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Certification Service

1 **EC TYPE-EXAMINATION CERTIFICATE**

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

3 Certificate Number: Sira 02ATEX1213X

4 Equipment: RTLF-S Range of Cable Glands

5 Applicant: Pirelli Cables Ltd
Components Unit (trading as BICON)

6 Address: Hall Lane
Prescot
Merseyside
L34 5UR
UK

7 This equipment and any acceptable variation thereto is 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 R51A9194A.

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

EN 50014:1997 (amendments A1 & A2)
EN 50018:2000 (amendment A1)
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 d IIC / EEx e II

Project Number 51A9194
Date 9 January 2004
C. Index 07

D R Stubbings BA MIEE
Certification Manager

Sira Certification Service
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SCHEDULE

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13 **DESCRIPTION OF EQUIPMENT**

The RTLF-S range of compression seal cable glands are intended to terminate circular cables with an inner lead sheath into flameproof and increased safety enclosures without compromising the explosion protection provided by the enclosures, in accordance with relevant codes of practice.

Each gland typically consists of a male-threaded front entry component that is intended to screw into an entry point of its associated enclosure, this is designated the gland body and is fitted with a lead seal. A gland barrel threads onto the gland body, this houses various options of armour cones and armour clamping rings to suit the differing cable types as appropriate. When the gland barrel is tightened onto the gland body, this arrangement effectively clamps the cable armour, braid etc. A gland nut, fitted with a polychloroprene outer seal and a skid washer, screws onto the gland barrel to form an environmental seal on the outer sheath of the cable. An external 'O' ring fitted into the gland body provides an IP 67 environmental seal between the gland barrel and gland body.

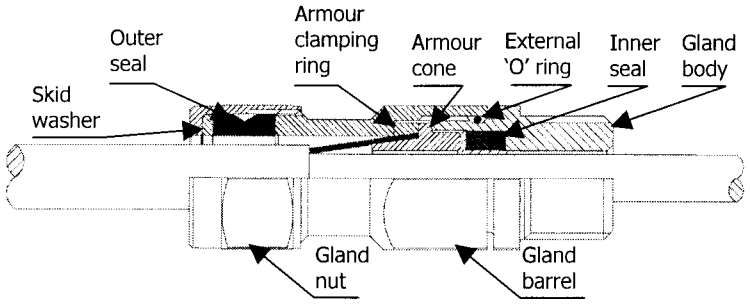

Figure 1. - Sectional Drawing of a Typical RTFL-S Gland

The following table details the gland types that are available within the range and defines the cable forms that each can be used with:

Gland Type	Related Cable Forms
RTLF-S	Steel or aluminium wire armoured cables
SRTLF-S	Steel or aluminium wire armoured cables with reduced armour diameter
RTLFC-S	Continental wire or strip armoured cables
RTLFX-S	Wire braided cables
RTLFZ-S	Steel tape armoured cables

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The gland and seal sizes are determined by the entry thread and cable range take sizes (all sizes in millimetres):

Gland Size	Cable				Armour									
	Inner Sheath		Outer Sheath		S.W.A. & A.W.A.		S.W.A. & A.W.A.‡		Continental Wire/Strip*		Braid		Steel Tape*	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
20S	7.0	9.5	8.0	15.8	0.9	1.4	-	-	0.6	0.8	0.2	0.3	0.15	0.35
20	8.0	12.0	11.7	20.8	0.9	1.4	-	-	0.6	0.8	0.2	0.3	0.15	0.5
25S	11.0	14.0	17.0	27.2	1.25	1.6	0.9	1.25	0.6	0.8	0.2	0.45	0.15	0.5
25	13.5	17.0	17.0	27.2	1.25	1.6	0.9	1.25	0.6	0.8	0.2	0.45	0.15	0.5
32S	15.5	19.5	19.0	33.5	1.6	2.0	1.25	1.6	0.6	0.8	0.3	0.45	0.15	0.55
32	18.5	23.2	19.0	33.5	1.6	2.0	1.25	1.6	0.6	0.8	0.3	0.45	0.15	0.55
40	23.0	29.0	26.5	39.9	1.6	2.0	-	-	0.6	0.8	0.3	0.45	0.2	0.6
50SA	28.5	31.5	38.0	46.3	2.0	2.5	-	1.6	0.6	0.8	0.3	0.45	0.5	0.8
50S	30.5	33.5	38.0	46.3	2.0	2.5	-	1.6	0.6	0.8	0.3	0.45	0.5	0.8
50A	33.0	38.0	36.0	52.6	2.0	2.5	-	-	0.6	0.8	0.3	0.45	0.5	0.8
50	37.0	40.0	36.0	52.6	2.0	2.5	-	-	0.6	0.8	0.3	0.45	0.5	0.8
63SA	39.5	43.5	50.0	58.9	2.5	-	-	-	0.6	0.8	0.3	0.45	0.5	0.8
63S	42.5	45.5	50.0	58.9	2.5	-	-	-	0.6	0.8	0.3	0.45	0.5	0.8
63A	45.0	49.8	46.5	65.3	2.5	-	-	-	0.6	0.8	0.3	0.45	0.5	0.8
63	48.8	51.8	46.5	65.3	2.5	-	-	-	0.6	0.8	0.3	0.45	0.5	0.8
75SA	51.5	56.5	62.0	71.6	2.5	-	-	-	0.6	0.8	0.3	0.45	0.5	1.0
75S	55.5	58.5	62.0	71.6	2.5	-	-	-	0.6	0.8	0.3	0.45	0.5	1.0
75A	58.0	62.0	58.0	78.0	2.5	-	-	-	0.6	0.8	0.3	0.45	0.5	1.0
75	61.0	64.0	58.0	78.0	2.5	-	-	-	0.6	0.8	0.3	0.45	0.5	1.0

* These dimensions are a measure of thickness whereas all other dimensions are a measure of diameter.

‡ These are common range take glands to accommodate smaller armour diameters for the SRTLF-S type.

Design options

Alternative metallic materials of manufacture: Brass to BS 2874:1986 Grade CZ121 or CZ122 or better
Mild steel to BS 970 Part 1:1991
Stainless steel to BS 970 Part 4:1987
Aluminium to BS 1471:1987 Grade 6082 T6 or better
Aluminium to BS 1474:1987 Grade 6082 T6 or better

Alternative skid washer material: Fibre
Nylon 6
The same material as the gland

Alternative entry threadforms that are within its dimensional parameters and that maintain compliance with the requirements of clause 5.3 of EN 50018:2000.

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

Date 9 January 2004

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14 **DESCRIPTIVE DOCUMENTS**

14.1

Drawing	Sheet	Rev.	Date	Description
SIRA0007	1 of 1	1	09 Jan 04	ATEX Certified R Type IP67 Cable Glands
SIRA41301RS	1 of 1	1	21 May 03	R Type IP67/68 Armour Cone S.W.A./A.W.A./Continental Wire
SIRA41315RS	1 of 1	1	21 May 03	R Type IP67/68 Armour Cone S.T.A./Braid
SIRA41401RS	1 of 1	1	21 May 03	R Type IP67/68 Gland Armour Rings for S.W.A. & A.W.A.
SIRA41408RS	1 of 1	1	20 May 03	R Type IP67/68 Gland Armour Rings for Continental Wire
SIRA41413RS	1 of 1	1	20 May 03	R Type IP67/68 Gland Armour Rings for Steel Tape
SIRA41414RS	1 of 1	1	20 May 03	R Type IP67/68 Gland Armour Rings for Wire Braid
SIRA41523RS	1 of 1	1	20 May 03	R Type IP67/68 Gland Barrel
SIRA41605RS	1 of 1	1	22 Oct 03	R Type IP67/68 Gland Outer Seals
SIRA41701RS	1 of 1	1	20 May 03	R Type IP67/68 Gland Skid Washers
SIRA41806RS	1 of 1	1	20 May 03	R Type IP67/68 Gland Nut
SIRA42428RS	1 of 1	1	22 Oct 03	IP67/68 R Type Inner Lead Seal Assembly
SIRA43018	1 of 1	1	23 May 03	IP67/68 R TYPE GLAND BODIES

14.2 Report No. R51A9194A

15 **SPECIAL CONDITIONS FOR SAFE USE** (denoted by X after the certificate number)

15.1 The RTLF-S Range of Cable Glands shall not be used with enclosures where the explosive reference pressure has been determined as greater than 10 bar.

15.2 The RTLF-S Range of Cable Glands shall only be used where the temperature at the point of entry is within the range -60°C to +90°C.

15.3 The RTLF-S Range of Cable Glands shall not be used with enclosures of Group IIC with a volume greater than 2000 cm^3.

16 **ESSENTIAL HEALTH AND SAFETY REQUIREMENTS OF ANNEX II** (EHSRs)

The relevant EHSRs that are not addressed by the standards listed in this certificate have been identified and individually assessed in Report No. R51A9194A.

17 **CONDITIONS OF CERTIFICATION**

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

17.2 Holders of EC type-examination certificates are required to comply with the production control requirements defined in Article 8 of directive 94/9/EC.

Date 9 January 2004

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EC TYPE-EXAMINATION CERTIFICATE VARIATION

CERTIFICATE NUMBER	Sira 02ATEX1213X	Dated	9 January 2004
VARIATION NUMBER	1 (ONE)	Dated	3 March 2005

VARIATION TO EQUIPMENT/COMPONENT

To permit:

1 The dimensional detail of the cable gland body used for the M25S and M25 gland sizes to be changed.

2 The drawing note that relates to manufacturing directly from bar stock to be revised.

DESCRIPTIVE DOCUMENTS

Number	Sheet	Rev	Date	Description
SIRA43018	1 of 1	2	07 Feb 05	IP67/68 R TYPE GLAND BODIES

ADDITIONAL CONDITIONS OF CERTIFICATION

None

File No. 51A13050

Report No. R51A13050A

C Ellaby
Certification Officer

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EC TYPE-EXAMINATION CERTIFICATE VARIATION

CERTIFICATE NUMBER	Sira 02ATEX1213X	Dated	9 January 2004
VARIATION NUMBER	2 (TWO)	Dated	16 May 2006

VARIATION TO EQUIPMENT

To permit:

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

From:	To:
Pirelli Cables Limited (Using the registered trademark of BICON)	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 Components Unit (trading as BICON), as reduced marking criteria are applicable to this equi0pment.

DESCRIPTIVE DOCUMENTS

None

ADDITIONAL CONDITIONS OF CERTIFICATION

None

File No. 51A14278

Report No. R51A14278A

D R Stubbings BA MIEE
Certification Manager

ST&C (Chester) Form 9206 Issue 2

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