



FIXED EXTINGUISHING SYSTEM  
WITH LOW PRESSURE FOAM  
EXTINGUISHING AGENT

FIRE  
PROTECTION

## FOAM FOR SPECIAL HAZARDS



The combustion of flammable liquids and other highly toxic materials such as plastics and rubber require special protection that is fully adapted to the storage space (area occupied).

The flare-up of these materials involves the rapid spread of fire and the release of a large amount of toxic gases. This poses a serious problem for the safety of people and the continuity of any organization, not to mention the great harm it causes to the environment.

The most effective solution is to protect these hazards with the SIEX™ FOAM PRE-MIX system.

It covers burning surfaces evenly with a specific foam for the affected area.

Its most common applications include spillage potential areas such as petrol stations, hangars and process areas. They can also be used to protect flammable material in storage tanks, plastic recycling, sumps, waste collection ponds, and many other areas with special risk like these.

**At SIEX we advise on the most appropriate protection, designing and supplying the installation completely tailored to your needs.**

# FAST-ACTING AND VERSATILE SYSTEM

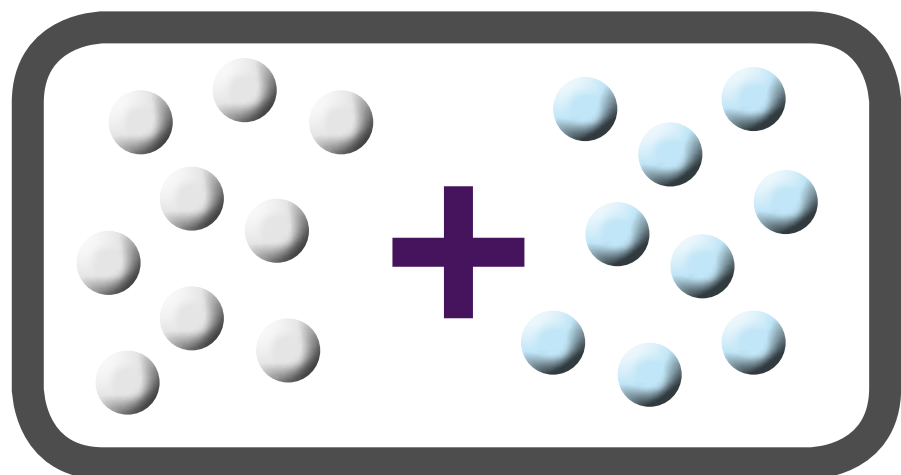
SIEX™ FOAM PREMIX is designed to act in the most adverse circumstances requiring swift control and/or suppression action. By its specific characteristics, it is recommended primarily for use on flammable liquids outside the range of action of other conventional agents.

Its effectiveness lies in the mechanism of action over the outbreak of fire: when the SIEX water-foam premix comes in contact with air, it produces a foam that evenly covers and isolates the affected areas.

This protective barrier has a threefold function: on the one hand, it controls the spread by cooling hot surfaces, prevents the release of flammable or toxic vapours and finally removes the air, separating the oxidizer and the fuel.

THE PREMIX FOAM IS A **LOW EXPANSION AGENT** SUITABLE TO COVER FLAMMABLE LIQUIDS BY FLOWING OVER THEM. IT EXPANDS FROM **1 TO 20 TIMES THE INITIAL VOLUME** STORED IN THE TANK OVER THE IGNITED SURFACES, SMOTHERING THEM INSTANTLY.

In the SIEX™ FOAM PREMIX, the foam and water are ALREADY mixed the tanks for their immediate discharge



ESPUMOGEN

WATER

## COMPONENTS



The equipment supplied by SIEX are developed to provide design flexibility for every protection need. A wide range of sizes and capacities are available. All meet EN 13565-1:2003, are certified by international agencies and are CE marked.

ALL OUR COMPONENTS ARE DESIGNED TO BE RESISTANT TO THE SUBSTANCES THEY COME IN CONTACT WITH, SINCE THEY MAY BE HAVE TO WITHSTAND EXTREME STORAGE CONDITIONS.

### STORAGE TANKS

They store the prepared mixture in the stipulated concentration. Manufactured in stainless steel with N<sub>2</sub> inlets on the top, equipped with check valves and burst disc to a pressure of 15 bar, pressure reducer, control gauge and relief valve. **We have a wide range of tanks from 120 to 2000 litres.**

## CYLINDERS

They send the premix to the distribution network all the way to the discharge nozzles, guaranteeing proper distribution to the affected area. Their working pressure is 150 or 200 bar and they are equipped with relief valves, electric and manual discharge heads and fastening hardware.

THESE VALVES ARE TESTED ACCORDING TO THE GAS PROTOCOL BY AN INTERNATIONALLY TOP-RANKING ORGANIZATION SUCH AS VDS, DEMONSTRATING THE TOTAL RELIABILITY OF THESE COMPONENTS.

## NOZZLES

The nozzles are one of the key components of the system.

The choice of nozzle will depend on the type of application it is aimed at and will affect the how the foam is produced.

We have non-suction nozzles, in which the forms upon discharge, and suction nozzles, where the foam is created prior to contact with the exterior.

## EXTINGUISHING AGENT

The premix used makes it possible to adjust the design amount required, in the right concentration and avoiding losses due to deficient mixtures in situ.

Water is combined with foam concentrate, which reduces its surface tension and increases the expansion coefficient, making it flow easily to permeate the hazards and maximize the contact surface. The ambient air supply results in effervesce, which makes the product lighter so it remains on the surface, ensuring an effective barrier against oxygen, thus extinguishing the fire and preventing its expansion.

SIEX FOAM PREMIX also makes it possible for the supply to meet the protection needs analyzed. There are a variety of foam concentrates, according to each type of hazard. One of the most used is AFFF (fluorinated, hydrocarbon surfactant forming an aqueous film), suitable for immiscible liquids such as oil.



## SYSTEM FEATURES

- System features are specifically tailored to the hazard being protected.
- Each has unique characteristics based on which we adapt the equipment.
- **The foam concentrate ratio should be 1%, 3% or 6%.**
- The equipment size is determined by the area of operation and application time

ABLE TO EFFECTIVELY COVER THE AREA TO BE PROTECTED, TAKING INTO CONSIDERATION:

- Type of fuel
- Foam speed
- Application type
- Obstructions
- Destruction of foam due to combustion and drainage.
- Losses due to wind or hot air currents.



# BENEFITS

## **SAFETY**

These systems are safer for firefighting personnel and the communities surrounding the fire area.

## **EFFECTIVENESS**

It acts directly on the hazard while respecting the other equipment in the vicinity. It is the easiest system to install. Its proportioning is precise and ensures that all the agent is mixed and used for total and safe extinguishing.

## **VERSATILITY**

Adapts to each hazard with each component and foam concentrate required. SIEX™ FOAM PREMIX is autonomous and self-pressurized, requires no external water or energy supply.

## **EASY TO CLEAN**

The components must be washed after discharge to prevent corrosion. Our systems are designed to assist in these tasks without representing additional effort.

## **PRODUCT QUALITY**

The equipment supplied by SIEX passes the highest quality requirements. Firefighting is a task that requires commitment and effectiveness, and we seek to provide just that in each of our solutions.

# FOAM RELEASE METHOD

Reduces the fire's environmental impact, reducing the amount of toxic or polluting effluents into the atmosphere and the ground. This is achieved through more effective application of the extinguishing agents to the seat of the fire.

The foam isolates the burning material and thus suffocates the fire. The substances in contact with the flame are likewise cooled. Both effects, coupled with rapid coating over the entire surface, ensure rapid extinguishing of the fire.

The actuation mechanism on the burning surface occurs with nozzles that discharge over the hazard. It is called the FLOOD method and uses an open sprinkler distribution network. These are frequently used and recommended for hazards such as: hangars, transfer areas, recycling or packaging plants, oil immersed transformers, etc.





# APPLICATIONS



*FUEL TANKS*



*TRANSFORMERS*



*HANGARS*



*FACTORIES*



*GARBAGE STORAGE*



*RECYCLING OF PLASTICS*



*PETROL STATIONS*



*PLASTIC PACKAGING*



*STORAGE OF TIRES*

## **SIEX**

**C. MERINDAD DE MONTIJA Nº 6  
P.I. VILLALONQUÉJAR 09001  
BURGOS (SPAIN)**

**TLFNO: +34 947 28 11 08  
WEB: WWW.SIEX2001.COM**

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