

**AUTOMATIC FIREFIGHTING
SYSTEMS IN
ACADEMIC FACILITIES**

**NURSERIES - SCHOOLS - HIGH SCHOOLS
VOCATIONAL SCHOOLS - UNIVERSITIES - ETC.**





Utmost importance of PREVENTION

SIEX has VdS approval for the protection of these hazards:



The priorities in the implementation of an emergency plan are:

- *Health and safety of children.*
- *Health and safety of the evacuation team personnel.*
- *Integrity of academic facilities and property.*
- *Integrity of adjacent properties.*
- *Health and safety of external personnel (Fire, Municipality, etc.)*

Schools should be prepared for any emergency and should also prepare their students.

Schools should have an emergency plan in case of fire.

The plan is aimed at promoting and achieving prevention and protecting people, property, environment and activities that take place at the academic facility so as to:

- Anticipating an emergency before it happens.
- Preventing the emergency, setting up the material and human means necessary within a reasonable time limit, so that it doesn't occur or to ensure minimal negative effects.
- Acting to address the emergency when it occurs, despite the foregoing, using the neutralization means we have set up.

The culture of ensuring safety for people and goods is gaining increasing importance in our social and economic environment. Prevention sensitivity and concern increase year after year.

Sources of fire

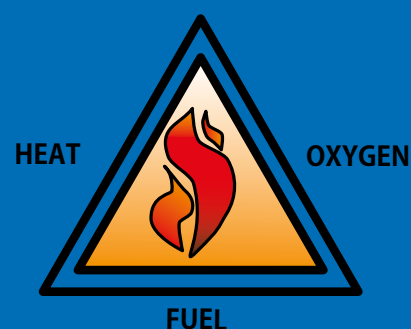
The main fire risks on school premises are as follows:

- Ignition or explosion of hazardous substances stored in workshops.
- Electrical accident caused by a shortcircuit or overload.
- Ignition or explosion of flammable substances in laboratories.
- Kitchens.

There are therefore various facilities which may pose significant risks, even outside of school hours, such as:

- Air-conditioning and heating systems, which may carry smoke from a fire from one area to others.
- Electrical outlets for various uses, such as those used for mobile phone chargers, laptops, video players, heaters, etc.
- Combustible gases, used for cooking or heating, generally using LPG, town gas and natural gas.
- Boilers.

It is necessary to have additional protection measures, since fire brigade response time can be long.



SIEX PROVIDES AN ADVANCED
WATER MIST SYSTEM
THAT CAN EFFECTIVELY PROTECT
EACH OF THESE ROOMS AND THE
BUILDING AS A WHOLE WITH A
SINGLE SYSTEM.



High-risk areas are those with these potential fire sources and common areas with presence of children:

- CLASSROOMS AND OFFICES
- HALLWAYS
- KITCHENS
- COMPUTERS AND SERVERS
- LABORATORIES AND WORKSHOPS
- ARCHIVES AND WAREHOUSES
- TRANSFORMERS
- LAUNDRIES
- BOILER ROOM

WATER MIST ENSURES THE SAFETY OF THE COMPLETE BUILDING STRUCTURE.

SIEX Solutions

ACADEMIC FACILITY AREAS ARE EXPOSED TO A WIDE RANGE OF RISKS, DEPENDING ON USE AND LOCATION. SIEX BOASTS A WIDE RANGE OF HIGH-TECHNOLOGY PRODUCTS DESIGNED FOR PROTECTING THESE AREAS.

Complete protection of the building



Installing a water mist system, suitable for this type of public area, stands out as a key part of the solution. With this system, fires are controlled at a suitable stage, with no additional risks to personnel and especially children, whose responsiveness is more limited.

It is a technology used for many applications and is compatible with electrical and combustible equipment and therefore suitable for high-risk areas, not just public spaces such as classrooms and hallways.

Such systems require less water, up to 85% less than traditional sprinkler systems, which results in the installation of smaller diameter pipes and smaller space requirements. The flexibility of this equipment makes it easy to adapt to modern new schools, as well as the refurbishing of existing ones.

The required pipe, AISI 316L, is stainless steel and ensures a clean discharge that meets hygiene standards required in this type of buildings.

SIEX™ WATER MIST SYSTEM protects the enclosure as a whole with minimal water consumption, improving visibility for evacuation and removing damage from smoke or excess agent.

Kitchen safety



The kitchen is one of the areas of a school that should be given the greatest attention from a fire safety standpoint due to the existence of highly combustible fats, oils that generate fast-ignition vapours, many types of materials and the variety of sources of ignition. We must also not forget the primary importance of smoke.

Smoke from an oil or grease fire is very dense and heavy.

Fires that generate a lot of smoke (such as oil fires) can seriously affect the operation of many areas of a school. Though regulations require compartmentalization, it is not done perfectly in many cases, so smoke extends to all areas, rendering them unusable.

This includes both cafeteria kitchens and kitchens that serve school canteens, and in general all facilities used for food preparation

An important aspect to bear in mind is that smaller kitchens can actually be more dangerous, since they are the most vulnerable. It is always advisable to protect all of them, regardless of the installed power.



SIEX has systems designed specifically for this type of protected hazards:

SIEX-KP™, SIEX™ WATER MIST SYSTEM and SIEX-CO₂™. These fully cover all possible fire points, such as exhaust fans, ducts, filters and cooking appliances such as grills, fryers, broilers, etc.

OTHER SOLUTIONS

It is possible to install any of our clean agent systems in technical rooms, air-tight spaces and small enclosures. Thanks to the wide array of options, users can adapt each protection to the needs of the enclosure.

SIEX provides inert gas systems, chemical and CO₂ gases with a variety of equipment.



Risk scenarios and possible extinguishing methods

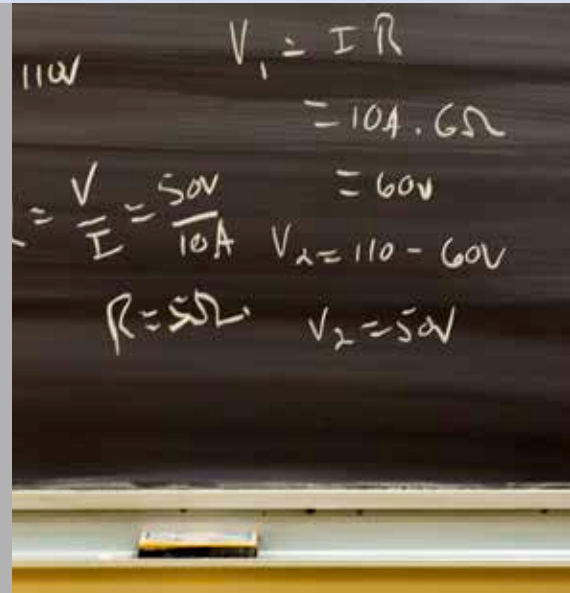
The features of various risk areas require detailed study so that the system can adapt to each element of the protected space. In general, and given that all these risks can be protected by the same extinguishing system, the use of **SIEX™ WATER MIST** is recommended.

For certain areas, there are various protection options. In others, the only viable alternative is extinguishing through advanced Water Mist systems.

COMMON SPACES: CLASSROOMS/OFFICES/HALLWAYS

There is a critical problem with the time available to detect fire and to organize a quick and safe evacuation of the area. This is the case not only because of the type of occupants, but because these areas can cause unbearable conditions in a very short time.

The sophisticated technologies used and the wide range of existing equipment are susceptible to shortcircuits and malfunctions, and thus pose a threat to people's lives.



LIBRARY AND STORAGE ROOMS

Record rooms and libraries are a hazard which do not involve any danger, but if the stored documents catch fire, consequences are very significant in the short, medium and long term.

Keep in mind that in the record room of schools are used not only to store student records, but also all sorts of variable documentation, such as: video library, various kinds of books, historical files of certain importance, administrative records, relevant journals, etc.

The fire load in this type of location is inherently high, given the high concentration of combustible items such as paper (books, documents, etc.), cardboard and electrical components which may develop faults. Materials on shelves, ceilings, floors and other possible materials represent an additional fire load.

SIEX has a wide range of products for the protection of these areas: SIEX-HC, INERT-SIEX and Water Mist Systems.

IT AND SERVER ROOMS

The main causes of fire that may occur in this type of facility are: sparks due to switches, short circuits, overloads, static electricity, dirt or external elements that might cause flaming from overheating, etc. It must also be borne in mind that the vast majority of technical equipment rooms have false ceilings and floors, through which electrical wiring carries both power and information and these must be protected, since they are potential sources of fire with limited potential for visual inspection.

We can propose the same extinguishing agent solution as for record rooms and warehouse mentioned above.

LABORATORIES AND WORKSHOPS

Labs and workshops are other areas in schools where protection is recommended. Fires can be started by electrical faults or improper use of certain chemical elements or equipment. Fire can destroy increasingly sophisticated and modern equipment (significant investments) so protection is becoming more and more important.

In this case SIEX has different extinguishing systems, depending on the type of hazard and existing installation.

For the protection of electrical fires, common in these facilities, it is possible to use SIEX-HC™ chemical gases, INERT-SIEX™ inert gases or water mist systems. Selecting one or the other will depend on the various conditions and needs.



LAUNDRY

These areas house significant fire points, such as highly flammable cleaning products and various types of fabrics, usually in storage.

The common protection system for this type of premises is SIEX™ WATER MIST.

Our commitment

CHOICE OF SYSTEMS

SIEX has the widest range of products and systems to suit different needs, both as regards pressures and extinguishing agents.

COMPETITIVE PRICE

Optimizing all of our processes make us more and more competitive worldwide.

SPECIALIZED ENGINEERING

Our highly qualified staff ensure the best service for customers both as regards technical advice on the choice of system, and solving any problems that might arise after installation. Backed up by our extensive experience and a track record of successful projects.

INNOVATION

At the forefront of innovation in every product we develop, ensuring the technical features offered.

QUALITY GUARANTEE

All products meet the highest quality requirements and internationally recognised official approvals.

OTHER SPECIAL HAZARDS PROTECTING BY SIEX:

SERVICE STATIONS	TELECOMMUNICATION CENTRES	HISTORIC BUILDINGS
ARCHIVES AND LIBRARIES	HOTELS	ROBOTIC PARKINGS
DPCs	HOSPITALS	WIND TURBINES
PAINT SPRAY BOOTHS	EDUCATIONAL ESTABLISHMENTS	STEEL INDUSTRY
ELECTRICAL PANELS	TRAIN AND UNDERGROUND STATIONS	BANKS
INDUSTRIAL KITCHEN	TRAINS	OFFICES
TURBINES AND GENERATORS	TRANSFORMERS	LARGE VEHICLES
ROAD TUNNELS	OFFSHORE PLATFORMS	CONVEYOR BELTS
NATURAL GAS PLANTS	SOLAR THERMAL PLANTS	GAS PUMPS
CLEAN ROOMS	MACHINE TOOLS	OIL & GAS
CABLE TUNNELS	PRINTING INDUSTRY	TIMBER INDUSTRY



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