

Properties with EPS – Lesson Learned (Claim Example)



The Scenario:

A large fire occurred at the site of a major food processing factory in January 2010, in a semi rural area some 50kms south of Melbourne. The fire started in a staging area for plastic packaging trays, and despite the area being attended and the presence of automatic smoke detection, the fire was able to quickly develop.

The Cause:

The cause of the fire could not be definitively determined. Suggestions were a failed fluorescent light fixture or a drive associated with an overhead conveyor. The fire was detected at an early stage by an operator who unsuccessfully discharged an extinguisher. Despite his best efforts, the fire quickly spread to the EPS (expanded polystyrene) sandwich panel ceiling.

The Impact:

An evacuation was initiated and the fire brigade called. By the time the volunteer fire brigade arrived with their first unit, some 10-15 minutes into the fire, flames were erupting through the steel deck roof over half the length of the building. Before the fire fighters could mount any first attack, the fire had spread the full length of the main production building, associated loading dock and cold store, overall a length of around 100 metres.

Over 100 fire fighters eventually attended and were able to contain the fire to the main building and protect the large ammonia receivers adjacent to the building. A total loss of the production building resulted in major business interruption requiring some nine months of expensive temporary outsourcing and some loss of business.

The Key Lessons:

- EPS panel ceilings are very susceptible to fires starting beneath them;
- fires under EPS panel ceilings spread very rapidly, the fire spreads across the ceiling as the panels progressively delaminate and the EPS melts and vapourises to fuel;
- fires can also spread inside wall and ceiling panels, before bursting out at the panel seams;
- the fire load from EPS wall and ceiling panels is enough on its own to cause deformation and collapse of major steel roof beams;
- fire brigades are unlikely to contain a developed EPS panel fire and they will not enter the building due to the risk of collapse.

An interesting footnote to this fire was the performance of approved PIR sandwich panels. A new extension to the existing EPS cold store had been constructed from PIR. The fire burnt up to the PIR wall but did not penetrate, the PIR section was left largely intact. This tends to confirm a number of insurer's and experts recommendations of approved alternative panels, be they PIR or Phenolic resin matrix.

This claims example was kindly provided by Zurich Australian Insurance.

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