1 **EU-TYPE EXAMINATION CERTIFICATE**

2 Equipment intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU

3 Certificate Number: **Sira 02ATEX3093X** Issue: **4**

4 Equipment: **E1WF-S, E1WF-C-S, E1XF-S E1ZF-S & E1WXL Ranges of Cable Glands**

5 Applicant: **Prysmian Cables & Systems Limited**

6 Address: Oak road
Wrexham Industrial Estate
Wrexham
LL13 9PH
UK

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

8 CSA Group Netherlands B.V., Notified Body Number 2813 in accordance with Articles 17 and 21 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, 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 the confidential reports listed in Section 14.2.

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 60079-0:2006	EN 60079-1:2007	EN 61241-0:2006
EN 60079-7:2007		EN 61241-1:2004

10 If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to Specific Conditions of Use identified in the schedule to this certificate.

11 This EU-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 2GD
Ex d IIC/Ex e II
Ex tD A21 IP66

Project Number 2514

Signed:

Title: Director of Operations

CSA Group Netherlands B.V.
Utrechseweg 310,
6812 AR, Arnhem,
Netherlands

13 **DESCRIPTION OF EQUIPMENT**

The E1WF-S, E1WF-C-S, E1XF-S, E1ZF-S and E1WXL ranges of compression seal cable glands are manufactured from brass to BS 2874:1986 grades CZ121 or 122 or better. The glands are intended to terminate circular cables into flameproof and reased safety enclosures without compromising the explosion protection provided by the enclosures in accordance with relevant codes of practice. They are used with the following cable forms:

E1WF-S - Either steel wire armoured or aluminium wire armoured cables
E1WF-C-S - Continental wire/strip armoured cables
E1XF-S - Wire braided cables
E1ZF-S - Steel tape armoured cables
E1WXL - Either steel wire armoured, aluminium wire armoured cables, wire braided cables and lead armoured cables

The glands consist of a male-threaded front entry component, designated the gland body, which is intended to screw into an entry point of its associated enclosure. The gland body contains a polychloroprene seal onto the cable inner sheath and an additional polychloroprene outer O-ring on the mating thread. In the case of non-threaded entry points, the glands are fitted with the use of a locking nut. The gland barrel threads onto the gland body and houses an armour-clamping ring and cone. The armour ring effects clamping of the cable armour or braid onto the armour cone when the gland barrel is tightened onto the gland body. An outer seal gland nut, fitted with a polychloroprene seal and a fibre skid washer, screws onto the gland barrel effecting environmental sealing onto the outer sheath of the cable. The E1WXL gland range also includes a continuity clip.

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 better Aluminium to BS 1472:1987 or better
Alternative skid washer materials of manufacture	Nylon 6 The same material as the gland

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

Alternative entry threadforms that are within its dimensional parameters and that maintain compliance with the requirements of clause 5.3 of IEC/EN 60079-1:2007.

Alternative profiles of construction of the gland nut, gland barrel and gland body components with the minimum wall sections, the number of threads engaged and the thread engagement length maintained.

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E1WF-S range for either steel wire armoured or aluminium wire armoured cables

Gland Title	Gland Size	ISO Entry Thread	Under Armour Diameter (mm)		Outer Sheath Diameter (mm)		Armour Range (mm)	
			Min	Max	Min	Max	Min	Max
E1WF-S	16	M16	3.81	8.74	7.0	13.2	0.9	-
E1WF-S	20ss	M20	3.81	8.74	7.0	13.2	0.9	-
E1WF-S	20s	M20	8.0	11.79	8.0	15.8	0.9	1.4
E1WF-S	20R	M20	10.19	14.15	11.7	20.8	0.6	1.4
E1WF-S	20	M20	11.79	14.15	11.7	20.8	0.9	1.4
E1WF-S	25	M25	14.0	20.12	17.0	27.2	1.25	1.6
E1WF-S	32	M32	19.7	26.55	19.0	33.5	1.6	2.0
E1WF-S	40	M40	26.55	32.42	26.5	39.9	1.6	2.0
E1WF-S	50s	M50	32.42	38.39	38.0	46.3	2.0	2.5
E1WF-S	50	M50	38.39	44.33	36.0	52.6	2.0	2.5
E1WF-S	63s	M63	44.33	50.27	50.0	58.9	2.5	-
E1WF-S	63	M63	50.27	56.24	46.5	65.3	2.5	-
E1WF-S	75s	M75	56.24	62.18	62.0	71.6	2.5	-
E1WF-S	75	M75	62.18	68.13	58.0	78.0	2.5	-
E1WF-S	85	M85	68.0	74.0	68.0	88.0	3.15	-

E1WF-C-S range for continental armoured wire/strip cables

Gland Title	Gland Size	ISO Entry Thread	Under Armour Diameter (mm)		Outer Sheath Diameter (mm)		Armour Range (mm)	
			Min	Max	Min	Max	Min	Max
E1WF-C-S	16	M16	3.81	8.74	7.0	13.2	0.6	0.8
E1WF-C-S	20ss	M20	3.81	8.74	7.0	13.2	0.6	0.8
E1WF-C-S	20s	M20	8.0	11.79	8.0	15.8	0.6	0.8
E1WF-C-S	20R	M20	10.19	14.15	11.7	20.8	0.6	0.8
E1WF-C-S	20	M20	11.79	14.15	11.7	20.8	0.6	0.8
E1WF-C-S	25	M25	14.0	20.12	17.0	27.2	0.6	0.8
E1WF-C-S	32	M32	19.7	26.55	19.0	33.5	0.6	0.8
E1WF-C-S	40	M40	26.55	32.42	26.5	39.9	0.6	0.8
E1WF-C-S	50s	M50	32.42	38.39	38.0	46.3	0.6	0.8
E1WF-C-S	50	M50	38.39	44.33	36.0	52.6	0.6	0.8
E1WF-C-S	63s	M63	44.33	50.27	50.0	58.9	0.6	0.8
E1WF-C-S	63	M63	50.27	56.24	46.5	65.3	0.6	0.8
E1WF-C-S	75s	M75	56.24	62.18	62.0	71.6	0.6	0.8
E1WF-C-S	75	M75	62.18	68.13	58.0	78.0	0.6	0.8
E1WF-C-S	85	M85	68.0	74.0	68.0	88.0	0.6	0.8

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E1XF-S ranges for wire braided cable

Gland Title	Gland Size	ISO Entry Thread	Under Armour Diameter (mm)		Outer Sheath Diameter (mm)		Braid Range (mm)	
			Min	Max	Min	Max	Min	Max
E1XF-S	16	M16	3.81	8.74	7.0	13.2	0.2	0.3
E1XF-S	20ss	M20	3.81	8.74	7.0	13.2	0.2	0.3
E1XF-S	20s	M20	8.0	11.79	8.0	15.8	0.2	0.3
E1XF-S	20R	M20	10.19	14.15	11.7	20.8	0.2	0.3
E1XF-S	20	M20	11.79	14.15	11.7	20.8	0.2	0.3
E1XF-S	25	M25	14.0	20.12	17.0	27.2	0.2	0.45
E1XF-S	32	M32	19.7	26.55	19.0	33.5	0.3	0.45
E1XF-S	40	M40	26.55	32.42	26.5	39.9	0.3	0.45
E1XF-S	50s	M50	32.42	38.39	38.0	46.3	0.3	0.45
E1XF-S	50	M50	38.39	44.33	36.0	52.6	0.3	0.45
E1XF-S	63s	M63	44.33	50.27	50.0	58.9	0.3	0.45
E1XF-S	63	M63	50.27	56.24	46.5	65.3	0.3	0.45
E1XF-S	75s	M75	56.24	62.18	62.0	71.6	0.3	0.45
E1XF-S	75	M75	62.18	68.13	58.0	78.0	0.3	0.45
E1XF-S	85	M85	68.0	74.0	68.0	88.0	0.3	0.45

E1ZF-S ranges for steel tape armoured cables

Gland Title	Gland Size	ISO Entry Thread	Under Armour Diameter (mm)		Outer Sheath Diameter (mm)		Steel Tape Range (mm)	
			Min	Max	Min	Max	Min	Max
E1ZF-S	16	M16	3.81	8.74	7.0	13.2	0.15	0.35
E1ZF-S	20ss	M20	3.81	8.74	7.0	13.2	0.15	0.35
E1ZF-S	20s	M20	8.0	11.79	8.0	15.8	0.15	0.35
E1ZF-S	20R	M20	10.19	14.15	11.7	20.8	0.15	0.5
E1ZF-S	20	M20	11.79	14.15	11.7	20.8	0.15	0.5
E1ZF-S	25	M25	14.0	20.12	17.0	27.2	0.15	0.5
E1ZF-S	32	M32	19.7	26.55	19.0	33.5	0.15	0.55
E1ZF-S	40	M40	26.55	32.42	26.5	39.9	0.2	0.6
E1ZF-S	50s	M50	32.42	38.39	38.0	46.3	0.5	0.8
E1ZF-S	50	M50	38.39	44.33	36.0	52.6	0.5	0.8
E1ZF-S	63s	M63	44.33	50.27	50.0	58.9	0.5	0.8
E1ZF-S	63	M63	50.27	56.24	46.5	65.3	0.5	0.8
E1ZF-S	75s	M75	56.24	62.18	62.0	71.6	0.5	0.8
E1ZF-S	75	M75	62.18	68.13	58.0	78.0	0.5	0.8
E1ZF-S	85	M85	68.0	74.0	67.5	88.0	0.5	0.8

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EU-TYPE EXAMINATION CERTIFICATE **Sira 02ATEX3093X**
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E1WXL ranges for armoured and braided cables

Gland Title	Gland Size	ISO Entry Thread	Under Armour Diameter (mm)		Outer Sheath Diameter (mm)		Steel Tape Range (mm)	
			Min	Max	Min	Max	Min	Max
E1WXL	16	M16	3.81	8.74	7.0	13.2	0.15	0.35
E1WXL	20ss	M20	3.81	8.74	7.0	13.2	0.15	0.35
E1WXL	20s	M20	8.0	11.79	8.0	15.8	0.15	0.35
E1WXL	20R	M20	10.19	14.15	11.7	20.8	0.15	0.5
E1WXL	20	M20	11.79	14.15	11.7	20.8	0.15	0.5
E1WXL	25	M25	14.0	20.12	17.0	27.2	0.15	0.5
E1WXL	32	M32	19.7	26.55	19.0	33.5	0.15	0.55
E1WXL	40	M40	26.55	32.42	26.5	39.9	0.2	0.6
E1WXL	50s	M50	32.42	38.39	38.0	46.3	0.5	0.8
E1WXL	50	M50	38.39	44.33	36.0	52.6	0.5	0.8
E1WXL	63s	M63	44.33	50.27	50.0	58.9	0.5	0.8
E1WXL	63	M63	50.27	56.24	46.5	65.3	0.5	0.8
E1WXL	75s	M75	56.24	62.18	62.0	71.6	0.5	0.8
E1WXL	75	M75	62.18	68.13	58.0	78.0	0.5	0.8
E1WXL	85	M85	68.0	74.0	67.5	88.0	0.5	0.8

Variation 1 - This variation introduced the following changes:

i. A change of the Applicant's name on the certificate from Pirelli Cables Limited to Prysmian Cables & Systems Limited was recognised.

Variation 2 - This variation introduced the following changes:

i. Following appropriate re-assessment to demonstrate compliance, the originally listed standards EN 50014:1997 (+A1 and A2), EN 50018:2000, EN 50019:2000 and EN 502841-1:1998 were replaced by those currently listed, the markings in section 12 were updated accordingly and the conditions were modified to recognise the requirements of the latest standards.
ii. The lusion of an E1WXL range of Cable Glands, the description was modified accordingly.
iii. The E1WF-S, E1WF-C-S, E1XF-S, E1ZF-S and E1WXL ranges of cable glands were permitted to be installed within a service ambient temperature range of –60°C to +90°C and the special condition for safe use clause 15.1 was amended to recognise this fact.
iv. The change of applicants address from Hall Lane Prescot L34 5UR to that currently shown was endorsed.

Variation 3 - This variation introduced the following changes:

i. The label was modified to allow the trade mark 'DRAKA' to be used as an alternative to the existing 'BICON' trade mark, the reference to the 'BICON' trade mark was removed from the Applicant's details.
ii. The Condition of Certification for the reduced marking criteria was amended to include the Applicant's name and address.
iii. The Cable Gland part number E1WXL was clarified, the description was modified accordingly.

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EU-TYPE EXAMINATION CERTIFICATE **Sira 02ATEX3093X**
Issue 4

14 **DESCRIPTIVE DOCUMENTS**

14.1 **Drawings**

Refer to Certificate Annexe.

14.2 **Associated Sira Reports and Certificate History**

Issue	Date	Report number	Comment
0	7 August 2002	R51A8796A	The release of the prime certificate.
1	16 May 2006	R51A14278A	The introduction of Variation 1.
2	23 August 2010	R21784A/00	This Issue covers the following changes: • All previously issued certification was rationalised into a single certificate, Issue 2, Issues 0 to 1 referenced above are only intended to reflect the history of the previous certification and have not been issued as documents in this format. • The introduction of Variation 2.
3	27 July 2011	R24796A/00	The introduction of Variation 3.
4	15th October 2019	2514	• Transfer of certificate **Sira 02ATEX3093X** from Sira Certification Service to CSA Group Netherlands B.V.. • EC Type-Examination Certificate in accordance with 94/9/EC updated to EU Type-Examination Certificate in accordance with Directive 2014/34/EU. *(In accordance with Article 41 of Directive 2014/34/EU, EC Type-Examination Certificates referring to 94/9/EC that were in existence prior to the date of application of 2014/34/EU (20 April 2016) may be referenced as if they were issued in accordance with Directive 2014/34/EU. Variations to such EC Type-Examination Certificates may continue to bear the original certificate number issued prior to 20 April 2016.)*

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

15.1 The cable glands shall only be used where the temperature at the point of mounting is within the range -60°C TO +90°C.

15.2 The cable glands shall not be used with flameproof 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 the reports listed in Section 14.2.

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Certificate Annexe

Certificate Number: **Sira 02ATEX3093X**

Equipment: **E1WF-S, E1WF-C-S, E1XF-S E1ZF-S & E1WXL Ranges of Cable Glands**

Applicant: **Prysmian Cables & Systems Limited**

Issue 0

Drawing No.	Sheet	Rev	Date	Title
SIRA0005	1 of 1	1	15 Apr 02	ATEX CERTIFIED E TYPE IP68 CABLE GLANDS
SIRA41315ES	1 of 1	1	15 Apr 02	E TYPE IP68 ARMOUR CONE S.T.A./BRAID
SIRA41401ES	1 of 1	1	15 Apr 02	E TYPE IP68 ARMOUR RINGS FOR S.W.A./A.W.A.
SIRA41408ES	1 of 1	1	15 Apr 02	E TYPE IP68 ARMOUR RINGS FOR CONTINENTAL WIRE
SIRA41413ES	1 of 1	1	15 Apr 02	E TYPE IP68 GLAND ARMOUR RINGS FOR STEEL TAPE
SIRA41414ES	1 of 1	1	15 Apr 02	E TYPE IP68 GLAND ARMOUR RINGS FOR WIRE BRAID
SIRA41523	1 of 1	1	15 Apr 02	E TYPE IP68 GLAND BARREL
SIRA41605ES	1 of 1	1	15 Apr 02	E TYPE IP68 GLAND OUTER SEALS
SIRA41701ES	1 of 1	1	15 Apr 02	E TYPE IP68 GLAND SKID WASHERS
SIRA41806ES	1 of 1	1	15 Apr 02	E TYPE IP68 GLAND NUT
SIRA43017	1 of 1	1	15 Apr 02	IP68 TYPE E GLAND BODIES
SIRA41103ES	1 of 1	1	15 Apr 02	E TYPE IP68 INNER SEALS
SIRA41301ES	1 of 1	1	15 Apr 02	E TYPE IP68 ARMOUR CONE SWA/AWA

Issue 1 No new drawings were introduced.

Issue 2

Drawing No.	Sheets	Rev.	Date (Sira Stamp)	Title
SIRA0005	1 of 1	2	12 Aug 10	ATEX CERTIFIED E TYPE IP68 CABLE GLANDS
SIRA41414ES	1 of 1	2	12 Aug 10	E TYPE IP68 GLAND ARMOUR RINGS FOR WIRE BRAID
SIRA41523	1 of 1	2	12 Aug 10	E TYPE IP68 GLAND BARREL
SIRA43017	1 of 1	2	12 Aug 10	IP68 TYPE E GLAND BODIES
SIRA41103ES	1 of 1	2	12 Aug 10	E TYPE IP68 INNER SEALS
SIRA47515	1 of 1	1	12 Aug 10	CONTINUITY CLIPS

Issue 3

Drawing No	Sheets	Rev.	Date (Sira Stamp)	Title
SIRA0005	1 of 1	3	30 Jun 11	ATEX CERTIFIED E TYPE IP68 CABLE GLANDS

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