

# **Certificate of Compliance**

Certificate:	1356011	Master Contract:	203679
Project:	80172719	Date Issued:	2023-09-26
Issued To:	Peppers Cable Glands Ltd. Stanhope Rd Camberley, Surrey, GU15 3BT United Kingdom		

**Attention: Richard Ward** 

The products listed below are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US or with adjacent indicator 'US' for US only or without either indicator for Canada only.



Issued by: Siros Ghanbar-zadeh Síros Ghanbarzadeh

#### PRODUCTS

CLASS - C441805 - CABLE Hardware - For Hazardous Locations CLASS - C441885 - CABLE-Hardware For Hazardous Locations-Certified to U.S. Standards

Ex db IIC Gb; Ex eb IIC Gb; Ex ta IIIC Da; (see Note 12) Class I Zone 1 AEx eb IIC Gb; Zone 20 AEx ta IIIC Da; Class II Groups EFG, Class III; Type 4X (see Note 8) IP66 IP68; Type 4X (Ta =  $-35^{\circ}$ C to  $+90^{\circ}$ C Neoprene Seals / Ta =  $-60^{\circ}$ C to  $+180^{\circ}$ C Silicone Seals)

#### **CR** Series Glands

Series: CR-\*\*\*

Part No's:	CR	*	*	*
		1	В	R
		2	S	
		3		
		4		



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#### Options:

- 1 = Neoprene Seals
- 2 = Neoprene Seals with Lead Sheath Cable Continuity Washer
- 3 = Silicone Seals
- 4 = Silicone Seals with Lead Sheath Cable Continuity Washer
- B = Brass Material
- S = Stainless Steel Material
- R = Reducer Bore option

#### Series: CR-D\*\*

Part No's:	CR-D *	*
	1	В
	2	S
	3	
	4	

#### Options: 1 = Neoprene Seals

2 = Neoprene Seals with Lead Sheath Cable Continuity Washer

- 3 = Silicone Seals
- 4 = Silicone Seals with Lead Sheath Cable Continuity Washer
- B = Brass Material
- S = Stainless Steel Material

## E series

**F*							
Е	*	*	*	*	*	F	*
	1	U	CF	В	IE		R
	2	W	CM	S			
	3	Х		Α			
	4						
1 = 1 $2 = 1$ $3 = 5$ $4 = 5$ $W = 1$ $X = 1$ $CF = 0$ $CM = 0$	Neoprend Silicone Silicone Steel Wi Steel W Woven S Female = Male t	e Seals e Seals v Seals Seals wi ire Armo Steel Win thread co thread co	with Lead th Lead S our/Wove our option re Armou conduit con onduit con	Sheath Sheath n Steel n ur & Sto onnector	n Cable C Cable Co Wire/St eel tape A or	Continui ontinuity eel Tape Armour	ty Washer Washer e/Braid Option
	E $1 = P$ $2 = P$ $3 = S$ $4 = S$ $U = P$ $W = CF = CM$ $B = P$	$\frac{**F*}{E}$ $E$ $1$ $2$ $3$ $4$ $1 = Neoprend$ $2 = Neoprend$ $3 = Silicone$ $4 = Silicone$ $4 = Silicone$ $U = Steel Wi$ $W = Steel Wi$ $W = Steel Wi$ $K = Woven S$ $CF = Female$ $CM = Male t$ $B = Brass mas$	$\frac{**F*}{E} = \frac{*}{1} = \frac{1}{2} = \frac$	$\frac{**F*}{E} = \frac{*}{E} + \frac$	**F* E * * * * * * E * * * * * * I U CF B 2 W CM S 3 X A 4 I = Neoprene Seals 2 = Neoprene Seals with Lead Sheath 3 = Silicone Seals 4 = Silicone Seals with Lead Sheath U = Steel Wire Armour/Woven Steel W = Steel Wire Armour option X = Woven Steel Wire Armour & Steel W = Steel Wire Armour option X = Woven Steel Wire Armour & Steel CF = Female thread conduit connector CM = Male thread conduit connector B = Brass material	**F* E * * * * * * * * E * * * * * * * * 1 U CF B IE 2 W CM S 3 X A 4 1 = Neoprene Seals 2 = Neoprene Seals with Lead Sheath Cable C 3 = Silicone Seals 4 = Silicone Seals with Lead Sheath Cable Co U = Steel Wire Armour/Woven Steel Wire/St W = Steel Wire Armour option X = Woven Steel Wire Armour & Steel tape A CF = Female thread conduit connector CM = Male thread conduit connector B = Brass material	**F* E * * * * * * F 1 U CF B IE 2 W CM S 3 X A 4 1 = Neoprene Seals 2 = Neoprene Seals with Lead Sheath Cable Continui 3 = Silicone Seals 4 = Silicone Seals with Lead Sheath Cable Continuity U = Steel Wire Armour/Woven Steel Wire/Steel Tape W = Steel Wire Armour option X = Woven Steel Wire Armour & Steel tape Armour CF = Female thread conduit connector CM = Male thread conduit connector B = Brass material



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S = Stainless Steel Material A= Aluminum Material IE = Integral Earth R = Reduced Bore option

## D series

Series: D\*\*\*\*F

Part No's:	D	*	*	*	*	*	F
		1	U	CF	В	IE	
		2	W	CM	S		
		3	Х		А		
		4					

Options:

1 = Neoprene Seals

2 = Neoprene Seals
2 = Neoprene Seals with Lead Sheath Cable Continuity Washer
3 = Silicone Seals
4 = Silicone Seals with Lead Sheath Cable Continuity Washer
U = Steel Wire Armour/Woven Steel Wire/Steel Tape/Braid
W = Steel Wire Armour option
X = Woven Steel Wire Armour & Steel Tape Armour option
CF = Female thread conduit connector
CM = Male thread conduit connector
B = Brass material
S = Stainless Steel Material
A = Aluminum Material

IE = Integral Earth

## A\*L series

Series: A\*L\*\*

Part No's:	А	*	L	*	*
		1		В	F
		2		S	E
		3		А	
		4			

Options: 1 = Neoprene Seals with Lead Sheath Cable Continuity Washer

- 2 = Neoprene Seals
- 3 = Silicone Seals
- 4 = Silicone Seals with Lead Sheath Cable Continuity Washer
- B = Brass Material



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- S = Stainless Steel Material
- A = Aluminum Material
- F = Ex d (flameproof) and Ex e (Increased Safety)
- E = Ex e (Increased Safety) approval only

A\*\*\*\* Series

Series: A\*LDS\*\*

Part No's:	А	*	LDS	*	*
		1		В	F
		2		S	E
		3		А	
		$\Delta$			

Options:

- ns: 1 = Neoprene Seals with Lead Sheath Cable Continuity Washer
  2 = Neoprene Seals
  3 = Silicone Seals
  4 = Silicone Seals with Lead Sheath Cable Continuity Washer
  B = Brass Material
  - S = Stainless Steel Material
  - A = Aluminium Material
  - F = Ex d (flameproof) and Ex e (Increased Safety)
  - E = Ex e (Increased Safety) approval only

#### Series A\*RDF\*\*

Part No's:	А	*	RDF	*	*
		1		В	F
		2		S	E
		3		А	
		4			

Options: 1 = Neoprene Seals with Lead Sheath Cable Continuity Washer

- 2 = Neoprene Seals
- 3 = Silicone Seals
- 4 = Silicone Seals with Lead Sheath Cable Continuity Washer
- B = Brass Material
- S = Stainless Steel Material
- A = Aluminum Material
- F = Ex d (flameproof) and Ex e (Increased Safety)
- E = Ex e (Increased Safety) approval only



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#### Series A\*RDM\*\*

Part No's:	А	*	RDM	*	*
		1		В	F
		2		S	Е
		3		А	
		4			

**Options:** 

1 = Neoprene Seals with Lead Sheath Cable Continuity Washer

- 2 = Neoprene Seals
- 3 = Silicone Seals
- 4 = Silicone Seals with Lead Sheath Cable Continuity Washer
- B = Brass Material
- S = Stainless Steel Material
- A = Aluminum Material
- F = Ex d (flameproof) and Ex e (Increased Safety)
- E = Ex e (Increased Safety) approval only

## A\*LC Series

#### Series: A\*L\*\*F

Part No's:	А	*	LC	*	*	*
		1		Μ	В	F
		2		F	S	E
		3			А	
		4				

Options:

- 2 = Neoprene Seals
- 3 = Silicone Seals
- 4 = Silicone Seals with Lead Sheath Cable Continuity Washer

1 = Neoprene Seals with Lead Sheath Cable Continuity Washer

- M = Conduit Male entry
- F = Conduit Female entry
- B = Brass Material
- S = Stainless Steel Material
- A = Aluminum Material
- F = Ex d (flameproof) and Ex e (Increased Safety)
- E = Ex e (Increased Safety) approval only



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## A\*RC\*\*\* Series

Series A*RC	CF**,							
Part No's:	А	*	RCF	*	*			
		1		В	F			
		2		S	E			
		3		А				
		4						
Options:	1 = N	Neoprene	e Seals wi	th Lea	d Sheath	Cable C	ontinuity	Washer

- 2 = Neoprene Seals
- 3 = Silicone Seals
- 4 = Silicone Seals with Lead Sheath Cable Continuity Washer
- B = Brass Material
- S = Stainless Steel Material
- A = Aluminum Material
- F = Ex d (flameproof) and Ex e (Increased Safety)
- E = Ex e (Increased Safety) approval only

#### Series A\*RCM\*\*,

Part No's:	А	*	RCM	*	*			
		1		В	F			
		2		S	E			
		3		А				
		4						
Options:	1 = 1 $2 = 1$ $3 = 5$	Neoprene Neoprene Silicone	e Seals wit e Seals Seals	h Lea	d Sheat	h Cable (	Continuity	Washer

- 4 = Silicone Seals with Lead Sheath Cable Continuity Washer
- B = Brass Material
- S = Stainless Steel Material
- A = Aluminum Material
- F = Ex d (flameproof) and Ex e (Increased Safety)
- E = Ex e (Increased Safety) approval only

## E8 Series

#### Series E8X\*\*



Part No's:	Е	8	Х	* B S	* F E			
Options:	B = H $S = S$ $F = D$ $F = C$	Brass Ma tainless Dual cert	aterial Steel Ma ified d (f	aterial flamepro	pof) & e	(increas	ed safety)	
Note: Only sil	licone g	asket -60	$0^{\circ}$ C to 1	80°C	ety) only	,		
Series E8XC	***							
Part No's:	Е	8	Х	C	* F M	* B S	* F E	
Options:	<ul> <li>F = Female conduit connector</li> <li>M = Male conduit connector</li> <li>B = Brass Material</li> <li>S = Stainless Steel Material</li> <li>F = Dual certified d (flameproof) &amp; e (increased safety) (Canada only)</li> </ul>						a only)	
Note: Only sil	licone g	asket -60	$0^{\circ}$ C to 1	80°C	ety) only			
D8 Series								
Series D8X*	**							
Part No's:	D	8	Х	* B S	* F E			
Options:	B = H $S = S$ $F = D$ $E = C$	Brass Ma tainless Dual cert Certified	aterial Steel M ified d (i e (increa	aterial flamepro ased safe	oof) & e ety) only	(increas	ed safety)	
Note: Only sil	licone g	asket -60	$0^{\circ}$ C to +	180°C				
Series D8X0	]***							
Part No's:	D	8	Х	С	* F M	* B S	* F E	



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Options:	<ul> <li>F = Female conduit connector</li> <li>M = Male conduit connector</li> <li>B = Brass Material</li> <li>S = Stainless Steel Material</li> <li>F = Dual certified d (flameproof) &amp; e (increased safety)</li> </ul>					
Note: Only sil	licone g	asket -60	$0^{\circ}$ C to 1	ased sale 80°C	sty) only	
A8 Series						
Series A8**						
Part No's:	А	8	* B S	* F E		
Options:	B = Brass Material S = Stainless Steel Material F = Dual certified d (flameproof) & e (increased safety) E = Certified increased safety only					
Note: Only sil	icone g	asket -60	$0^{\circ}$ C to $1^{\circ}$	80°C		
Series A8C*	*					
Part No's:	А	8	С	* F M	* B S F E	
Options: Note: Only sil	F = Female  conduit connector $M = Male  conduit connector$ $B = Brass  Material$ $S = Stainless  Steel Material$ $F = Dual  certified d (flameproof) & e (increased safety)$ $E = Certified e (increased safety)  only$ icone gasket -60°C to 180°C					



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#### CLASS 4418 05 – CABLE – Hardware for Hazardous Locations CLASS 4418 85 – CABLE – Hardware for Hazardous Locations-Certified to U.S. Standards

Ex eb Gb IIC; Ex ta IIIC Da; IP66; Type 4X Class I Zone 1 AEx eb IIC Gb; Zone 20 AEx ta IIIC Da; Class II Groups EFG, Class III; Type 4X (see Note 8) (Ta =  $-35^{\circ}$ C to  $+90^{\circ}$ C Neoprene Seals / Ta =  $-60^{\circ}$ C to  $+180^{\circ}$ C Silicone Seals)

Series: CR-O\*\*\*

Part No's:	CR-O	* 1 3 4	* B S	* R				
Options:	<ul> <li>1 = Neoprene Seals</li> <li>3 = Silicone Seals</li> <li>B = Brass Material</li> <li>S = 316 Stainless Steel Material</li> <li>R= Reduce bore option</li> </ul>							
Series: C****	<u>*E*</u>							
Part No's:	С	* 1 3	* U W X	* CF CM	* B S A	* IE	Ε	* R
Options:	<ul> <li>1 = Neoprene Seals</li> <li>3 = Silicone Seals</li> <li>W = Steel Wire Armour option</li> <li>X = Woven Steel Wire Armour &amp; Steel Tape Armour option</li> <li>CF = Female thread conduit connector</li> <li>CM = Male thread conduit connector</li> <li>B = Brass Material</li> <li>S = Stainless Steel Material</li> <li>A = Aluminum Material</li> <li>IE = Integral Earth</li> <li>R = Reduced Bore option</li> </ul>				otion			

#### BARRIER GLAND



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#### CLASS 4418 05 – CABLE – Hardware for Hazardous Locations CLASS 4418 85 – CABLE – Hardware for Hazardous Locations-Certified to U.S. Standards

Ex db IIC Gb ; Ex eb IIC Gb; Ex ta IIIC Da; Class I Zone 1 AEx db IIC Gb; Class I Zone 1 AEx eb IIC Gb; Zone 20 AEx ta IIIC Da; Class I Division 2 Groups ABCD, Class II Groups EFG, Class III; IP66/IP68; Type 4X (Ta =  $-60^{\circ}$ C to  $+135^{\circ}$ C)

## CRC Series

Series: CR-C\*\*\*(Barrier Gland)

CR-C	*	*	*
	2	В	R
		S	
	CR-C	CR-C * 2	CR-C * * 2 B S

Options:	2 = Lead Sheath Cable Continuity Washer
-	B = Brass material
	S = Stainless Steel Material
	R = Reduced Bore option

## **CR-X** Series

- Series: $CR-X^{**}$  (Barrier Gland)Part No's:CR-X \* \*<br/>22B<br/>SOptions:2 = Lead Sheath Cable Conti
- Options:2 = Lead Sheath Cable Continuity WasherB = Brass materialS = Stainless Steel Material

## CR-U Series

Series: CR-U\*\* (Barrier Gland) Part No's: CR-U \* \*

2

- B S
- Options: 2 = Lead Sheath Cable Continuity Washer B = Brass material



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S = Stainless Steel Material

CLASS 4418 05 – CABLE – Hardware for Hazardous Locations

Ex db IIC Gb; Ex eb IIC Gb; Ex ta IIIC Da; Class I Division 2 Groups ABCD, Class II Groups EFG, Class III; IP66/IP68; Type 4X (Ta =  $-60^{\circ}$ C to  $+135^{\circ}$ C)

## CRS Series

Series:	CR-S* (St	opper Boxes)			
Part No's:	CR-S *	*			
	В	F			
	S	Μ			
Options:	$\mathbf{B} = \mathbf{Brass}$	material			
	S = Stainless Steel Material				
	F = Female conduit option				
	M = Male	conduit option			

#### Conditions of safe use:

- 1. For the A\*L\*\*, A\*\*\*\*, A\*LC\*\*F, A\*RC\*\*\*, Series of cable glands: The cable entries are only suitable for fixed installations. Cables must be effectively clamped to prevent pulling or twisting.
- 2. For the CR-\*\*\*, CR-D\*\*, CR-O\*\*\*, E\*\*\*\*F\*, D\*\*\*\*\*F, C\*\*\*\*\*E\* Series of cable glands: When used to terminate braided cables the cable entries are only suitable for fixed installations. Cables must be effectively clamped to prevent pulling or twisting.
- 3. CEC C22.1, Section 18-106 Part 3, states Tapered Threads shall have 5 fully engaged threads, and where non-tapered threads are used in Groups IIC there must be 8 fully engaged threads.
- 4. IEC Canadian Standards may have either tapered or non-tapered threads which comply with ISO Standards.
- 5. These cable glands are designed for appropriate cable, as per the manufacturer's specifications, to maintain integrity of the installation.
- 6. For Class II applications, these cable glands when installed into devices which are subject to over-loading (Class II) should not be used where the surface temperature exceeds +120°C.
- 7. For Class II applications, these cable glands when installed into devices which are not subject to overloading (Class II) should not be used where the surface temperature exceeds +165°C.
- 8. Non barrier type glands that are marked Class I Div 2 shall be provided with a conduit seal in order to provide the hazardous location protection.
- 9. Non barrier type glands marked Class I Div 2 shall bear a CSA mark only. (No CSAus or cCSAus permitted.



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- 10. The A8\*\*, A8C\*\*\*, D8X\*\*, D8XC\*\*\*, E8X\*\* and E8XC\*\*\* of cable glands shall only be used for fixed installations, in addition, the cables must be effectively clamped to prevent pulling or twisting.
- 11. The A8\*\*, A8C\*\*\*, D8X\*\*, D8XC\*\*\*, E8X\*\* and E8XC\*\*\* ranges of cable glands, when installed in accordance with the manufacturer's instructions and with an appropriate enclosure on which they are fixed, are capable of providing an ingress protection of IP66 and IP68 (50 metres 7 days).
- 12. The threaded entry component threads without interface O-ring seals installed in an explosive dust atmosphere, within threaded entries, shall only be fitted into enclosures that have either:
  - parallel entries that will ensure that a minimum of 5 full threads of contact will be maintained, this is in accordance with clause 5.1.2 of 60079-31:2014
  - tapered entries that will ensure that a minimum of 3 ½ full threads of contact will be maintained, this is in accordance with clause 5.1.2 of 60079-31:2014
- 13. The CEC Part 1 require Non barrier type glands marked Ex db use an explosion proof seal where the cable system enters an Ex db enclosure.



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## **APPLICABLE REQUIREMENTS**

The following Standards were used as a guide in the evaluation of the products covered by this Report:

CSA C22.2 No. 25-17	Enclosures for Use in Class II Groups E, F, and G Hazardous Locations
CSA C22.2 No. 94.2: 15	Special Purpose Enclosures
CSA C22.2 no. 213-17	Non-Incendive Electrical Equipment for Use in Class I, Division 2 Hazardous Locations.
C22.2 No.60079-0 :19	Electrical apparatus for explosive gas atmospheres. PART 0: General requirements.
C22.2 No. 60079-1:16.	Electrical apparatus for explosive gas atmospheres. Part 1: Flameproof enclosures "d"
C22.2 No. 60079-7: 16	Electrical apparatus for explosive gas atmospheres. PART 7: Increased safety "e".
C22.2 No 60079-31-15	Explosive atmospheres — Part 31: Equipment dust ignition protection by enclosure "t"
UL 60079-0, 4 <sup>th</sup> Ed	Electrical apparatus for explosive gas atmospheres. PART 0: General requirements.
UL 60079-1, 5 <sup>th</sup> Ed.	Electrical apparatus for explosive gas atmospheres. Part 1: Flameproof enclosures "d"
UL 60079-7, 5 <sup>th</sup> Ed.	Electrical apparatus for explosive gas atmospheres. PART 7: Increased safety "e"
UL 60079-31: 2015	Explosive atmospheres — Part 31: Equipment dust ignition protection by enclosure "t"
UL 2225, Ed. 4	Cable and Cable Fittings for Use in Hazardous (Classified) Locations
UL 50E 3rd	Enclosures for Electrical Equipment
UL 1203 4th Ed.	Explosion-Proof and Dust-Ignition-Proof Electrical Equipment for Use in Hazardous (Classified) Locations
UL121201 9th Ed	Non-incendive Electrical Equipment for Use in Class I and II, Division 2 and Class III, Divisions 1 and 2



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#### MARKINGS

The manufacturer is required to apply the following markings:

- Products shall be marked with the markings specified by the particular product standard.
- Products certified for Canada shall have all Caution and Warning markings in both English and French.

Additional bilingual markings not covered by the product standard(s) may be required by the Authorities Having Jurisdiction. It is the responsibility of the manufacturer to provide and apply these additional markings, where applicable, in accordance with the requirements of those authorities.

The products listed are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US (indicating that products have been manufactured to the requirements of both Canadian and U.S. Standards) or with adjacent indicator 'US' for US only or without either indicator for Canada only.

The following marking details appear:

- Submittor's name or registered Trade Mark
- Model designation or equivalent
- The Hazardous Locations designation
- Hub thread Trade Size
- The product may bear one of the following CSA markings:

#### a. "cCSAus"

- i. Non Barrier Gland Series (Not having Class I Div2 designation)
- b. "CSA"
  - ii. Non Barrier Glands Series (Having Class I Div 2 designation)
- c. cCSAus or CSA or CSAus
  - iii. Barrier type glands

Note: Where the size of the product limits the amount of marking that can be applied, the marking may be abbreviated as permitted by the Code with a repeat of the full marking detailed on the appropriate label and/or instructions supplied with the product

Notes:

Products certified under Class C441805, C441885 have been certified under CSA's ISO/IEC 17065 accreditation with the Standards Council of Canada (SCC). www.scc.ca





# Supplement to Certificate of Compliance

Certificate: 1356011

Master Contract: 203679

The products listed, including the latest revision described below, are eligible to be marked in accordance with the referenced Certificate.

## **Product Certification History**

Project	Date	Description
80172719		FIR follow-up, update of Certificate 1356011 to address issues noted in FC# 203681, FIR dated May 11, 2023. Revised descriptive drawings needed.
80120478	2022-04-01	<ol> <li>Update report 1356011 as follows:</li> <li>To update nomenclature based on latest supporting documents.</li> <li>Revise report description to clarify product construction and marking practices.</li> <li>Address CSA policy regarding marking and the use of ANSI/IEC 60529 and CSA C22.2 No. 60529 as an Applicable Standard</li> </ol>
80035012	2022-01-12	Combine products listed under certificate 2627370 with CSA certificate 1356011 and update products in accordance with changes made under IEC related certificates.
70107491	2017-03-31	Update CSA Report 1356011 to include revised drawing and revisions.
2666426	2013-09-30	Update to correct part numbers.
2215947	2009-11-03	Update of report 1356011 to include additional hazardous locations markings.
1837294	2007-01-17	Update to report 1356011 to include new series of cable glands (based on sira reports) and modify existing cable glands.
1638021	2005-09-12	Update to 1356011 to include Model Series CR-C, CR-U, CR-X, CR-S for CSAcus-Ex d II Group II, based on SIRA Report acceptance.
1514383	2004-03-19	ALF/CR Series Cable Glands - CSA - Revisions to Cert. No. 1356011 to clarify model numbers and markings.
1356011	2003-02-14	Original Certification Type A*L**F and CR** Family Series Cable Glands