



Fire protection solutions
for historic buildings and cultural assets
in museums and archives

Safe for certain.

mx BRANDBEVEILIGING

RECOGNISING RISKS

Irreplaceable Value – Unique Objects

Historic buildings, museums, archives, libraries and galleries are places which contain unique objects of inestimable value. Works of art, paintings, papers and documents and historic artefacts all have one thing in common: They are unique objects of irreplaceable value. If they are lost then no insurance in the world can replace them. They need particular protection, simply because they cannot be recreated. Fire protection for historic buildings and cultural assets is something which is both a responsibility and a special duty.

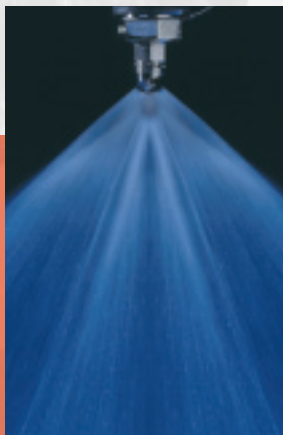
The Risks

Again and again, devastating fires destroy historic buildings and cultural assets of inestimable worth. Their irrevocable destruction makes clear that many places still do not have an adequate level of fire protection.

For historic buildings in particular the style of construction itself presents an increased fire risk. The use of wood as the basic construction material in the past means that in many cases this has led to the creation of high fire loadings. In high towers or wide roof spaces especially, this can lead to a fire spreading rapidly. A result is that objects which have lasted for centuries can burn down within a few minutes. Besides arson, the causes of fires often include defective and obsolete electrical plant and equipment. Particularly high risk areas are also presented by work rooms, plant rooms, and kitchens.

Fire Protection is Protection of Historic Monuments

Combining professional fire protection with high requirements in terms of protection of historic monuments and aesthetics is usually less problematic than it may seem – even when retrofitting existing buildings. Already today, many protected buildings and installations which conserve artistic and cultural assets often contain not only these cultural highlights, but highlights from fire-protection technology as well - except that the latter are hidden and almost invisible. This means that fire protection and the protection of listed monuments are not contradictory: fire protection is much more a way of making a positive contribution to the protection of listed monuments.



Fire protection is protection of historic monuments

SOLUTION

SAFE FIRE PROTECTION

Solutions in Fire Protection

In the event of a fire, fire brigades usually can only force their way forward to the cause of the fire after some delay and with the use of high volumes of water. For this reason, the conceptual design for the protection of cultural assets calls for technical fire protection measures which recognise fires and fight them whilst they are still in their initial phase. Minimax as the market leader in Germany has available a unique range of fire protection products and equipment and so is able to offer tailor-made fire protection solutions from a single source for each individual application.

Fire Detection Systems and Smoke Aspiration Systems

Fire detection systems make it possible, round the clock, in case of a fire to promptly set off counter-measures such as alerting the fire brigade or the activation of an extinguishing system. Active smoke aspiration systems ensure a



The suction pipes of flue gas detectors (e.g. Helios) can often be so installed that they are nearly invisible.

fire is detected at a very early stage. They are not sensitive to false alarms due to detector deception. Further, they can often be installed in a way such that they are almost invisible, so that solutions which are particularly effective in aesthetic terms can be achieved using them.

Argotec®

Fire Extinguishing Systems

Argotec® fire extinguishing systems work with the extinguishing agents carbon dioxide, argon or nitrogen. They leave no residues and so are an important element in the protection of particularly sensitive cultural assets. Their extinguishing effect is based on the targeted displacement of the oxygen contained in air which is essential to the combustion reaction. Employees and visitors are automatically instructed to leave the area affected before its flooding with the extinguishing gas.

Thanks to the Minimax Liquid Argon Gas Extinguishing Technology, it is possible to provide especially large quantities of the extinguishing agent argon, e.g. for the protection of archives and libraries in a compact liquid form.





Place saving – the MX 1230 gas extinguishing system

MX 1230

Gas Extinguishing Systems

MX 1230 gas extinguishing systems using 3M™ Novec™ 1230 fire protection fluid deprive the fire of the heat which is essential to the combustion reactions. Thanks to their high extinguishing effect, little space is needed for the supply of extinguishing agent. In particular for small and medium-sized technical spaces they are an optimal solution.

Permatec® Fire Avoidance Systems

Permatec® fire avoidance systems used in closed protected areas lower the oxygen content in the air through the controlled addition of nitrogen. This creates an atmo-



sphere which excludes the possibility of an outbreak of fire from the very beginning. Permatec fire avoidance systems are therefore ideal for the protection of irreplaceable and unique objects such as in large glass display cases, archives and stores. Normally

people can still enter the rooms which are protected by these systems.

Sprinkler Equipment

Sprinkler equipment can make a substantial contribution to the preservation of protected buildings. In case of fire the sprinklers are set off in a selective manner, that is, extinguishing water is only released where it is actually needed to fight the fire. In many cases they can be used to compensate for weaknesses in the structural fire protection – weaknesses which are often to be found in historic buildings, and which often cannot be corrected. Preaction sprinklers offer a double security against false activation, since both the sprinklers which belong to one unit must be set off first. A similar and sure alternative is offered by controlled sprinkler systems in which the additionally installed fire detection system must respond first, before any extinguishing water is released.



FIRE PROTECTION SOLUTIONS

Minifog®

Fine Spray Installations

Minifog® fine spray installations are suitable for fire protection solutions for historic buildings where a minimum use of extinguishing water must be achieved together with the provision of a high degree of safety. The low volumes of water used makes it possible to use small pipe sizes and place-saving water supply units. This means that Minifog fine spray installations are particularly suited for retrofitting in existing buildings.

Structural Fire Protection

Every opening in walls, ceilings or floors is a safety weak point. This is because cables, supply ducts and channels, panelling and gaps are ideal pathfinders for the rapid spreading of smoke and fire. Structural fire protection helps prevent fires, helps restrict their spreading and in case of fire helps secure the emergency and escape routes. Minimax offers a wide range of fire protection products for this purpose.

Fire Extinguishing Equipment

Fire extinguishers and extinguishing equipment should be kept available and easily accessible in all areas of the building to help with the rapid fighting of initial fires. Besides foam and water extinguishers, the Minifog mobile fine spray fire extinguisher is particularly suitable for use in

historic buildings and cultural assets. It is distinguished by its high level of extinguishing efficiency, its almost residue-free extinguishing action and a high level of user-friendliness. Thanks to its long functioning time even inexperienced visitors can produce good extinguishing results when using it.



High extinguishing efficiency characterises the mobile Minifog fine spray extinguishers.

Fire protection for cultural assets –
out of a sense of responsibility towards later generations.

YOUR ADVANTAGE

OUR COMPETENCE

Service and Financing

Whilst the design of a fire protection system for a new building goes hand in hand with the building design, retrofitting in existing buildings first calls for a risk analysis. The analysis is used to investigate and evaluate possible causes of fire, areas which are particularly at risk, and fire and smoke sections. Minimax's specialist fire protection experts are available to you to carry out the risk analysis and the development of fire protection concepts on site.

Besides optimum fire protection solutions Minimax also offers a range of interesting service packages: These cover

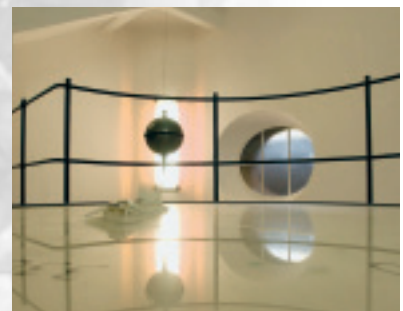
inspection or maintenance of the fire protection systems to ensure a long, fault-free functioning of the fire protection equipment, as well as training your employees e.g. in how to use fire extinguishers.

In order that fire protection measures do not fail at the financing stage, Minimax can also develop appropriate financing concepts. Various leasing models are available for this; they can be adapted for each project to meet the requirements of the application and the desires of the client.

References:



Kunstmuseum, Wolfsburg



Deutsches Museum, Munich



Jahrhunderthalle, Bochum



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