

Advantages across the range for every project

From the world's most impressive stadiums to the tallest skyscrapers, our solutions are constantly relied upon to protect against fire and corrosion in difficult and challenging environments.

By talking with our customers, we gain a deeper standing of their needs. This ensures that our coating solutions are always relevant and practical.

Our first generation products, such as Hempacore One and Hempacore AQ, offer 30-120 minutes of fire protection to almost all section types and are still in global use after many years. Our new Hempafire product range ensures that we and our customers continue to develop and grow the passive fire protection market.

Hempafire Pro 315, Hempafire Pro 320 and Hempafire Pro 400 provide 30-60 minutes and 90-120 minutes of fire protection respectively, with unrivalled dry film thicknesses (DFTs). Hempafire Optima 500 offers 30 to 120 minutes of waterborne fire protection, with higher application efficiency in the range of 90 to 120 minutes and reduced VOC emissions to meet sustainability requirements.

Our latest products in the Hempafire range, Pro 320 and Optima 510, have been developed especially, to further increase the efficiency in 4-sided open sections, thus reducing the required DFTs or extending the coverage of Hp/A, enabling the protection of lighter steel sections.

Our intumescent team offers global support to ensure that whatever or wherever your building is, our fire protection solutions are optimised, fit for purpose and suitable for all your project needs. We can also provide a full estimation and fire engineering service and bespoke project advice to ensure uncompromised asset protection at a lower total cost.

Increase productivity with faster processes and fewer coats to apply

Critical to intumescent painting application, faster drying times give you shorter intervals before overcoating. When coupled with higher DFTs per coat, this allows you to deliver the required protection in fewer coats, reducing project times both on and off site.

Your project's best option at your choice

Having multiple products for different steel profiles can increase project complexity or bring new opportunities, each project is a different story. Our range includes specialised products to best perform in some areas and 'one product' solutions that can cover all profiles, from thin wall hollow sections to large open and cellular beams. This allows customers to choose the type of solution that fits better their project needs; either simplified project execution with a single product or to maximise the efficiency by using the best specialised solution for each case.

"The main benefits we see for using Hempafire Pro 315 are the quicker drying times and the lower loadings it offers to get the fire protection. This means that we can overcoat with a sealer sooner, which means we get increased productivity. Hempafire Pro 315 covers all steel profiles so there is no need to carry more than one material."
Ashley Lowe, Commercial Director, Vale Protective Coatings Ltd, UK

Reduce cost, increase efficiency

Our products help your teams and facilities deliver higher turnover and profitability. Lower loadings mean less paint consumption and reduced material costs. Higher DFTs per coat mean less coats to apply and faster project completion. Combined, the benefits are significant. For project efficiency, Hempafire Pro 315, Hempafire Pro 320 and Hempafire Pro 400's exceptionally low loadings significantly reduce paint consumption compared to similar products.

"Due to the lower loadings of Hempafire Pro 315, we can now use less paint resulting in quicker drying times. This is a big advantage to our business as it will improve our delivery times, reduce project delays and maximise our overall productivity and throughput."
Chief Executive Officer, Nanosteel S.A., Portugal

Ease of application

Time is valuable. For maximum efficiency, products need to adapt to project conditions, not the other way around. That's why we create robust solutions that can be applied in a wide range of conditions. Combined with our comprehensive range of primers and topcoats, and the advice of our experts, we can help you find the perfect system for your needs – to save you time and ensure even the tightest project deadlines can be achieved.

Hempafire Pro 315, Hempafire Pro 320, Hempafire Pro 400 and Hempacore One, for example, can be applied anywhere, either in-shop or onsite, and in a wide range of temperatures and humidities, from Scandinavia to the Middle East and South East Asia. In addition, product application can be adjusted to maximise process speed and minimise application costs, giving you better efficiency all round.

"By using Hempafire Pro 315 we secure the high-quality fire protection required whilst also benefiting from an efficient application process and low levels of repair onsite."
Torben Larsen, CEO, Give Steel A/S, Denmark

Lasting performance, enhanced appearance

Hempel's intumescent protection coatings protect and beautify over the long-term. They provide optimal steel protection from fire and corrosion, and dry evenly to provide a superior finish in the most demanding scenarios. This extends your building's lifetime, ensuring that its safety and appearance stand the test of time.

Protection from corrosion, weather and fire is ensured by having a compatible system with the best primers, intumescent layers and topcoats. Our products are developed to withstand a variety of climatic and exposure conditions. They are tested according to the rigorous requirements of international standards and third-party certifications, including CE marking, Certifire and ApplusFire. Durability is a key element, tested accordingly in different types of accelerated weather and corrosion tests, and assessed through real exposure tests in different locations around the world.

As every exposure condition has different technical requirements, our complete coatings range and advice of our experts ensure you get the most suitable solution for your project's specific needs – the right protection without compromise, optimised for efficiency and with a high-quality finish that improves aesthetics on exposed steel.

Our Hempacore and Hempafire products are proven in the field. Our intumescent systems have shown to maintain their aesthetics and corrosion resistance after many years in service – and, on occasions when fire has occurred, they have protected the steel structure as specified, helping safeguard both property and lives.

"Without the protection of the intumescent coating (Hempacore One) the Fire Department believes that the structure would have collapsed. Thanks to this added protection the structure is in place and we can rebuild as good as new."
Gabriel, Owner, Raiz Bar, Ponta Delgada, Portugal

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The right solution for every project

Product	Fire resistance (minutes)					Maximum DFT recommended per coat (micron)	Exposure environments*				Corrosion categories**				Technology	Key product benefits
	30	60	90	120	higher than 120		Type Z2	Type Z1	Type Y	Type X	C1	C2	C3	C4		
Hempacore AQ	●	●	◐			800	●	●	●		●	●			high solids waterbased	Very low VOC, market leading DFT's at open sections. On-site applications requiring very low VOC
Hempafire Optima 500	●	●	●	●	◐	950	●	●	●		●	●	interior		high solids waterbased	Very low VOC, high build coats, quick recoat/ overcoat times. On-site applications requiring very low VOC
Hempafire Optima 510	●	●	●	●	◐	950	●	●	●		●	●	interior		high solids waterbased	An evolution of Optima 500. Specialised product to maximise the protection of light steel sections with high Hp/A. Same benefits of application and very low VOC as Optima 500
Hempacore One	●	●	●	●		1600	●	●	●	●	●	●	●	●	high solids solvent based	One product solution for all fire ratings and profiles with wide coverage. On-site and in-shop applications in warm conditions
Hempacore One FD	●	●	●	●		1600	●	●	●	●	●	●	●	●	high solids solvent based	Fast Dry. One product solution for all fire ratings and profiles with wide coverage. On-site and in-shop applications in cold conditions
Hempafire Pro 315 and 315 Fast Dry	●	●	◐			1600	●	●	●	●	●	●	●	●	high solids solvent based	Market leading DFT's for R30 & R60. Most sections protected in one coat. On-site and in-shop applications in warm conditions, (Hempafire Pro 315) and cold conditions, (Hempafire Pro 315 FD)
Hempafire Pro 320 and Hempafire Pro 320 Fast Dry	●	●	◐			1600	●	●	●	●	●	●	●	●	high solids solvent based	An evolution of Pro 315. Specialised product to maximise the protection of 4-sided open sections with even further reduced DFTs. Same benefits of application and productivity as Hempafire Pro 315 and Hempafire Pro 320 Fast Dry
Hempafire Pro 400 and 400 Fast Dry	●	●	●	◐		1600	●	●	●	●	●	●	●	●	high solids solvent based	Market leading DFT's for R90 and R120. One product solution for all steel sections. On site and in-shop applications in warm conditions, (Hempafire Pro 400) and cold conditions, (Hempafire Pro 400 FD)

● = full coverage ◐ = partial coverage

*according EAD350402-00-1106 **according ISO 12944

Visit hempel.com to find out more about our intumescent passive fire protection (PFP) coatings

Vienna Airport – Hangar 7 (Austria) protected by Hempel intumescent coatings

Data centres

Often located in cities or on business parks, Data Centres are essential to our communications world-wide. When building and maintaining Data Centres owners face complex challenges with the need to protect the building, it's people and assets.

One of the main challenges faced comes from the smallest of particles – dust. This organic material carries water, oil, various minerals and chemicals, all of which can greatly affect the lifespan of computers and circuits if overexposed, often causing signal errors and abrupt part failures.

Dust build-up can increase temperatures by nearly 16°C (30°F) preventing necessary cooling, causing overheating and electrical shorts. Along with meeting local legislations, considering building and personnel safety and aesthetics, dust suppression is a key consideration when choosing coatings and finishes for these communication hubs.

Our range of intumescent coatings are ideal for protection against fire, expanding to a low-thermal conductivity char and limiting temperature rise in steel to prevent loss of structural stability during a fire.

And, with their fast drying, smooth finishes, our Hempafire coatings can contribute to dust suppression in a controlled environment.

Their market-leading features and benefits make our Hempafire range of intumescent coatings the passive fire protection coatings of choice for many owners and specifiers worldwide.

- On or off-site application
- Lower dry film thickness
- Reduced drying times
- Faster application
- For all common steel profiles
- Reduced application and touch-ups
- Range of colours and finishes
- Reduced environmental impact

Our solutions in action

Hempacore One

La Samaritaine, France

Hempel is proud to play an active role in the restoration of this French historic building - La Samaritaine, an iconic department store over 100 years old. The renovation challenge required a solution that met the building's safety issues while maintaining its classic Art Nouveau and Art Deco design.

Hempel was chosen to protect the steel from corrosion and fire, with a three-coat passive fire protection system, featuring Hempacore One 43600. The product offers up to 180 minutes of cellulosic fire protection in interior and exterior conditions up to C4. Importantly for architects and paint applicators, due to its lower loadings, Hempacore One can also be applied in a thinner layer compared with alternative intumescent products, resulting in shorter application times and a more natural look.

Hempafire Optima 500

Doha Marriott Hotel

Qatar's most iconic hotel, the Doha Marriott, opened in 1973, and is being renovated in preparation for Qatar's hosting of the FIFA World Cup 2022. The new designs included additional floors, which meant the concrete columns needed strengthening with steel cladding prior to grouting to increase their load capacity. The design required fire protection for two hours, and the customer also wanted a low-VOC, easy-to-apply intumescent coating that would deliver an excellent aesthetic finish. Hempafire Optima 500 was chosen, based on application trials that demonstrated its high film characteristics and application friendly properties, which include low odour, no dust formation and a smooth finish. This improved productivity, enabling the project to be completed faster and reducing the renovation schedule.

Hempafire Pro 315

Schiphol Airport, Amsterdam

Schiphol Airport is the third busiest in Europe, serving more than 71 million passengers in 2019. It is going expansion, including a 55,000 m^2 pier providing eight new gates. The airport has a strong commitment to fire safety, reflected in their extensive firefighter training programme, to which ensures the fastest possible response time in case of emergency. Unsurprisingly, they wanted a high-quality passive fire protection coating for the 6,000 tonnes of structural steel in the new building. Nanosteel, the project's main coating application company, was looking for a coating that offered at least sixty minutes of passive fire protection and was also fast and easy to apply. Our solution was Hempafire Pro 315 Fast Dry, which gave Nanosteel every advantage in the successful completion of their project.

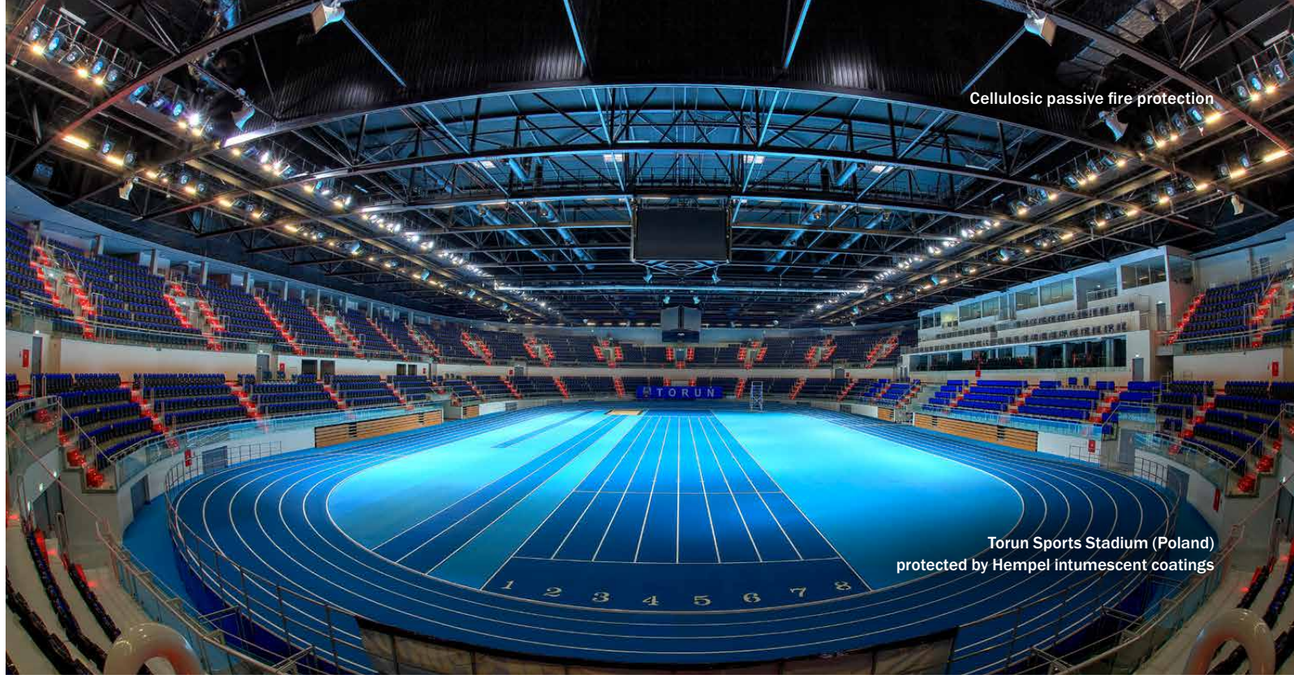
Hempafire Pro 400

Assima Tower, Kuwait City

The Assima Tower is part of the Assima Project, the largest commercial building complex in Kuwait City, featuring over 380,000 m^2 of usable space spread across 54 storeys – housing over 150 offices, which required passive fire protection.

Gulf Crescent Mechanical, the project's application company needed to turnaround painted steel from yard to site quickly. Hempafire Pro 400 was chosen due to its highly competitive loadings and increased productivity with fast throughput, offering 90 minutes of fire protection respectively.

Our Hempafire Pro 400 coating system also benefited from reduced paint consumption, increased sustainability gains and lower project and labour costs.



Torun Sports Stadium (Poland)
protected by Hempel intumescent coatings

Protecting a whole world of steel structures

Hempel's intumescent coatings protect all kinds of buildings all over the world. These include:

- **Act 1 and Act 2 Towers,** Dubai, UAE
- **Arena Torun,** Poland
- **Assima Tower,** Kuwait
- **Birmingham Hospital,** UK
- **City Square House,** Manchester, UK
- **Colt Data Centre,** Mumbai, India
- **Doha Marriott Hotel,** Qatar
- **Dubrovnik Airport,** Croatia
- **Duqm Airport,** Oman
- **Evangelismos Athens Hospital,** Greece
- **Fire Station - San José,** Costa Rica
- **Jordal Amfi Ice Hockey Stadium,** Norway
- **Khoula Hospital,** Oman
- **La Samaritaine Renovation,** France
- **Maison de l'Ordre des Avocats,** France
- **Park of Poland - Wręcza,** Poland
- **Porsche Centre Hamburg,** Germany
- **Reverse Osmosis Building – Khobar,** Kingdom of Saudi Arabia
- **Sakhir Conference Hall,** Bahrain
- **Santiago Bernabeu Stadium,** Barcelona, Spain
- **Schiphol Airport New Pier,** The Netherlands
- **Torre Reforma,** Mexico
- **Václav Havel Airport Prague,** Czech Republic
- **Vienna Airport – Hangar 7,** Austria
- **Vigo Railway Station,** Spain
- **Villareal Football Stadium,** Spain
- **Volkswagen Production Hall,** Slovakia
- **Wellington Place,** Leeds, UK
- **100 Fetter Lane,** London, UK

Cutting-edge research provides cutting-edge solutions

Hempel’s new research and development centre is focused solely on life-saving passive fire protection products.

With fifteen research and development facilities around the world, Hempel works closely with you to provide the right solution for your project.

Our research and development teams are committed to continuous development of innovative and effective speciality coatings to give you durable protection in aggressive environments.

Hempel’s new Centre of Excellence in Barcelona focuses on the research and development of coating products within the field of passive fire protection. This state-of-the art facility comprises 3,000 m^2 of laboratories, testing areas and offices and is staffed by a team of highly skilled technicians, applicators, fire testers, scientists and fire engineers.

As a global leader in the coatings industry, we are committed to developing and increasing a range of solutions that our customers can trust to protect their buildings and industrial installations. Our new Centre of Excellence R&D centre will enable us to accelerate this work, as we expand our passive fire protection product range in order to support our customers’ specific requirements.

Cellulosic passive fire protection

Testing intumescent coatings in the Centre of Excellence

Cellulosic passive fire protection

Discover the power of HEET Dynamic

HEET Dynamic, our intumescent coating estimation software, makes complex intumescent coatings estimations easy.

Estimation power at your fingertips
Introducing HEET Dynamic, the easy-to-use engineering service software developed by Hempel to accurately estimate intumescent volume calculations on steel sections in just a few clicks.

This reliable proprietary software program is used by many of our customers around the world, including steel fabricators and applicators. Their structural engineers and estimators all benefit from HEET Dynamic, as our software delivers a simple way to self-perform accurate intumescent volume calculations quickly and easily.

For advanced users, the licence can be upgraded using a feature called Structural Fire Design. An intelligent BIM plug-in tool to automate the creation of 3D models and objects is also available.

Optimise estimations with Structural Fire Design (SFD) upgrade
The SFD upgrade allows suitably qualified estimators and engineers to flexibly calculate project specific design temperatures rather than relying on industry defaults, leading to overall cost savings and increased productivity. In addition, the optimised PFP volume and thickness calculations require less materials and utilise best engineering practices.

Power-up with HEET Dynamic Plug-In for BIM Software
Our BIM plug-in tool for Tekla Structures allows the automated intumescent coatings calculations as you create 3D models and drawing objects, making it easier for HEET Dynamic users to work seamlessly with your BIM software (Tekla Structures). This intelligent, modifiable tool also facilitates information flow both ways for real-time design and estimation, dynamically calculating the PFP requirement as you design to save time and costly design changes.

Simple yet powerful
HEET Dynamic empowers users to make better fire protection coatings decisions without the need for third parties, maximising productivity whilst saving precious time and money.

Our simple, user friendly software is up to date with latest industry standards. The software is fee-free and compatible with Windows, featuring a simple copy and paste functionality to give you full control of your estimations, without the need for overly complex technologies.

Your business, our expertise

For the ultimate in coating performance and project efficiency, choose Hempel Services.

Our global network of coatings experts has vast experience in project management, and Hempel Services gives you direct access to their knowledge. From specification and equipment to start-up and application, they offer support and guidance at every stage, so you can lower your costs while optimising results.

For specific fire protection expertise, our Passive Fire Protection - Business Technical Expertise function supports customers globally with technical advice, estimations and fire design to ensure the best solutions for their projects.

Optimise application process
From advice and troubleshooting to continuous support, we work with you every step of the way to maximise speed and productivity, reduce waste and eliminate rework.

Faster project delivery
We help streamline your maintenance work to reduce surface preparation time, increase application efficiency and mitigate unexpected delays. This ensures your assets remain in operation for as long as possible.

Lower operational costs
By assessing all costs associated with your solution – from materials and equipment through to supply and storage – we identify cost-saving opportunities, giving you greater control over your working capital and keeping operational costs down.

Increase your revenue
We support you throughout your project to increase efficiency, eliminate bottlenecks and boost application speed. As a result, you benefit from additional in-service days – and can run your business without disruption.

Long durability
By ensuring the correct solution is used during new building and subsequent maintenance work, we reduce the risk of damage or premature coating failure. This minimises long-term maintenance requirements and lowers your total building cost.

hempel.com

As a world-leading supplier of trusted coating solutions, Hempel is a global company with strong values, working with customers in the energy, infrastructure, industrial, marine, decorative, container and yacht industries. Hempel factories, R&D centres and stock points are established in every region.

Across the globe, Hempel's coatings protect surfaces, structures and equipment. They extend asset lifetimes, reduce maintenance costs and make homes and workplaces safer and more colourful. Hempel was founded in Copenhagen, Denmark in 1915. It is proudly owned by the Hempel Foundation, which ensures a solid economic base for the Hempel Group and supports cultural, social, humanitarian and scientific purposes around the world.

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