



# IECEx Certificate of Conformity

## INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit [www.iecex.com](http://www.iecex.com)

Certificate No.: IECEx SIR 10.0072X issue No.:1

Certificate history:  
Issue No. 1 (2011-8-4)  
Issue No. 0 (2010-8-26)

Status: Current

Date of Issue: 2011-08-04 Page 1 of 4

Applicant: **Prysmian Cables & Systems Limited**  
Oak road  
Wrexham Industrial Estate  
Wrexham  
LL13 9PH  
United Kingdom

Electrical Apparatus: **BARR-\*Glands**  
Optional accessory:

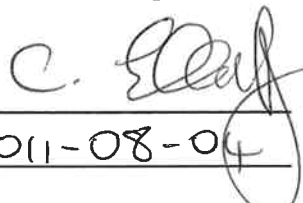
Type of Protection: **Flameproof, Increased Safety and Dust**

Marking: **Ex d IIC/Ex e II  
Ex tD A21 IP66**

Approved for issue on behalf of the IECEx Certification Body: C Ellaby

Position: Deputy Certification Manager

Signature:  
(for printed version)



Date: 2011-08-04

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the [Official IECEx Website](http://www.iecex.com).

Certificate issued by:  
**SIRA Certification Service**  
Rake Lane  
Eccleston  
Chester  
CH4 9JN  
United Kingdom





# IECEx Certificate of Conformity

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Manufacturer: **Prysmian Cables & Systems Limited**  
Oak road  
Wrexham Industrial Estate  
Wrexham  
LL13 9PH  
**United Kingdom**

Manufacturing location(s):

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended.

#### STANDARDS:

The electrical apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

<b>IEC 60079-0 : 2004</b> Edition: 4.0	Electrical apparatus for explosive gas atmospheres - Part 0: General requirements
<b>IEC 60079-1 : 2007-04</b> Edition: 6	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
<b>IEC 60079-7 : 2006-07</b> Edition: 4	Explosive atmospheres - Part 7: Equipment protection by increased safety "e"
<b>IEC 61241-0 : 2004</b> Edition: 1	Electrical apparatus for use in the presence of combustible dust - Part 0: General requirements
<b>IEC 61241-1 : 2004</b> Edition: 1	Electrical apparatus for use in the presence of combustible dust - Part 1: Protection by enclosures "tD"

*This Certificate does not indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.*

#### TEST & ASSESSMENT REPORTS:

*A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in*

Test Report:

[GB/SIR/ExTR10.0205/00](#)

[GB/SIR/ExTR11.0175/00](#)

Quality Assessment Report:

[GB/SIR/QAR10.0023/00](#)



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## Schedule

### EQUIPMENT:

*Equipment and systems covered by this certificate are as follows:*

The Barr-A Range of Cable Glands are metallic in construction. They are intended to terminate circular unarmoured cables into flameproof or increased safety enclosures without compromising the explosion protection provided by the enclosures, in accordance with relevant codes of practice.

For full description refer to the annexe

### Conditions of Manufacture

The Manufacturer shall comply with the following condition of manufacture:

- 1 Reduced marking criteria are applicable to this equipment, therefore, the Applicant shall apply the information required by the associated Sira reports on the packaging supplied with these products, this shall include the name and address of Prysmian Cables & Systems Limited.

### CONDITIONS OF CERTIFICATION: YES as shown below:

- 1 The equipment shall only be used where the temperature, at the point of entry, is in the range -60°C to +90°C.
- 2 The cable glands shall not be used with flameproof enclosures of Group IIC with a volume greater than 2000 cm cubed.



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## DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

Issue 1 – this Issue introduced the following changes:	
1	The markings have been modified to permit the use of the trade name 'DRAKA' as an alternative to the existing trade name 'BICON'. The change has no effect on the explosion safety aspects of the cable glands.
2	A Condition of Manufacture has been clarified and is shown in the Equipment cell.

**Annexe to:** IECEx SIR 10.0072X Issue 1  
**Applicant:** Prysmian Cables & Systems Limited  
**Apparatus:** BARR-\*Glands



### **Barr-A Range of Cable Glands**

The Barr-A Range of Cable Glands are metallic in construction. They are intended to terminate circular unarmoured cables into flameproof or increased safety enclosures without compromising the explosion protection provided by the enclosures, in accordance with relevant codes of practice.

Each gland consists of a male-threaded front entry component that is intended to mount into an entry point of its associated enclosure, this is designated the gland body and is fitted with a ferrule such that a spigot joint is formed. The ferrule contains a filling compound that effects a flameproof seal around the cable cores passing through it.

The gland coupler threads onto the gland body and houses a retainer that holds the ferrule in position, a pair of fibre skid washers, a polychloroprene seal and a seal housing. The skid washers and the polychloroprene seal effect environmental protection onto the cable outer sheath when the gland coupler is tightened onto the gland body.

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

Gland Size	Cable Dimensions			
	Max. Ø Over Conductors	Max. No. Of Conductors	Outer Sheath Ø	
			Min	Max
20	11.0	30	8.9	15.7
25	16.0	42	13.0	19.3
32	22.1	60	17.0	25.4
40	28.2	100	24.1	30.0
50	37.1	200	29.0	41.9
63	48.4	400	40.9	52.8
75	58.6	400	49.8	59.9
85	65.8	400	58.9	73.9

### **Barr-C Range of Cable Glands**

The Barr-C Range of Cable Glands are metallic in construction. They are intended to terminate circular, corrugated metal clad or interlocking strip armoured cables into flameproof or increased safety enclosures without compromising the explosion protection provided by the enclosures, in accordance with relevant codes of practice.

Each gland consists of a male-threaded front entry component that is intended to mount into an entry point of its associated enclosure, this is designated the gland body and is fitted with a ferrule such that a spigot joint is formed. The ferrule contains a filling compound that effects a flameproof seal around the cable cores passing through it.

The gland coupler threads onto the gland body and houses a retainer that holds the ferrule in position, a continuity clip, a pair of fibre skid washers, a polychloroprene seal and a seal housing. The skid washers and the polychloroprene seal effect environmental protection onto the cable outer sheath when the gland coupler is tightened onto the gland body.

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

**Date:** 04 August 2011

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Form 9530 Issue 1

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

**Annexe to:** IECEx SIR 10.0072X Issue 1  
**Applicant:** Prysmian Cables & Systems Limited  
**Apparatus:** BARR-\*Glands



Gland Size	Cable Dimensions					
	Max. Ø Over Conductors	Max. No. Of Conductors	Over Armour Ø		Outer Sheath Ø	
			Min	Max	Min	Max
20	11.0	30	7.6	12.7	8.9	15.7
25	16.0	42	11.9	17.3	13.0	19.3
32	22.1	60	16.0	22.1	17.0	25.4
40	28.2	100	21.0	26.9	24.1	30.0
50	37.1	200	25.9	38.6	29.0	41.9
63	48.4	400	37.6	48.0	40.9	52.8
75	58.6	400	45.9	55.9	49.8	59.9
85	65.8	400	54.8	70.1	58.9	73.9

**Barr-PB\* Ranges of Cable Glands**

The Barr-PB\* Ranges of Cable Glands are metallic in construction. They are intended to terminate circular, lead sheathed cables into flameproof or increased safety enclosures without compromising the explosion protection provided by the enclosures, in accordance with relevant codes of practice.

The glands are intended for use with the following cable forms:

- Barr-PB - Steel wire armoured and aluminium wire armoured cables
- Barr-PBC - Continental wire armour and strip wire armoured cables
- Barr-PBS - Steel wire armoured and aluminium wire armoured cables with a reduced wire diameter
- Barr-PBX - Wire braided cables
- Barr-PBZ - Steel tape armoured cables

Each gland consists of a male-threaded front entry component that is intended to mount into an entry point of its associated enclosure, this is designated the gland body and is fitted with a ferrule such that a spigot joint is formed. The ferrule contains a filling compound that effects a flameproof seal around the cable cores passing through it.

The gland barrel threads onto the gland body and houses the different armour clamping rings and cones that differentiate between the ranges and a continuity clip. The armour clamping rings effect clamping of the cable armour or braid onto the armour cones when the gland barrel is tightened onto the gland body. An outer seal gland nut, fitted with a fibre skid washer and a polychloroprene seal, screws onto the gland barrel effecting environmental sealing onto the outer sheath of the cable.

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

Gland Size	Cable					
	Max. Ø Over Conductors	Max. No Of Conductors	Over Lead Sheath Ø		Outer Sheath Ø	
			Min	Max	Min	Max
20S	11.0	30	7.0	9.5	8.0	15.8
20	11.0	30	8.0	12.0	11.7	20.8
25	16.0	42	11.0	17.0	17.0	27.2
32	22.1	60	15.5	23.2	19.0	33.5
40	28.2	100	22.5	29.0	26.5	39.9
50	37.1	200	28.5	40.0	36.0	52.6

**Annexe to:** IECEx SIR 10.0072X Issue 1  
**Applicant:** Prysmian Cables & Systems Limited  
**Apparatus:** BARR-\*Glands



Gland Size	Cable					
	Max. Ø Over	Max. No Of	Over Lead Sheath Ø		Outer Sheath Ø	
63	48.4	400	39.0	51.8	46.5	65.3
75	58.6	400	51.5	64.0	58.0	78.0
85	65.8	400	63.0	70.0	68.0	88.0

Gland Size	Armour									
	S.W.A. & A.W.A.		S.W.A. & A.W.A. ①		Continental Wire/Strip②		Braid		Steel Tape②	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
20S	0.9	1.4	-	-	0.6	0.8	0.2	0.3	0.15	0.35
20	0.9	1.4	-	-	0.6	0.8	0.2	0.3	0.15	0.5
25	1.25	1.6	0.9	1.25	0.6	0.8	0.2	0.45	0.15	0.5
32	1.6	2.0	1.25	1.6	0.6	0.8	0.3	0.45	0.15	0.55
40	1.6	2.0	-	-	0.6	0.8	0.3	0.45	0.2	0.6
50	2.0	2.5	1.6	-	0.6	0.8	0.3	0.45	0.5	0.8
63	2.5	-	-	-	0.6	0.8	0.3	0.45	0.5	0.8
75	2.5	3.15	-	-	0.6	0.8	0.3	0.45	0.5	1.0
85	2.5	3.15	-	-	0.6	0.8	0.3	0.45	0.5	1.0

① Common range take glands with smaller armour diameter sizes for Barr-PBS designs only.

② Armour dimensions are a measure of thickness, whereas all other armour type dimensions are a measure of diameter.

### **Barr-W, Barr-WC, Barr-X & Barr-Z Ranges of Cable Glands**

The Barr-W, Barr-WC, Barr-X & Barr-Z Ranges of Cable Glands are metallic in construction. They are intended to terminate circular cables into flameproof or increased safety enclosures without compromising the explosion protection provided by the enclosures, in accordance with relevant codes of practice.

The glands are intended for use with the following cable forms:

- Barr-W - Steel wire armoured and aluminium wire armoured cables
- Barr-WC - Continental wire armour and strip wire armoured cables
- Barr-X - Wire braided cables
- Barr-Z - Steel tape armoured cables

Each gland consists of a male-threaded front entry component that is intended to mount into an entry point of its associated enclosure, this is designated the gland body and is fitted with a ferrule such that a spigot joint is formed. The ferrule contains a filling compound that effects a flameproof seal around the cable cores passing through it.

The gland barrel threads onto the gland body and houses the different armour clamping rings and cones that differentiate between the ranges. The armour clamping rings effect clamping of the cable armour or braid onto the armour cones when the gland barrel is tightened onto the gland body. An outer seal gland nut, fitted with a fibre skid washer and a polychloroprene seal, screws onto the gland barrel effecting environmental sealing onto the outer sheath of the cable.

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

**Annexe to:** IECEx SIR 10.0072X Issue 1  
**Applicant:** Prysmian Cables & Systems Limited  
**Apparatus:** BARR-\*Glands



Gland Size	Cable					
	Max. Ø Over Conductors	Max. No Of Conductors	Over Inner Sheath Ø		Outer Sheath Ø	
			Min	Max	Min	Max
20S	11.0	30	-	12.5	8.0	15.8
20	11.0	30	-	12.5	11.7	20.8
25	16.0	42	11.5	18.0	17.0	27.2
32	22.1	60	17.0	25.0	19.0	33.5
40	28.2	100	24.0	31.5	26.5	39.9
50	37.1	200	30.0	41.5	36.0	52.6
63	48.4	400	40.0	54.0	46.5	65.3
75	58.6	400	53.0	65.5	58.0	78.0
85	65.8	400	60.0	74.0	68.0	88.0

Gland Size	Armour							
	S.W.A. & A.W.A.		Continental Wire/Strip <sup>①</sup>		Braid		Steel Tape <sup>①</sup>	
	Min	Max	Min	Max	Min	Max	Min	Max
20S	0.9	1.4	0.6	0.8	0.2	0.3	0.15	0.35
20	0.9	1.4	0.6	0.8	0.2	0.3	0.15	0.5
25	1.25	1.6	0.6	0.8	0.2	0.45	0.15	0.5
32	1.6	2.0	0.6	0.8	0.3	0.45	0.15	0.55
40	1.6	2.0	0.6	0.8	0.3	0.45	0.2	0.6
50	2.0	2.5	0.6	0.8	0.3	0.45	0.5	0.8
63	2.5	-	0.6	0.8	0.3	0.45	0.5	0.8
75	2.5	3.15	0.6	0.8	0.3	0.45	0.5	1.0
85	2.5	3.15	0.6	0.8	0.3	0.45	0.5	1.0

① Armour dimensions are a measure of thickness, whereas all other armour type dimensions are a measure of diameter.

### Design Options

The following design options apply to all the gland ranges:

- Alternative metallic materials of manufacture: Brass to BS 2874:1986 Grades CZ121, CZ122 or better  
Mild steel to BS 970: Part 1:1991  
Stainless steel to BS 970: Part 4:1987  
Aluminium to BS 1471:1972 Grade 6082-T6,  
BS 1474:1987 Grade 6082-T6 or better

Alternative skid washer materials of manufacture: Nylon 6  
The same material as the glands

- All metallic materials may be additionally surface coated to limit any electrolytic reaction between similar materials.
- Alternative entry threadforms that are within the dimensional parameters of the gland body and that maintain compliance with the requirements of clause 5.3 of IEC/EN 60079-1:2007.