



The benefits of an effective cable gland

In this article Matt Ogden, Cable Gland Product Specialist at Hawke International discusses why it is essential for companies working in harsh and hazardous environments to develop a proper cable gland strategy and the benefits one delivers.

Cable glands are too often thought of as being commodity products, their importance undervalued by those who dismiss them as merely being bits of brass and rubber. However, if decision-makers get their cable gland strategy wrong, the expensive equipment that glands are tasked with protecting – which can be worth hundreds of thousands of pounds – could fail. So, how do they get it right and what benefits will be delivered as result?

Safeguarding against equipment damage

Those charged with procurement often select equipment based on cost rather

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than listening to recommendations from engineering departments. This means many projects end up with wrong or ineffective cable glands. If a gland is not right, there is a high risk of water and dust getting into the equipment it is protecting, which can have a catastrophic effect.

In addition, cable glands that are over or under tightened can damage cables and

not last their full lifespan. An over tightened gland will compromise and stress a cable's properties. This limits how well a gland offers ingress protection against dust and water penetration and presents an explosion risk. A gland that is under tightened will also allow dust and water to damage equipment, in addition to being liable to loosening, creating an electric shock risk.

With this in mind, it is important to invest in cable glands that have tightening guides integrated as standard. This gives the glands' installer and inspector a simple visual indicator to show it has been tightened correctly to the outer diameter of the cable being fitted.

Given that cables can pull away if an incident happens with a gland, it is critical to install a clamp or a cleat. It is recommended that cable clamps are installed within 300mm of the end of a cable gland. This ensures that if any extreme pulling, twisting



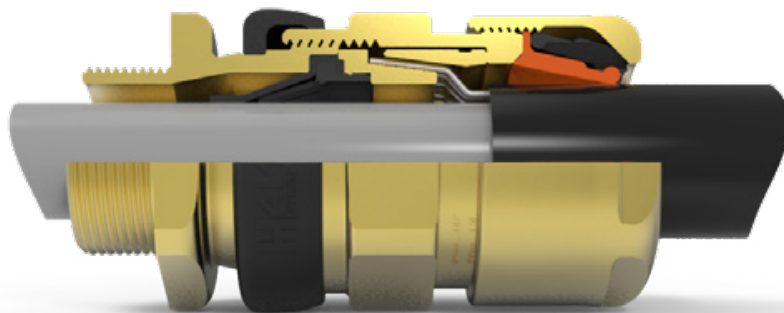
and strategy

or tightening of a cable occurs, the clamp provides the strain-relief required so that no extra damage develops.

A lack of knowledge, as well as space onsite, means that many installations do not adhere to this standard. There are, however, innovations available that should be considered as part of any cable gland strategy. New space efficient clamps have been developed that can be applied within 50mm of the end of a cable gland.

Saving money

The time it takes to install cable glands costs money, with every minute that an engineer is working onsite increasing business costs. To reduce this cost, engineers should be trained and competent in relation to the glands they are tasked with installing. By choosing a gland that comes with a full training service, engineers will be quicker when installing it.



In addition to the costs incurred by lengthy installation times, it is also vital to consider the threat presented by poorly installed cable glands. Expensive equipment failures will happen as a result of negligent installation practices. Given that over the lifespan of a product, maintenance is one of the biggest expenses, all must be done to offer as much protection as possible.

Inspection is the biggest expense when it comes to ensuring equipment is functioning efficiently and it must be carried out on a recurring basis. The implementation of close and detailed inspections ensures that any faults in equipment are spotted early, before they have the chance to worsen and require more money to fix.

To inspect a gland, equipment must be powered down. However, at this point it is not doing its job and is therefore costing the business money. Decision-makers should therefore choose cable glands that are easy and quick to inspect, limiting the costly downtime that is otherwise incurred.

Versatility

Installers of hazardous area equipment want versatile products. Although standard cable glands are used more often than barrier glands, there are many situations where barrier glands are required, such as when a cable is less than three metres in length. What often happens is that a standard gland is specified and arrives onsite, only for installers to realise the installation requires a barrier gland. Any gland strategy needs to be mindful of this.

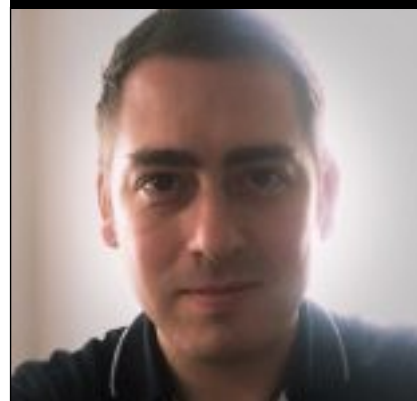
Conversion kits have been developed which give installers the ability to order one gland with two applications. This provides

installers with a usable cable gland, no matter the nature of the installation. One gland can be purchased for both standard and barrier gland requirements, meaning major cost savings, stock flexibility and peace of mind.

Small part, big difference

Hazardous environments present the most testing of conditions. Every item of equipment – no matter how small – must successfully play its part. That includes glands, which are typically tasked with protecting extremely expensive pieces of equipment. By developing a good cable gland strategy, organisations operating in such areas are able to safeguard against damage, save money on installation costs, inspection and maintenance, and provide installers with the versatility and training to work efficiently. For these reasons, investing in a proper cable gland strategy must be taken seriously, with senior figures part of the discussion from the outset. ■

About the author



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