**PRESS RELEASE**

New game-changing flameproof cable glands

**21 September 2021:** A new flameproof cable gland range from [Pratley](http://www.pratleyelectrical.com)  allows for soft-bedding cables like PVC and the like, which are prone to creep, to be fitted to flameproof equipment without any concern regarding cable damage or poor long-term sealing.

The Pratley Taper-Tech® flameproof gland range consists of four separate glands in two unique categories. First is the Pratley Taper-Tech® gland for armoured and braided cable. This is a ‘double compression’ gland, meaning it has both an inner and an outer seal. The second is the Pratley Taper-Tech® single-seal flameproof gland, also for armoured and braided cable, but with a durable rubber shroud.

The range also includes two ‘double compression’ glands for unarmoured cable, one being a hose-tail version that features a spigot on the compression nut. This is intended to be fitted with flexible hosing, for example, where cables are fitted to mining machines, for protecting the cable outer sheath.

The unique feature of this flameproof cable gland range is that all versions are fitted with Pratley Taper-Tech® flame seal technology, consisting of tapered seals made from superior, Pratley developed, high temperature, and low compression-set elastomers. The seals all have a taper on the leading edge that abuts against the gland nipple taper on the inside. The taper on the bush and the one on the cable gland’s nipple are angled differently.

This means that, under thrust or pressure from the front, when it is tightened, this differential taper allows the bush to slide down the taper easily, reducing the force needed to achieve radial compression. “In other words, less torque to reduce the diameter of the bush,” explains **Sven Breedt,** Electrical Research & Development Manager.

A major benefit of this technology is low initial radial pressure or a small amount of contact pressure on the cable. This is important because most cables in the field are made from PVC, which exhibits ‘cold flow’, meaning the relaxation of the cable bedding over time. “This can be dangerous for both the flameproof sealing properties of the termination, as well as the secureness of the cable to the equipment,” points out Sven.

Flameproof cable glands fitted to flameproof equipment are intended to seal against extremely high explosion pressures, which in many cases may be as high as 30 bar. For the seal to function properly, there must be adequate pressure between the seal and the gland bedding.

“Imagine the explosive gases travelling down the cable and pressing against this seal. This seal is now being pressed on its taper which, due to the taper action, forces the bush to press down onto the cable, increasing the seal force. As the pressure rises, the contact pressure between the bush and the cable increases proportionally. Even if you increase the pressure to 40 or 50 bar, the seal will accommodate that pressure by further closing onto the cable. Once that pressure is released, the bush will relax again, and reduce the contact pressure on the cable,” highlights Sven.

As the leading edge of the seal forms a taper in the direction of the applied explosive pressure, when this applied pressure increases so too does the contact radial seal pressure on the cable bedding. Once the pressure is relieved, the bush returns to its initial low-pressure state, so the high seal pressure is only on the cable when it is needed.

The same technology is amplified in the cable gland for unarmoured cable, which not only has to seal against high explosion pressures, but also retain the cable axially against pull-out forces. “This is achieved in a similar manner to that used for sealing, however, the rear outer seal has a taper which is in the direction of the cable pull-force. This too increases proportionally to the pull-force on the cable, meaning that high contact pressures are only present on the cable when it is being pulled on. Taper-Tech® completely negates cable damage usually experienced with subpar weak-back seals, while complying 100% to the stringent IECEx flameproof cable gland requirements,” concludes Sven.

The main features of the different versions in the Pratley Taper-Tech® Flameproof Cable Gland range are as follows:

**Pratley Taper-Tech® Flameproof Double Compression Gland for armoured and braided cable**

* Flameproof double compression gland for both SWA and braided cables
* Complete with unique Taper-Tech® flame seal technology
* Fully certified to both SANS and IECEx Standards
* Quad certified Ex d/e/nR and t, for Fiery Mines and Surface applications
* IP66/68 tested to 350 m continuous
* Continuous operation at -35 to 120 C
* Patented cable safety gauge
* Red Ex band, for easy identification in the field.

**Pratley Taper-Tech® Flameproof Double Compression Gland for armoured and braided cable with a shroud**

* Flameproof gland for both SWA and braided cables with a durable UV resistant rubber shroud
* Complete with unique Taper-Tech® flame seal technology
* Fully certified to both SANS and IECEx Standards
* Quad certified Ex d/e/nR and t, for Fiery Mines and Surface applications
* IP66/68 tested to 350 m continuous
* Continuous operation at -35 to 120 C
* Patented cable safety gauge
* Red Ex band, for easy identification in the field.

**Pratley Taper-Tech® Flameproof Double Compress Gland for circular unarmoured cable**

* Flameproof double compression gland for circular unarmoured cables
* Complete with two unique Taper-Tech® sealing technology seals
* Fully certified to both SANS and IECEx Standards
* Quad certified Ex d/e/nR and t for Fiery Mines and Surface applications
* IP66/68 tested to 350 m continuous
* Continuous operation at -35 to 120 C
* Patented cable safety gauge
* Red Ex band, for easy identification in the field.

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**Notes to the editor**

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**About Pratley**Established in 1948 by George ‘Monty’ Pratley, the various companies in the Pratley stable rest on a foundation of research and innovation in both the manufacturing and mining sectors. The various Pratley companies, drawing from 73 years of experience, have filed over 350 patents worldwide, and are ISO 9001 certified. Operating divisions are Pratley Adhesives, Pratley Electrical, Pratley Minerals, Pratley Craft & Decoupage, and Select Hairdressing Supplies.

**Pratley Contact**

Sales

Phone: (011) 955 2190

Fax: (011) 955 3918

Email: sales@pratley.co.za

Web: [www.pratleyelectrical.com](http://www.pratleyelectrical.com)

**Media Contact**Emma Anderson

Account Executive

NGAGE Public Relations

Phone: (011) 867-7763

Fax: 086 512 3352

Cell: 078 028 3553

Email: emma@ngage.co.za

Web: [www.ngage.co.za](http://www.ngage.co.za)

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