SPECIAL HAZARDS
PROTECTION

AUTOMATIC FIREFIGHTING
SYSTEMS

TIMBER INDUSTRY

SIEX

Losses caused by fire are large and can completely wipe out a facility.

Hazard type

Wood is a renewable and eco-friendly raw material used widely for its great versatility, workability, warmth and comfort to the user. Various certificates and quality seals also ensure sustainable source and environmental sustainability.

It is, however, highly combustible, so that fire protection is both a legal requirement and a necessity for users' peace of mind.

The timber industry comprises a wide range of processes, all of which are complex and increasingly automated (including heavy machinery). In addition to the usual fire protection standards, the industry is governed by its own guidelines and standards, given its particular level of danger.

Of all the activities in this sector, the processes most commonly prone to fire can be classified into:

Extraction phase: fire in vehicles and tools used, easily extensible to storage and supply areas.

Primary processing: great variety high-risk thermal and mechanical treatments (dryers, mills, presses, debarking machines, sanders, etc.).

Furniture, board factories, etc.: In addition to the above, there are adhesives, varnishes, paints and finishing machines which expel a potentially explosive fine powder.

Warehouses: of any kind, due to the great fire load they house.

The imperative need for a fixed and autonomous fire protection system is explained by the huge fire load present in the form of accumulated material and residues such as sawdust and fine powder, which facilitate the rapid spread of flame and generate potentially explosive atmospheres.

Should any outbreak occur, it quickly becomes an uncontrolled fire very difficult to control if there is no personnel nearby or if the extinguishing is not adequate.

Sources of risk

Most sources are located in the material processing area, although any area can be subject to fire for any of these reasons:

Accumulation of combustible material: large and difficult-to-control stock of raw materials, products and residues.

Explosions: caused if dust and ambient particle levels exceed the maximum allowed.

Machine processes, automation:

- Drying and heat treatment: hot spots and overheating.
- General processing: debarking, chippers, saws, etc., due to the high level of residues and debris.
- Friction, grinding and /or abrasion: releases highly flammable hot particles by the process itself.
- Finishing: very flammable paints, varnishes, resins, etc.
- General machinery, with their own hazards such as electrical, hydraulic, fuel and lubricant leakage, etc.

Internal traffic: forklifts and conveyor belts, mainly, with the inherent problems associated with moving through a medium with plenty of combustible material.

Other: electrical or mechanical failures, lack of maintenance, obstructions, negligence, cutting or welding work, dust, etc.

When fire breaks out it spreads rapidly, with very high risk of spread due to high fire load.

SIEX highlights the following preventive measures:

- *Early detection and alarm*
- *Automatic stop of processes around the outbreak.*
- *Standalone and independent action.*
- *Fire extinguishing and/or outbreak control.*
- *Concrete determination of the protection needs of each area.*
- *Employee training.*
- *Security measures for the evacuation of staff present.*

Specific protection

- Special action in high-risk spots: dryers, mills, dyeing/painting/varnishing areas, conveyors, etc.
- Appropriate and effective maintenance.
- Control of sawdust and dirt accumulation.
- Control of dust and suspended particles, including inertization, if applicable.
- Minimize sources of ignition: sparks, heat, static electricity, friction, etc.
- Complying with applicable regulations (general and specific) in terms of protection.
- Complying with insurance company requirements.

SIEX FIRE FIGHTING SYSTEMS

The many uses and areas included in a wood processing plant requires combining different protections, depending on the characteristics and needs of each environment being protected.

In general, general areas such as offices, electrical panels, paint booths, etc., will be protected as indicated in the respective documents for the various systems: SIEX-HC™, SIEX-NC™ 1230, INERT-SIEX™, SIEX CO_2™, etc.

All SIEX systems operate automatically and autonomously.

They are very fast-acting, to avoid serious damage to the supply chain or production downtime.

They have national and international certifications and approvals.

The design will adapt to various types of risk, regulations and existing constraints.

SOLUTIONS:

Inert Gases

Recommended to protect rooms occupied by staff or housing valuable assets. These are clean gases, chemically and electrically neutral, so they don't damage delicate installations or leave residues that may cause damage.

INERT-SIEX™ offers the widest range of inert gases in the market: IG-541 (N + Ar + CO_2), IG-100 (nitrogen, N_2), IG-01 (argon, Ar), IG-55 (N_2 + Ar) at different pressures (storage at 150, 200 or 300 bars and discharge at 60 bars) to travel long distances and perform rapid discharges.

Environmentally friendly: Zero ozone depletion potential (ODP) and zero increase in global warming potential (GWP).
Good performance at low temperatures.
Cost-effective, extensive global available with no brand restrictions.
No damage to equipment.
Very stable behaviour.
Suitable for occupied areas.

No residue, non-corrosive
Low cost and easy to supply
Safe for equipment
clean, no residue
Immediate, highly effective extinguishment

Carbon Dioxide

SIEX CO_2

This multipurpose extinguishing agent is ideal for the comprehensive protection of both enclosures and equipment. The action is fast and achieves immediate cooling. It prevents re-ignitions and can be designed according to various constraints:

- For local application on specific hazards in extensive or open areas.
- For total flooding in enclosed warehouses, unoccupied rooms, machinery, etc.
- Extended discharges to ensure concentration
- Low-speed discharges in the event of risks of spreading, especially saw-dust, paint, etc.

In certain storage areas it works against deep-seated fires.

In case of permanent or occasional presence of staff in the proximity, include security measures in order to facilitate their evacuation. SIEX has retarders, odorizers and pneumatic sirens that facilitate safe evacuation.

Small spaces

SIEX trace

SIEX™ SMS is the ideal solution for the protection of vehicles, engines, industrial machinery and small spaces. Compatible with HFC-227ea and HFC-125, installation efforts are minimal and it offers the same safety and total extinction guarantees. It can be connected directly to a flexible discharge hose, without piping.

Clean and immediate extinguishing
Minimal and easy installation, even without piping
Horizontal or vertical mounting
Very stable behaviour to changes in temperature, humidity and long periods without use.
Safe for equipment, components and people (operators, drivers)
No residues and is not toxic.

OTHER SPECIAL HAZARDS PROTECTED BY SIEX:

WIND GENERATORS

ELECTRIC GENERATORS

TRANSFORMERS

DATA CENTERS

SOLAR ENERGY

OIL AND GAS

TELECOMMUNICATION

TURBINES

ARCHIVES AND LIBRARIES

HOTELS

HOSPITALS

EDUCATIONAL FACILITIES

STEEL INDUSTRY

MACHINE TOOLS

PAINT SPRAY BOOTHS

ELECTRICAL PANEL ROOMS

CLEAN ROOMS

PRINTING INDUSTRY

TIMBER INDUSTRY

OFFSHORE PL

C/ Merindad de Montija, 6
P.I. Villalonquéjar
09001 Burgos (SPAIN)

tlfno: +34 947 28 11 08
fax: +34 947 28 11 12

siex@siex2001.com
www.siex2001.com

SIEX®