



1 **EC TYPE-EXAMINATION CERTIFICATE**

2 Equipment intended for use in Potentially Explosive Atmospheres Directive 94/9/EC

3 Certificate Number: Sira 01ATEX1032X

4 Equipment: Excel and Excel Plus Range of Cable Glands

5 Applicant: Pirelli Cables Ltd
(Using the registered trade mark of BICON)

6 Address: Components Unit
Hall Lane
Prescot
Merseyside
L34 5UR

7 This equipment and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.

8 Sira Certification Service, notified body number 0518 in accordance with Article 9 of Directive 94/9/EC of 23 March 1994, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential report number R51A7476A.

9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the schedule of this certificate, has been assured by compliance with the following documents:

EN 50014:1997 (amendments A1-A2)
EN 50018:2000
EN 50019:2000
EN 50281-1-1:1998

10 If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

11 This EC type-examination certificate relates only to the design and construction of the specified equipment. If applicable, further requirements of this Directive apply to the manufacture and supply of this equipment.

12 The marking of the equipment shall include the following:



II 2 GD
EEx de IIC or EEx d IIC or EEx e II or EEx d IIC/EEx e II

Project Number 51A7476
Date 6 April 2001
C. Index: 07

M D Shearman
Certification Manager

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SCHEDULE

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13 **DESCRIPTION OF EQUIPMENT**

The Excel and Excel Plus Range of Cable Glands are designed to allow the entry of circular armoured, non-armoured or braided cables into flameproof or increased safety enclosures without compromising the explosion protection provided by these enclosures in accordance with relevant codes of practice.

The Excel variants comprise a gland body, an inner seal, an armour cone, a lock ring, a skid washer, an outer seal and a seal housing. The gland body is threaded on either side of a hexagonal shoulder; one thread is used to screw into the entry of its associated enclosure, the other is fitted to the seal housing. The gland body contains a polychloroprene inner "diaphragm" seal. As the cable passes through this device, it is forced to expand, making a seal to the cable. The armour cone then forms an arrangement with the armour clamping ring, as the gland body and the seal are tightened together, this grips the armour or braid of the cable. The seal housing contains a skid washer manufactured from brass, nylon or fibre and a compression (displacement) seal manufactured from polychloroprene or silicone. When the seal housing is tightened onto the gland body, this effects sealing onto the outer sheath of the cable.

The Excel Plus variants differ in that the armour clamping ring is replaced with an armour ring and a lock ring. Also, the armour cone has a shallower angle and clamping of the armour is effected by the additional armour ring onto which the lock ring is tightened. The length of the gland body, the armour cone, and the seal housing are increased to accommodate these differences.

The metallic components are manufactured from brass to BS 2874:1986 grades CZ121 or CZ122 or better.

The gland and seal sizes are determined by the associated enclosure entry thread and cable range take sizes:

| Gland size | Entry thread BS 3643:1981, (1988) (medium fit) | Cable diameter (mm) | | | |
|------------|------------------------------------------------------|---------------------|------|-------------------|------|
| | | Inner sheath seal | | Outer sheath seal | |
| | | Min | Max | Min | Max |
| M16 | M16 x 1.5 | 4.0 | 9.0 | 8.0 | 16.0 |
| M20ss | M20 x 1.5 | 4.0 | 9.0 | 8.0 | 16.0 |
| M20s | M20 x 1.5 | 7.0 | 12.0 | 9.0 | 16.0 |
| M20 | M20 x 1.5 | 8.0 | 14.4 | 11.5 | 21.0 |
| M25 | M25 x 1.5 | 10.5 | 20.2 | 18.5 | 27.5 |
| M32 | M32 x 1.5 | 15.5 | 26.5 | 21.0 | 34.0 |
| M40 | M40 x 1.5 | 23.0 | 32.5 | 31.0 | 41.5 |
| M50 | M50 x 1.5 | 28.5 | 44.5 | 36.0 | 52.5 |
| M63 | M63 x 1.5 | 44.0 | 56.5 | 50.0 | 65.5 |
| M75 | M75 x 1.5 | 53.0 | 68.5 | 59.0 | 78.0 |

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Design Options:

Alternative metallic materials of manufacture:

Mild Steel to BS 970:Part 1:1991

Stainless Steel to BS 970:Part 4:1987

Aluminium to BS 1471:1972 or BS 1474:1987 grade 6082 T6 or better

All metallic materials may additionally be surface coated to limit any electrolytic reaction between dissimilar materials

Alternative entry threads:

These are entry threads that are within the dimensional parameters of the gland body and maintain compliance with the requirements of clause 5.3 of EN 50018:2000.

Alternative Profiles:

Alternative profiles of construction of the seal housing and gland body components may be used, however, the minimum wall sections, the number of threads engaged and the thread engagement length are all maintained.

14 DESCRIPTIVE DOCUMENTS

| 14.1 | Drawing | Sheet | Rev | Date | Title |
|------|----------------------|--------|-----|-----------|--------------------------------------------------------------------------------------------|
| | SIRA 0002 | 1 of 1 | 1 | 27 Feb 01 | ATEX DUAL APPROVAL FOR EEx d IIC and EEx e II OF THE 'EXCEL' and 'EXCEL PLUS' CABLE GLANDS |
| | SIRA41855 | 1 of 1 | 1 | 27 Feb 01 | 'EXCEL' and 'EXCEL PLUS' SEAL HOUSING ALTERNATIVE |
| | SIRA41750 | 1 of 1 | 1 | 27 Feb 01 | 'EXCEL' and 'EXCEL PLUS' GLAND SKID WASHERS |
| | SIRA41650 | 1 of 1 | 1 | 27 Feb 01 | 'EXCEL' and 'EXCEL PLUS' GLAND OUTER SEALS |
| | SIRA41450 | 1 of 1 | 1 | 27 Feb 01 | 'EXCEL' ARMOUR CLAMPING RING |
| | SIRA41451 | 1 of 1 | 1 | 27 Feb 01 | 'EXCEL PLUS' LOCK RING |
| | SIRA41452 | 1 of 1 | 1 | 27 Feb 01 | 'EXCEL PLUS' ARMOUR RING |
| | SIRA41351 | 1 of 1 | 1 | 27 Feb 01 | 'EXCEL' and 'EXCEL PLUS' ARMOUR CONE |
| | SIRA41150 | 1 of 1 | 1 | 27 Feb 01 | 'EXCEL' and 'EXCEL PLUS' INNER DIAPHRAGM SEAL |
| | SIRA43050 | 1 of 1 | 1 | 27 Feb 01 | 'EXCEL' GLAND BODY |
| | SIRA43113 | 1 of 1 | 1 | 27 Feb 01 | 'EXCEL PLUS' GLAND BODY |
| 14.2 | Report No. 51A7476A. | | | | |

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15 SPECIAL CONDITIONS FOR SAFE USE

- 15.1 When used with cables that do not rely on the armour locking arrangements, the glands shall only be used for fixed installations and the user shall ensure that the cable is adequately clamped.
- 15.2 The non-metallic gland seals have a service temperature range of -20°C to +90°C, therefore the glands shall only be used with equipment where the surface temperature, at the point of mounting, does not exceed this range.

16 ESSENTIAL HEALTH AND SAFETY REQUIREMENTS

The relevant EHSRs that are not addressed by the standards listed in this certificate have been identified and individually assessed in Report No. 51A7476.

17 CONDITIONS OF CERTIFICATION

- 17.1 The use of this certificate is subject to the Regulations Applicable to Holders of SCS Certificates.

Date 6 April 2001

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EC TYPE-EXAMINATION CERTIFICATE VARIATION

CERTIFICATE NUMBER Sira 01ATEX1032X Dated 6 April 2001

VARIATION NUMBER 1 (ONE) Dated 16 May 2006

VARIATION TO EQUIPMENT

To permit:

- 1 A change of the Applicant's name on the certificate:

From:
Pirelli Cables Limited
(Using the registered trademark of BICON)

To:
Prysmian Cables & Systems Limited
(Using the registered trademark of BICON)

- 2 The Applicant to substitute, on the label affixed to the package containing the product, the name Prysmian Cables & Systems Limited for Pirelli Cables Limited (Using the registered trademark of BICON), as reduced marking criteria are applicable to this equipment.

DESCRIPTIVE DOCUMENTS

None

ADDITIONAL CONDITIONS OF CERTIFICATION

None

File No. 51A14278

D Stubbings BA MIEE
Certification Manager

Report No. R51A14278A

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