



## **Work Safety Alert** **Struck by a Ruptured Flexible High Pressure Air Hose**

1. **Date of Accident :** October 2015
2. **Place of Accident :** A tunneling site
3. **Summary :**

A flexible high pressure air hose inside a tunnel under construction ruptured and hit a worker, causing him to fall down from a gangway for about 1 metre. He sustained serious injury and passed away on the same day.

### **4. Work Safety Alert for Contractors/Employers :**

Flexible high pressure hoses that burst or detach can cause forceful whipping and pose hazard to nearby workers. To prevent any workers from being endangered by the pressurised components of a pressure system for pneumatic equipment, the proprietor/ employer should:

- appoint a competent person to conduct task-specific risk assessments taking into account the pressure of the system, the suitability and capability of the pipe runs/ hoses and other components, and the operating condition of the system to identify all associated hazards;
- devise and implement appropriate safety measures with due regard to the results of the risk assessments to minimize the risks to workers working with or nearby the pressure system;
- ensure that the pressure system including its vessels, pipes, hoses, valves as well as the associated couplings and fittings are of good mechanical construction, made of strong and sound materials, and free from patent defect;



- ensure that suitable protective devices such as safety valves are fitted to the vessels and pipe runs, etc. which prevent the system from being over-pressurised;
- ensure that pipe runs are secured by brackets or other clamping devices at appropriate intervals so as to prevent any undue movement of the pipes under the circumstance when a hose bursts;
- ensure that suitable and adequate expansion devices (e.g. bellows, loop bends, short flexible pipes) are fitted, particularly at the compressor/receiver discharges or on straight runs exposed to sunlight or heat generated from the operation of the system, to allow for expansion;
- avoid using long hoses to interconnect pipe runs (hoses should only be used for supplying compressed air from the pressure system to the pneumatic equipment);
- use clamps, bends, adapters, protective sleeves wherever required to protect and guide hoses so as to prevent excessive bending, pulling, and kinking that can cause damage to the hoses;
- use isolation valves to isolate the connected hoses from the pressure system when not in use;
- use whip checks to prevent hoses from whipping in case a hose connection separates;
- ensure that all safety devices are adjusted to correct settings and are kept in safe working order at all times;
- establish and implement an effective preventive maintenance program for the pressure system, which should include, but not limited, to the following:
  - conducting a thorough plant risk assessment to identify the hazards



arising from wear and tear or any signs of deterioration on the components of the pressure system;

- developing and implementing a comprehensive equipment maintenance program to effectively monitor the condition of the pressure system; and
  - ensuring that all maintenance, replacement or repairing work should be performed by competent personnel in accordance with manufacturer’s recommendations or specifications;
- ensure that the pressure system has been examined by a competent examiner before it is first used and at regular intervals thereafter;
  - provide the workers involved with necessary safety information, instruction and training to ensure that they are familiar with the safety measures; and
  - develop and implement an effective monitoring and control system to ensure that the above safety measures are strictly followed.

## 5. Reference :

- [Five Steps to Risk Assessment](#)<sup>1</sup>
- [Safe Systems of Work](#)<sup>1</sup>
- [Five Steps to Information, Instruction and Training](#)<sup>1</sup>

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<sup>1</sup> Click to view document



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