



Play Training Module

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EPS Fire Prevention

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2. Introduction

Welcome to EPS Fire Prevention. During the next 10 minutes you will learn

- how to prevent an accidental EPS fire;
- simple controls you should always use while working with EPS;
- how managers and supervisors can implement an effective EPS management system

For the purposes of this Training Module, when we talk about EPS we mean Expanded Polystyrene Sandwich panel and other combustible sandwich panel such as Polyurethane sandwich panel.

This Training Module covers general EPS fire prevention for most work situations. It is not a comprehensive guide and does not cover all work conditions, especially work in high hazard areas.

Section 2 of this Training Module explains why the problem of EPS fires is so serious. Section 3 explains the principles of avoiding EPS fires. Section 4 explains how to be ready to detect and extinguish a fire if it starts. Section 5 is designed to help managers and supervisors implement an EPS self inspection system.

You can review each section as many times as you like. At the end of each section there is a short test to reinforce important points.

3. EPS is a fire hazard

Large amounts of EPS panels are used in the construction of some buildings. EPS has been a major contributor to a large number of major fires in recent years. So much so that insurers are now seeing EPS construction as one of the highest risk issues in the properties they insure. This has led to higher insurance premiums, higher deductibles and in some cases no insurance cover being offered at all to buildings containing EPS construction. EPS is a serious risk issue which deserves your attention.

EPS composite panels are pre fabricated insulated cores with metal skins. These panels are in wide spread use because they are easy to install, have good insulation properties and are easy to clean. However the insulated cores are highly combustible. If the cores become involved in a fire they spread fires quickly and are very difficult to extinguish. Fire departments may even be hesitant to enter these buildings to fight fires because of injury fears.

4. EPS Loss Controls – Avoiding Fires

Because having EPS construction in a building is inherently a significant risk, it is important that you take precautions to reduce this risk. The following controls are designed to avoid starting EPS fires. This is done by keeping ignition sources away from the combustible core of the panel. This can be accomplished by controlling ignition sources and maintaining a barrier around the combustible cores of the panels. The general controls are as follows:

- Always ensure that sparks or heat from cutting and welding is well separated from EPS panels. This should be managed by the use of a formal Hot Work Permit system. Hot work should be prohibited without specific authorisation for each job. See Riskcentral on training module – “Hot work loss prevention”, for a more detailed explanation of hot work loss controls.
- Never conduct cutting, welding, grinding or any other hot work directly on EPS panel.
- Do not mount electrical switches, panels, switchboards, or other electrical appliances directly onto EPS panels.
- Other ignition sources such as heaters, cookers, forklift rechargers and hazardous processes should not be located near EPS panels.
- Electrical panels and other equipment located in EPS areas should be maintained and tested on a regular schedule. Thermal scanning may be part of the examination.
- In yard areas, combustible materials such as wood or plastic pallets should not be stored within 10m of EPS external walls.

- Clean cooking exhaust ducts, flues and hoods regularly. Combustible deposits can build up in these areas and equipment.
- Potentially hot services such as exhaust ducts and heating lines which pass through EPS panels should have non combustible insulated sleeves fitted to prevent heat being transferred to the panel.

If the panel foam core is exposed it is much easier for the panel to be ignited. The general controls for preventing exposed foam or maintaining a barrier around the combustible core of the panels are as follows:

- If possible, holes should not be made in the metal skin of the EPS panels. Services should not pass through the panels if alternatives are available.
- If this is not possible, all services passing through EPS panels should be in conduits and the exposed foam core should be covered with a metal collar. This restores the barrier around the core and prevents foam being exposed.
- Avoid attaching items to panels. If items are attached consider how to avoid exposing the foam core.
- When working on EPS panel always replace joint covers and seals to maintain the barrier around the core and prevent exposed foam.
- Inspect panel facings and joints to ensure no exposed foam.

Contractors should be made aware of these special EPS fire prevention controls when inducted onto site. This riskcentral online training module could be part of the induction process. Direct supervision by employees may be required if contractors are undertaking hazardous operations, such as hot work, or are working in EPS areas.

5. EPS Loss Controls – Detect Fires

The next few controls are designed to make you ready to detect and extinguish a fire if it starts.

- In order to quickly detect a smouldering fire after cutting, welding or other hot work, it is imperative to comprehensively inspect the area for smouldering fires. The inspections should be conducted
 - while the work is being completed,
 - straight after work is completed,
 - and 30 minutes after work is completed and then as appropriate.
- When conducting work near EPS panels make sure that appropriate fire extinguishers, hose reels and hose lines are ready for immediate use in case of a fire. As a minimum an appropriate type and size of portable fire extinguisher and a hose line should be made ready at the work area. Consideration should be given to how fast a fire could spread and how large

it could become when selecting the appropriate manual fire fighting equipment. A small fire on the inside of an EPS panel can be extinguished by spray water on the outside of the panel.

6. How to implement an effective EPS self inspection system

An EPS self inspection system is designed to ensure that appropriate EPS fire prevention controls are in place at all times. The implementation and maintenance of an effective EPS self inspection system involves a few simple principles.

- Gain senior management commitment. If the system is not openly supported by senior management it will not be effective.
- Allocate responsibility for completion of regularly scheduled EPS self inspections in each specific area of the site. The inspections should be conducted about monthly. The inspections should be formally documented with reports being reviewed by an appropriate manager and kept on record. Defects should be rectified as soon as possible.
- The records can be shown to your insurance broker or underwriter to demonstrate a proactive approach to managing EPS risk.

This is the conclusion of this training module.

Please remember these are minimum guidelines only. Additional controls should be considered if the consequences of a fire are large or the likelihood is high. Additional references should be consulted if required and additional controls used if required. Additional references may include your insurance company or a fire protection engineer.