

LOSS AT FILAMENT YARN CHEMICAL PLANT AT KARACHI

Type of insurance: EAR

Cause of loss: Fire during commissioning of an extension plant

One of the largest producers of Filament Yarn and Textile Grade Chips in Pakistan faced a huge fire loss during the hot testing of their expansion plant.

The base material used at the plant is mainly PTA (terephthalic acid) and MEG (mono-ethylene glycol) which is imported from various sources. The conversion process is relatively simple and involves polymerization reaction between PTA and MEG and later on extrusion through various sized extruders and finally spinning. The material is stable and is not flammable or combustible under normal circumstances.

The base material is PTA & MEG. The production capacity is as follows,

- a) Bottle Grade Chip 50 tons/day
- b) Filament Yarn 45 tons/day

Basically the process is a continuous poly condensation process which after reaction of MEG and PTA starts from the production of chips. Semi-dull and bright / opaque are the two types of chips.

These chips are dried in the chip dryer at a temperature of -40DP. From there, after the removal of the moisture they are transferred into silos. There are six silos and each silo contains about two days of production. Following each silo there is an independent production line. Extruders are next equipment in the process flow from where spinning frames take over.

A serious fire incident occurred during the course of construction of a new polymerization plant being built for the eventual production of poly ethylene terephthalate (PET) granules. The site of the construction loss is on the insured's existing PET plant and this was an expansion project to provide additional production capacity.

In broad terms, the expansion project comprised the new building of a polymerization plant, solid state poly condensation facility, conveyance systems, nitrogen generation power plant and auxiliary systems.

Most of the project contract works are unaffected by this fire. The vast majority of the loss has occurred in one contract, the single biggest contract. This relates to the package provision of a complete poly condensation plant from China Textile Industrial Engineering Institute (CTIEI) at a contract value of 43 % of the overall project value.

The loss concerns a serious fire that occurred on Friday 17th November 2006 at the insured's location. Construction of a new polymerization plant was underway and had reached the commissioning phase when fire broke out.

During commissioning works on the closed circulation system of the heat transfer medium (HTM), the medium leaked out under pressure from a pump valve that was being cleaned at the time.

HTM at a temperature of around 280 degree C spilled from the valve located on level 2 (ground floor being level 1) of the newly constructed poly-condensation building spreading across the floor of level 2 and down through pipe ducting to level 1 below.

Combustible materials in the immediate vicinity such as vessel insulation and power cabling were ignited and fire ensued. The fire spread rapidly throughout the building and to upper floor levels via open ducting created for pipes and vessels.

The insured's site staff undertook the initial fire fighting exercise with the use of water from the previously installed hydrant system in the building together with trolley-mounted and hand-held fire extinguishers. The city fire brigade took over the operation upon arrival at site having been alerted to the incident by a telephone call placed by one of the insured's operatives. It took one and a half days of hectic fire fighting activities to control and extinguish the fire. Some pictures of the event are enclosed for the benefit of all readers.

The existing plant, in this case was not damaged by this incident. The damage to the expansion project amounted to approx. US\$ 8.5 million



