

P. O. Box : 1554
DUBAI - U.A.E.
TEL : 2827763
FAX : 2827716



ميتسوبيشي الكتریک كورپوريشن (فرع دبي)
MITSUBISHI ELECTRIC CORPORATION (DUBAI BRANCH)

ص.ب.: ١٥٥٤ - دبي
الامارات العربية المتحدة
تليفون: ٢٨٢٧٧٦٣
فاكس: ٢٨٢٧٧١٦

FCE reference: CNE/005A/06/25.1/00533

Our reference: 1124/2.01.2/78133 -MP/sp

Date: 06th Sept 2007

FICHTNER

P. O. Box 31578
Dubai
United Arab Emirates

Attention : **Mr. Craig Marshall CEng.** (1 copy)
Project Manager

CC: **DEWA** (1 copy)
Mr. Jose George
Project Manager

Energoprojekt (1 copy)
Mr. Nedjeljko Magazin
Lead Engineer

Ref: Contract – CNE/005A/2006
Supply, Installation, Testing and Commissioning of 400/132kV Gardens
and Equestrian & Polo Club Substation and Associated Works

Subject **Material Submittal No. EL-10**

Dear Sirs,

We hereby enclose the following material and corresponding documents for which we seek your approval as well as DEWA approval letter for cable glands made by the same manufacturer for CE/002B/2005 project (WHCT & Bada 132/11kV Substations).

EL - 10 **Cable Gland and Accessories**

Kindly confirm your approval at the earliest.

Yours faithfully,

Radenko Zecevic
Project Manager

MATERIAL APPROVAL CERTIFICATE

EMPLOYER DEWA
 CONSULTANT FICHTNER
 CONTRACTOR MITSUBISHI ELECTRIC CORPORATION
 SUBCONTRACTOR

WE REQUEST APPROVAL FOR THE FOLLOWING MATERIAL FOR USE ON THE ABOVE PROJECT

1	Material	Cable Gland and Accessories
2	Description & Ref.	Industrial Cable Glands for LV cable - A1 and CW types
3	Manufacturer	A-1 Electricals 20, Alankar Chambers Debar Chowk, Trikon Baug Rajkot - 360 001 Gujarat, India
4	Country of Origin	India
5	Supplier	Electricway LLC Dubai - UAE Tel.04 2679168 Fax 04 2679169
6	Location of Use	Gardens & EPC Substations
7	Relevant Specification Clause	Volume III, Part A, Clause 10.1.17
8	Estimated delivery period from date of order	One month.
9	Estimated date required on site	October 2007.
10	Drawing ref.	-
11	Selection Criteria	Used for 11kV cables in our previous DEWA project CE/002B/2005.
12	Manufacturing Standard	BS
13	Attachments	<input type="checkbox"/>
	a) Samples	<input type="checkbox"/>
	b) Catalogues	<input type="checkbox"/>
	c) Standards	<input checked="" type="checkbox"/>
	d) Test Results	<input checked="" type="checkbox"/>
	e) Certification from manufacturer to suit Project requirement	<input checked="" type="checkbox"/>

ON BEHALF OF SUBCONTRACTOR	NAME: N/A	POSITION:
	SIGN:	DATE:

		DUBAI ELECTRICITY AND WATER AUTHORITY 400/132kV Gardens and Equestrian & Polo Club Substations Contract No. CNE/005A/2006		
Material :	Cable Glands and Accessories	Submission No.: EL-10		
Description:	Cable Glands for LV cable.	Date : Sept 06, 2007	Page: 2 of 2	

CERTIFICATION FROM THE MAIN CONTRACTOR

I confirm that I have reviewed the proposal overleaf. The proposal meets the requirements of the Contract for the Project

ON BEHALF OF MAIN CONTRACTOR NAME Miodrag Pavlovic POSITION: Resident Engineer

SIGN: *M. Pavlovic* DATE: 06th Sept 2007

SUBMISSION RECEIVED BY CONSULTANT.....

MATERIAL STATUS:

APPROVED

APPROVED WITH COMMENTS AS BELOW

REJECTED SEE COMMENTS BELOW

COMMENTS BY FICHTNER/EPE

NEW SUBMISSION REQUIRED YES

NO

ON BEHALF OF DEWA/FICHTNER NAME: POSITION:

SIGN: DATE:

1095/2002/75342

DUBAI ELECTRICITY & WATER AUTHORITY



هيئة كهرباء ومياه دبي

P.O.Box : 564 DUBAI - U.A.E.
TEL : (04) 324-4444
CABLE : KAHRABA, DUBAI / TLX.: 45838 KAHRBA EM
FAX : (04) 324-8111
E-mail : dewa@dewa.gov.ae
Website : http://www.dewa.gov.ae

ص.ب. ٥٦٤ دبي - ا.ع.م - هاتف: ٣٢٤-٤٤٤٤ (٠٤)
برقياً: كهرباء، دبي / تليكس: ٤٥٨٣٨ كهرباء/ ا.ع.م
فاكس: ٣٢٤-٨١١١ (٠٤)
البريد الإلكتروني: dewa@dewa.gov.ae

FACSIMILE TRANSMISSION

Date..... 29.04.2007 No. of Pages (incl. this sheet) 1 Page..... 1 of..... 1

TO :	M/S. MITSUBISHI ELECTRIC CORPORATION.	OUR REF. :	P-TR / LAD / 3169 / 2007
FAX NO. :	04-2827716	SUBJECT:	<u>CE/002B/2005</u> <u>SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF 132/11kV SUBSTATIONS & ASSOCIATED WORKS AND 132kV CABLE LAYING</u>
ATTN :	MR. VELJKO CVIJOVIC PROJECT MANAGER		

Material approval No. EL-11 wiping gland for 3 core 240 sqmm 11kV cable for WHGT & BADA S/S

This has reference to your letter ref No. 1095/2.01/74672-VC/sp dated 28/03/2007 on above subject and please note that the proposed cable gland (make : M/s. A-1 Electricals, India) is acceptable for the above project,subject to that it should comply with DEWA specifications.

This is for your information and necessary action, please.

(KHALID F. ALSHAMSI)
SR. MANAGER - PROJECTS (TRANSMISSION)

P.O Box: 564 DUBAI - U.A.E - Tel: (04)324-4444 - CABLE: KAHRABA, DUBAI - TLX: 45838 KAHRBA EM - FAX: (04)324-8111
E-mail: dewa@dewa.gov.ae website: http://www.dewa.gov.ae البريد الإلكتروني: dewa@dewa.gov.ae



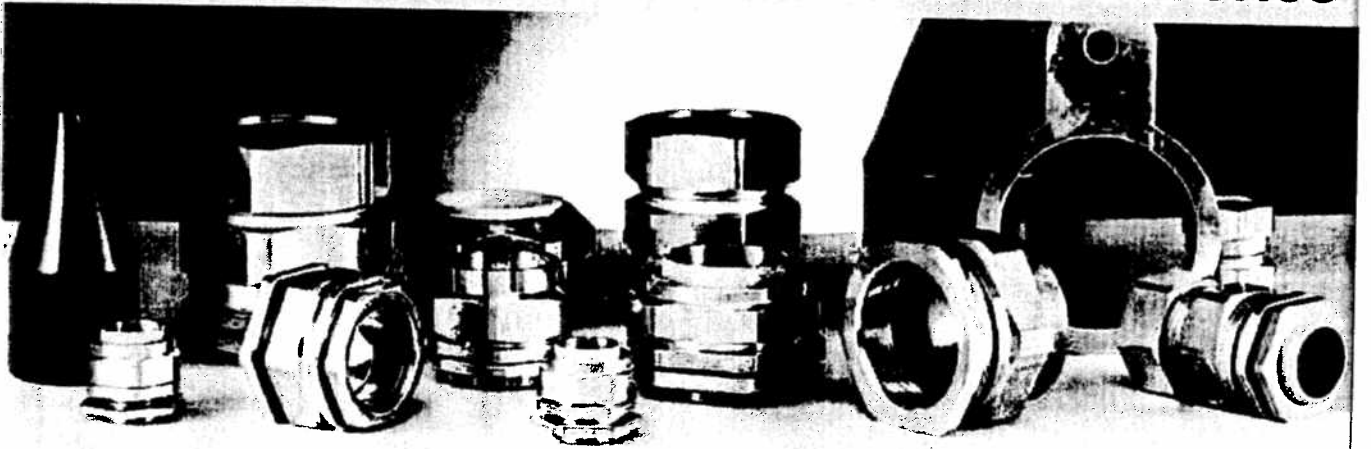
A-1 ELECTRICALS
20, ALANKAR CHAMBERS
DHEBAR CHOWK
TRIKON BAUG
RAJKOT - 360 001
GUJARAT, INDIA

TEL: +91-93748-20257

FAX: +91-281-2223399

EMAIL: info@a1electricals.com

Cable Glands & Accessories



A1/A2 Industrial Cable Gland

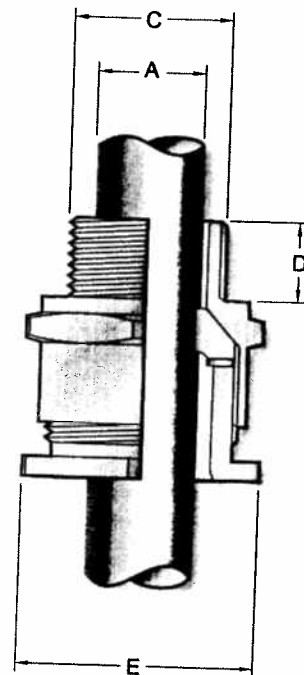
Brass indoor and outdoor cable gland suitable for all types of unarmoured cables, plastic or rubber sheathed cables

This gland provides seal on outer sheath.



TECHNICAL DATA

Type	A1/A2
Design Specification	BS 6121 : Part I : 1989
Ingress protection	IP66
Gland Material	Brass
Finish	Plain Brass or Nickel Plated
Seal Material	Thermoplastic Elastomer
Cable Type	Unarmoured
Sealing Technique	Displacement Type
Sealing Area	Outer Sheath



Gland Size	Metric Entry Thread 'C'	Minimum Thread Length 'D'	Overall Diameter 'A'		Across Corners Dia 'E' Max	Cat #
			Min	Max		
16	16	15	3.5	8.5	24.4	AA2-16
20SS	20	15	3.5	8.5	24.4	AA2-20SS
20S	20	15	8.0	11.5	26.5	AA2-20S
20L	20	15	11.0	13.5	26.5	AA2-20L
25S	25	15	13.0	16.5	39.9	AA2-25S
25L	25	15	13.0	19.5	39.9	AA2-25L
32	32	15	19.0	25.5	45.5	AA2-32
40L	40	15	25.0	32.0	55.4	AA2-40L
50S	50	15	31.5	37.0	61.0	AA2-50S
50L	50	15	36.5	43.0	66.5	AA2-50L
63S	63	15	42.5	50.0	77.6	AA2-63S
63L	63	15	49.5	55.0	83.2	AA2-63L
75S	75	15	54.5	61.0	88.7	AA2-75S
75L	75	15	60.5	67.0	94.2	AA2-75L
90	90	20	65.0	78.0	120.7	AA2-90
100	100	20	75.0	88.0	132.0	AA2-100

Dimensions in Millimeters

CW Industrial Cable Gland

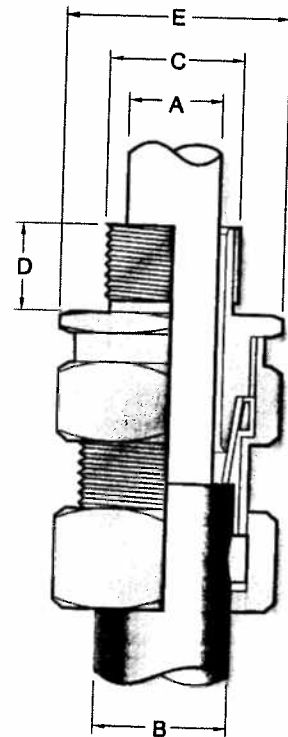
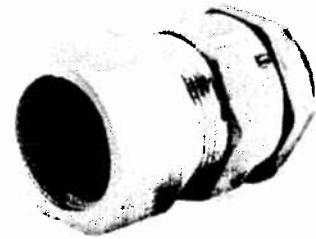
Brass indoor and outdoor gland popularly used with single wire armoured, plastic or rubber sheathed cable. Terminates and secure cable armouring and outer seal grips sheath of cable thus ensuring mechanical strength and earth continuity.

CW brass glands are also supplied with integral earth facilities.

Recommended to use PVC shroud for additional ingress protection.

TECHNICAL DATA

Type	CW
Design Specification	BS 6121 : Part I : 1989
Ingress Protection	IP 66
Gland Material	Brass
Finish	Plain Brass or Nickel Plated
Seal Material	Thermoplastic Elastomer
Cable Type	Steel Wire Armour
Armour Clamping	Three Part (With Lock Nut)
Sealing Technique	Compression Type
Sealing Area	Outer Sheath



Gland Size	Metric Entry Thread 'C'	Minimum Thread Length 'D'	Under Armour Dia 'A' Max	Overall Dia 'B' Max	Armour Wire Dia	Across Corner Dia 'E' Max	Cat #
16	16	15	6.0	13.2	0.9	24.4	ACW-16
20SS	20	15	8.6	13.2	0.9	24.4	ACW-20SS
20S	20	15	11.6	15.8	0.9/1.25	26.5	ACW-20S
20L	20	15	13.9	20.8	0.9/1.25	30.8	ACW-20L
25S	25	15	15.5	25.8	0.9/1.25	37.0	ACW-25S
25L	25	15	19.9	27.2	0.9/1.25	38.1	ACW-25L
32	32	15	26.2	33.5	1.60/2.0	48.0	ACW-32
40S	40	15	29.4	38.5	1.60/2.0	55.6	ACW-40S
40L	40	15	32.1	39.9	1.60/2.0	57.7	ACW-40L
50S	50	15	40.8	51.0	2.0/2.25	58.6	ACW-50S
50L	50	15	44.0	52.6	2.0/2.25	71.3	ACW-50L
63S	63	15	50.6	58.9	2.5	81.3	ACW-63S
63L	63	15	55.9	65.3	2.5	88.4	ACW-63L
75S	75	15	61.9	71.6	2.5	97.4	ACW-75S
75L	75	15	67.9	78.0	2.5	108.0	ACW-75L
90	90	20	74.0	88.0	3.15	116.9	ACW-90

Dimensions in Millimeters

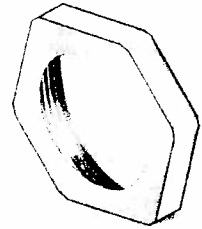
GLAND ACCESSORIES

Locknuts

Locknuts are recommended to use with cable glands to secure it to a gland plate or to equipment.

It is highly recommended to use brass locknut with gland for all the atmospheric conditions.

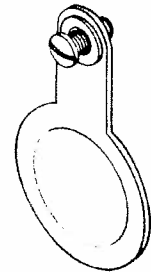
Sizes available from 16mm to 90mm
(Imperial and PG sizes also available)



Earth Tags

Earth tags are installed between the cable gland and equipment to provide earth continuity as specified in BS 6121 Part 5, 1993

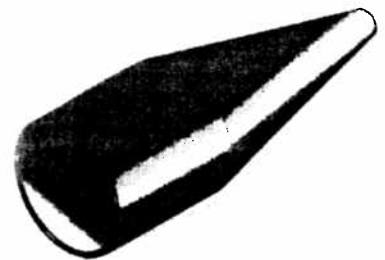
Sizes available from 16mm to 90mm



PVC Shroud

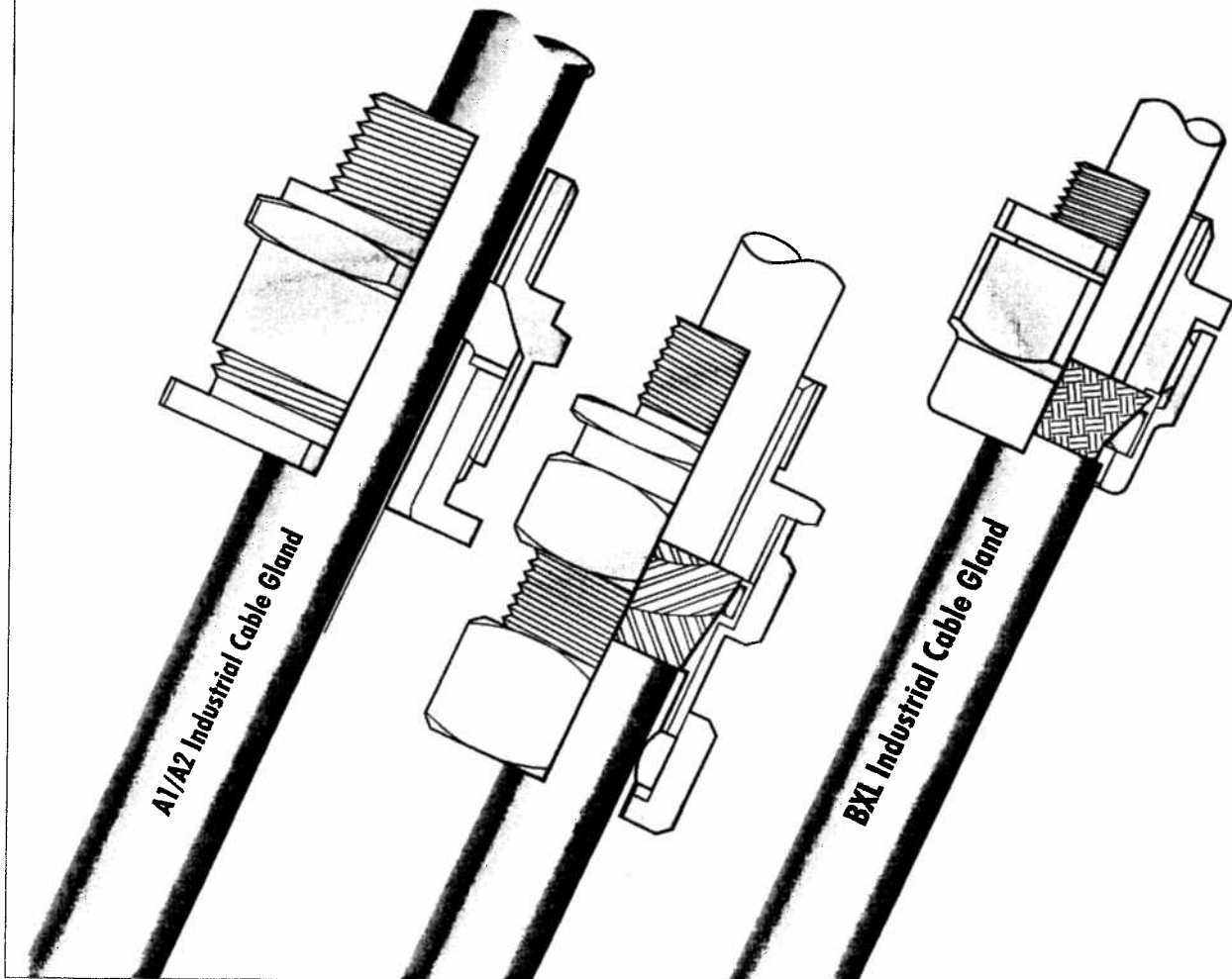
The shroud are recommended to use with all cable glands to provide additional ingress protection and to minimize the risk of dirt or any foreign substance gathering around gland body.

PVC Shrouds are denoted by gland reference number and are compatible with each glands size.



ENTRY THREAD OPTIONS

Cable Gland Size	ISO Metric	NPT	P.G.	PF / BSP	Imperial
16	M16	1/2"	11	-	5/8"
20/16	M20	1/2"	11	1/2"	3/4"
20S	M20	1/2"	13.5	1/2"	3/4"
20	M20	1/2"	16	1/2"	3/4"
25	M25	3/4"	21	3/4"	1"
32	M32	1"	29	1"	1-1/4"
40	M40	1-1/4"	36	1-1/4"	1-1/2"
50S	M50	1-1/2"	36	1-1/2"	2"
50	M50	2"	42	2"	2"
63S	M63	2"	48	2"	2-1/2"
63	M63	2-1/2"	-	2-1/2"	2-1/2"
75S	M75	2-1/2"	-	2-1/2"	3"
75	M75	3"	-	3"	3"
90	M90	3"	-	3"	3-1/2"



A-1 Electricals

20, Alankar Chambers, Dhebar Chowk, Trikon Baug, Rajkot-360001, Gujarat, India
Tel: +91-93748-20257 Fax: +91-281-2223399 Email: nehal@a1electricals.com

Supply Record of Cable Glands

1. To Siemens – Vietnam
Purchase Order No. AET-10-176 dt. 17.10.2006
Contact Person: Mr. Tran Dan Tien
Email: tran-dan.tien@siemens.com
2. Al Mohsin Electricals LLC
P.O.Box 1798, Muttrah, Oman
Purchase Order AMEL/FPO/110/10/06 dt. 4.10.2006
Purchase Order AMEL/FPO dt. 06.02.2007
Purchase Order Email dt. 24.03.2007
Contact Person: Mr. Mahboob Chughtai / Mr. Liyakat
Tel: 968-24708409
Email: allmoha@omantel.net.om
3. Mostafa Bin Abdullatif Group LLC-Dubai (**Material supplied to Al Hasoun Contracting Co. LLC for Palm Jumeirah Project**)
4. Electricway LLC, Dubai. Contact Person Mr. Jaffar