SAFETY BULLETIN

eurobitume UK

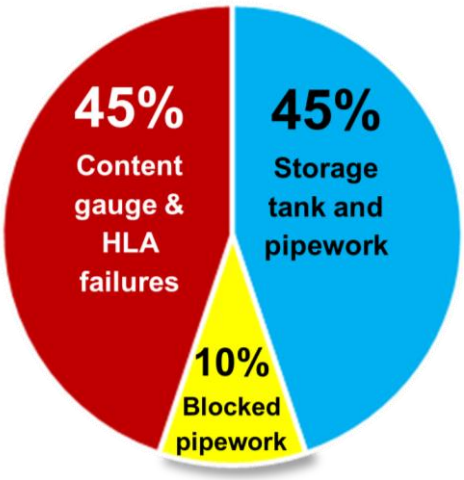
Bitumen Storage Tanks - Planned Preventative Maintenance

The issue

Reports by Eurobitume UK members have shown that, in the last 5 years, almost half of the 28 uncontrolled bitumen spills (and 80% of the 140 near misses reported in 2018), were due to storage tank, contents gauge, high level alarm (HLA) and pipework failures. Management of bitumen storage tanks and associated equipment and pipework is critical for safety and business continuity. Thus, an effective planned preventative maintenance schedule is vital.

The cause

Investigations into the cause of these uncontrolled bitumen spills has often identified inadequate on-going planned storage tank and associated equipment maintenance as a major contributory factor to these uncontrolled spills.



Planned preventative maintenance – issues to consider

- Bitumen storage tanks are not pressure vessels. It is critically important to ensure venting capacity is adequate for the input pressure or output suction.
- Storage tank and pipeline wall thickness.
- How often is storage tank cleanliness checked?
- Build-up of deposits can significantly reduce the Safe Working Capacity (SWC) of the storage tank.
- Monitor discharge times to detect potential developing blockages.
- Leaks from corroded pipework and joints – how often are these checked?
- How often are the contents gauges and HLAs calibrated? Is the contents gauge reading validated with a manual inventory of the bitumen used?
- The potential for the development of pyrophoric deposits and possible fire or explosions.
- Is the lagging in good condition and free from oil contamination? Oil impregnation could result in the lagging catching fire.
- Deposits in the storage tank can significantly reduce the effectiveness of the heating resulting higher running costs.

HAZOP and HAZIDs

HAZID and HAZOP is a detailed process safety approach to risk assessment focused on the question “What happens if?”. It builds up layers of protection to stop the hazardous event occurring and to mitigate the impact if the hazardous event does happen. The HAZID and HAZOP study should be carried out on all plant and processes, identifying critical maintenance areas, the frequency and nature of interventions.

Further information

Eurobitume UK toolbox talks on ‘Blocked pipework and trace heating’ and ‘Content gauges and High Level Alarms’ can be down loaded free of charge from www.eurobitume.eu.

Your bitumen supplier would be delighted to discuss these issues with you.