

Working safely in hazardous environments

Some environments can pose the threat of an explosive gas or dust atmosphere. Ensuring work is safely carried out in these areas is a priority when planning new projects or refurbishments.

Here Boulting gives its top tips to consider when working in hazardous environments.



Identify the hazard

The first step to ensuring the correct safety precautions are in place is to identify which hazard zone the environment falls under.

Any facility that processes, uses or manufactures materials including gas, mist, liquid and small fibres (dusts) may have a potentially explosive atmosphere and fall into one of six hazard zones. Three zones describe the likelihood of an explosive gas atmosphere and three the likelihood of ignitable concentrations of combustible dust.

Use the correct equipment

Equipment installed in an explosive atmosphere must have specialist safety features. There are a number of different protection concepts including intrinsically safe (current, voltage & power limiting), increased safety, explosion proof and purged to name a few. Prior to any installation works, the area needs to be assessed. If an explosive atmosphere is present during installation works, this will affect the tools and method of installation with possible requirements for hot work permits.

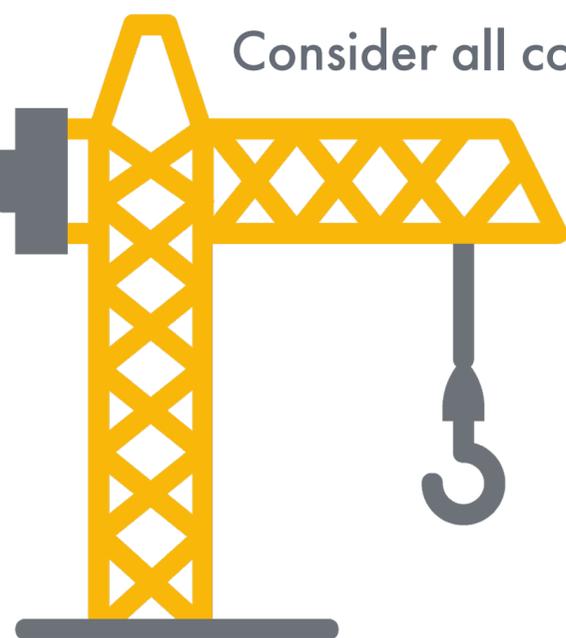


Be aware of relevant regulations

A range of standards and regulations exist to ensure the risk of working in hazardous environments is as low as possible. These include the Dangerous Substances and Explosive Atmosphere Regulations 2002 (DSEAR) and BS EN 60079, which details the design, selection and erection of electrical installations within a hazardous area.



Consider all construction techniques



One way of making this type of work safer is to reduce the time spent in the hazardous environment. Modularisation is a highly efficient technique whereby the equipment or parts of a facility are built offsite and installed at a later date. It has a wide range of extra benefits including minimising waste, being more cost effective and decreasing construction time.

Ensure value engineering

When designing the project, it is important to consider all of the costs associated with equipment, not just the initial purchases. The installation, maintenance and running costs should all be considered and offset against each other.

It is paramount that the selected equipment is appropriate for the hazardous area and meets required safety standards.



Continuous inspections

Inspections must continue on a regular basis throughout the equipment's lifespan.

Boulting uses its secure, cloud based system for maintenance procedures and inspections within hazardous areas, ensuring the project is BE EN 60079:17 compliant.