



J. K.
Analytical Laboratory & Research Center



ISO/IEC 17025:2005, ISO 9001:2015 CERTIFIED LABORATORY

CERTIFICATE OF ANALYSIS
(Sample drawn and Submitted by the Party)

TEST REPORT

on behalf of

AKSHAR BRASS INDUSTRIES
CABTEK MAKE CABLE GLANDS

Prepared For: **AKSHAR BRASS INDUSTRIES.**

Plot No 46,47,50,51, Naghedi Industrial Area, Naghedi,
Jamnagar-361006, Gujarat, India

Prepared By: **J K Analytical Laboratory & Research Center**

16, Dharti Tenament, Opp. Labharth Society, Nr, Parth Society,
Thakkarbapanagar Road, Ahmedabad-382350. Gujarat (India)

Report No. : **JKLAB/11-2022/33**

Date of Test : 13th Oct 2022 to 31th Oct 2022

Date of Report : 2nd Nov 2022

Certification Officer : Jayanti Patel

Certification Date : 2nd Nov 2022

Signature :



CERTIFICATE OF ANALYSIS
(Sample drawn and Submitted by the Party)

TEST REPORT

EN 62444

Cable Glands for Electrical Installations

Report Reference No. : J K LAB/11-2022/33

Tested by (name + signature) : Ajay Kumar *Ajay Kumar*

Approved by (name + signature) : Neeraj Gupta *Neeraj*

Approved by (name + signature) : Jayantibhai Patel *J.P.*

Date of issue..... : 2nd Nov 2022

Testing Laboratory : J K Analytical Laboratory & Research Center

Address..... : 16, Dharti Tenament, Opp. Labharth Society, Nr, Parth Society, Thakkarbapanagar Road, Ahmedabad-382350. Gujarat (India)

Testing procedure : CE

Applicant's name : AKSHAR BRASS INDUSTRIES

Address..... : Plot No 46,47,50,51, Naghedi Industrial Area, Naghedi, Jamnagar-361006, Gujarat, India

Test specification:

Standard : EN 62444:2013.CE

Test procedure..... : N/A

Non-standard test method..... :

Test Report Form No. :

TRF Originator : J K LAB

Master TRF : Dated 2018-05 Cable Glands See the next page

Test item description..... : Cable Gland

Model/Type reference..... : Metal Cable Glands: Model: BW, CW, A2, E1W, A2F, E1FW

Ratings..... :

Model/Type reference..... : (1) M16x1.5, M20x1.5, M25x1.5, M32x1.5, M40x1.5, M50x1.5, M63x1.5, M75x1.5, M90x2, M100x2
(2) NPT 3/8", NPT 1/2", NPT 3/4", NPT 1", NP T1-1/4", NPT 1-1/2", NPT 2", NPT 2-1/2", NPT 3",

Copy of marking plate:

CABTEK BW-20S BS6121 PT-1 EN 50262 CE
CABTEK CW-20S BS6121 PT-1 EN 50262 CE



CERTIFICATE OF ANALYSIS
(Sample drawn and Submitted by the Party)

CABTEK E1W-20S BS6121 PT-1 EN 50262 CE
CABTEK A2-20S BS6121 PT-1 EN 50262 CE

Summary of testing:

This test report complies with EN62444

1. These A2 and A2F cable glands are designed for use with unarmoured cable and BW, CW, E1W and E1FW Cable glands are designed for used with armored cable. These cables must be with extruded sealing (solid polymeric) completely surrounding the "core" (insulation and conductor), allowing for no holes or ventilation through the inner jacket or along the cores.
2. These cable glands are designed for appropriate cable, as per the manufacturer's specifications, to maintain integrity of the installation.
3. According to manual, threads number is at least 5 fully engaged threads.

Test Report Content

This test report consists of: Main report

Test item particulars:

Degree of protection against access to hazardous parts and against harmful ingress of solid foreign objects	IP6X/5X
Degree of protection against harmful ingress of water	IPX6/7
Material (6.1) of cable gland.....	<input checked="" type="checkbox"/> Metallic <input checked="" type="checkbox"/> Non-Metallic Composite
Mechanical properties (6.2)	Without cable anchorage /With cable anchorage (type A/ type B) / Cable retention for armoured cable (class A/class B)
Electrical properties (6.3)	with electrical continuity characteristics/ with insulating characteristics
Resistance to external influences (6.4)	IP20 IP code if not in 8.4/ 20-80 °C temperature range if not in 8.6/ resistance to salt and sulphur dioxide laden atmospheres.

Test case verdicts:

Test case does not apply to the test object ..	N/A
Test object does meet the requirement	Pass (P)Test
object does not meet the requirement	Fail (F)



CERTIFICATE OF ANALYSIS
(Sample drawn and Submitted by the Party)

Testing:

Date of receipt of test item : 13th Oct 2022

Date(s) of performance of test : 15th Oct to 31st Oct 2022

General remarks:

The test results presented in this report relate only to the item(s) tested.

This report shall not be reproduced, except in full, without the written approval of the testing laboratory. "(see remark #)" refers to a remark appended to the report.

"(see Annex #)" refers to an annex appended to the report. "(see appended table)" refers to a table in the CB Test Report.

Throughout this report a comma (point) is used as the decimal separator.

Remarks:

1. The samples for each group of testing were selected randomly from the samples provided by the manufacturer.
2. The test results reported in this test report shall refer only to the sample actually tested and shall not refer or be deemed to refer to bulk from which such a sample may be said to have been obtained.
3. The trademark and type identification are shown both in manual and enclosure. See manual firstly.
4. Determination of the test result includes consideration of measurement uncertainty from the test equipment and methods.
5. We conclude that the product(s) presented in this test report complies (comply) with the standard according to the test results on the submitted samples.

Component Data Form (CDF):

Material: Brass

EN 62444:2013

Clause	Requirement – Test	Result	Verdict
5	General Conditions of Tests		
5.1	Tests According to this standard are type tests		NA
5.2	Tests carried out on new cable glands assembled and mounted in accordance with the manufacturers or supplier's instructions, as declared in 7.3.	Tests carried out as per manufactures instructions	NA
5.3	Ambient temperature	Cable gland are suitable for use in service temperatures of -60°C Ta+125°C.	PASS
5.4	Thermal endurance to heat	Cable Glands made of Brass with the sealing washer/outer seal made of Silicone and Inner/Outer Substrate/IP washer made of Nylon 6.6 (66GF25 FR) cable glands assembled with smallest and maximum cable size mandrels of SS 316 (Cable Glands – A2, E1W, A2F, E1FW and CW were conditioned for a	PASS



CERTIFICATE OF ANALYSIS
(Sample drawn and Submitted by the Party)

		period of one week inside the Environmental Chamber at 135°C with assembled mandrel																															
5.5	Conditioning at ambient	Prior to the tests, assembled cable glands with mandrel as well as the sealing rings of A2, E1W, A2F, E1FW and CW conditioned at a temperature of 20 °C and a relative humidity between 40 % and 60 % for a minimum of 24 hrs.	PASS																														
5.6	Test Sample	BW, CW, A2, A2F, E1FW and E1W cable glands, three samples of the largest and smallest and one sample of all other sizes of the same series shall be subjected to the relevant tests. BW, CW, E1FW and E1W Cable Gland are tested with SWA Cable. Size 20s, 20 having 0.90mm SWA, 25 having 1.25mm SWA, 32 and 40 having 1.60mm SWA, 50s,50,63s,63, and 75s having 2.00mm SWA, 75 having 2.5mm SWA while 90 having 3.00mm SWA.	PASS																														
5.7	Mandrel	Test mandrels are consisted of Stainless Steel having a hardness of 65 Shore D in accordance with ISO 868 and a surface roughness 6µm Ra in accordance with ISO 4287. The test mandrel have a tolerance of ± 0,2 mm for test mandrels up to and including 16 mm in diameter and ± 0,3 mm for test mandrels larger than 16 mm in diameter. The shape shall be circular	PASS																														
5.8	Clearance Hole for Test	As per Given by Akshar Brass Industries <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Gland Size</th> <th>Thread Size</th> <th>Clearance Hole Size</th> </tr> </thead> <tbody> <tr> <td>16</td> <td>M16x1.5</td> <td>16 (-0/+0.3)</td> </tr> <tr> <td>20s, 20</td> <td>M20x1.5</td> <td>20 (-0/+0.3)</td> </tr> <tr> <td>25s,25</td> <td>M25x1.5</td> <td>25 (-0/+0.3)</td> </tr> <tr> <td>32</td> <td>M32x1.5</td> <td>32 (-0/+0.5)</td> </tr> <tr> <td>40</td> <td>M40x1.5</td> <td>40 (-0/+0.5)</td> </tr> <tr> <td>50s,50</td> <td>M50x1.5</td> <td>50 (-0/+0.5)</td> </tr> <tr> <td>63s,63</td> <td>M63x1.5</td> <td>63 (-0/+0.5)</td> </tr> <tr> <td>75s,75</td> <td>M75x1.5</td> <td>75 (-0/+0.5)</td> </tr> <tr> <td>90</td> <td>M90x2</td> <td>90 (-0/+0.5)</td> </tr> </tbody> </table>	Gland Size	Thread Size	Clearance Hole Size	16	M16x1.5	16 (-0/+0.3)	20s, 20	M20x1.5	20 (-0/+0.3)	25s,25	M25x1.5	25 (-0/+0.3)	32	M32x1.5	32 (-0/+0.5)	40	M40x1.5	40 (-0/+0.5)	50s,50	M50x1.5	50 (-0/+0.5)	63s,63	M63x1.5	63 (-0/+0.5)	75s,75	M75x1.5	75 (-0/+0.5)	90	M90x2	90 (-0/+0.5)	Pass
Gland Size	Thread Size	Clearance Hole Size																															
16	M16x1.5	16 (-0/+0.3)																															
20s, 20	M20x1.5	20 (-0/+0.3)																															
25s,25	M25x1.5	25 (-0/+0.3)																															
32	M32x1.5	32 (-0/+0.5)																															
40	M40x1.5	40 (-0/+0.5)																															
50s,50	M50x1.5	50 (-0/+0.5)																															
63s,63	M63x1.5	63 (-0/+0.5)																															
75s,75	M75x1.5	75 (-0/+0.5)																															
90	M90x2	90 (-0/+0.5)																															
6	Classification : Cable glands shall be classified for test purposes in accordance with 6.1, 6.2 and 6.5 and where appropriate, with 6.3 and 6.4.																																
6.1	According to Material																																
6.1.1	Metallic Cable Glands	Brass and Stainless Steel Cable Gland	PASS																														
6.1.2	Non Metallic Cable Glands		NA																														
6.1.3	Composite Cable Glands		NA																														
6.2	According to Mechanical Properties																																
6.2.1	Anchorage for Non-Armoured Cable																																
6.2.1.1	Anchorage Type A	Cable Gland type A2 and A2F are suitable for Anchorage Type A	PASS																														
6.2.1.2	Anchorage Type B	As described above in 6.2.1.1	NA																														



CERTIFICATE OF ANALYSIS
(Sample drawn and Submitted by the Party)

6.2.1.3	Retention Only	As described above in 6.2.1.1	NA
6.2.2	Armoured Cable Anchorage		
6.2.2.1	Anchorage Type C	BW, CW, E1FW and E1W Cable Gland are suitable for Anchorage Type C	PASS
6.2.2.2	Anchorite Type D	As described above in 6.2.1.2	NA
6.2.3	Impact Category		
6.2.3.1	Category 1	As described above in 6.2.3.7	NA
6.2.3.2	Category 2	As described below in 6.2.3.7	NA
6.2.3.3	Category 3	As described below in 6.2.3.7	NA
6.2.3.4	Category 4	As described below in 6.2.3.7	NA
6.2.3.5	Category 5	As described below in 6.2.3.7	NA
6.2.3.6	Category 6	As described below in 6.2.3.7	NA
6.2.3.7	Category 7	BW, CW, A2, A2F, E1FW and E1W Cable Gland are tested with 1kg mass and Height 1 meter and not found any crack on cable glands.	PASS
6.2.3.8	Category 8	As described above in 6.2.3.7	NA
6.3	According to Properties		
6.3.1	With Electrical Continuity characteristics		
6.3.1.1	External Bonding	The metallic Entry devices will form good electrical contact with the associated earthed housing and therefore not earthed in their own right.	PASS
6.3.1.2	Internal Bonding	The metallic Entry devices will form good electrical contact with the associated earthed steel or Aluminum armoured wire of Cable for BW, CW, E1FW and E1W Cable Glands	PASS
6.3.1.3	Cable glands with connection to protective Earth		
6.3.1.3.1	Category A	As described below in 6.3.1.3.2	NA
6.3.1.3.2	Category B	BW, CW, E1FW and E1W Cable Glands are pass Category B for protective Earth	PASS
6.3.1.3.3	Category C	As described above in 6.3.1.3.2	NA
6.4	According to resistance to external influences		
6.4.1	IP Rating	IP Rating of BW Cable Gland IP54 while CW, A2, A2F, E1FW and E1W Cable glands are IP Rating is IP66/67.	PASS
6.4.2	Temperature Range	-60°C Ta+125°C.	PASS
6.4.3.	Resistance to Ultraviolet light for metallic cable glands	There are no exposed non-metallic materials likely to degrade with UV exposure.	NA
6.5	According to Sealing System		



CERTIFICATE OF ANALYSIS
(Sample drawn and Submitted by the Party)

6.5.1	With a Single Orifice seal	A2, CW, A2F, E1FW and E1W Cable Glands having single Orifice seal	PASS
6.5.2	With Multi -Orifice Seal	As described above in 6.5.2	NA
7	MARKING AND DOCUMENTATION		PASS
7.1	An appropriate part of the cable gland shall be legibly and durably marked in a visible place with the following:		
	- name, logo or registered mark.....:	CABTEK is registered trademark of Akshar Brass Industries	PASS
	- identification (or type reference)	BW, CW, A2, A2F, E1FW and E1W are mention on Cable Gland	PASS
7.2	Marking durable and easily legible. Test: 15 s with water and 15 s with petroleum spirit	Cable Gland is marked with Laser Marking and Marking is not wipe out after rubbing by hand for 15 second and 15 second with Petroleum spirit	PASS
7.3	Shall provide in his literature, such as		
	-sealing range - installation torques - entry thread length - entry thread size and type - type of cable anchorage and anchorage range - impact category - correct assembly of the cable gland - IP code in accordance with EN60529 if higher than IP54 - temperature range (not 8.5) - multi orifice seals	All information is provided by manufacturer in installation Manual	PASS
8	CONSTRUCTION		PASS
8.1	Those parts of a cable gland that are used for tightening or for holding during installations should be hexagon form		NA
	Alternatives to the hexagon form, if any		NA
	The entry thread, if any, shall be constructed in accordance with table 1 of EN 60423	ISO Metric and NPT Thread as per EN 60423 Standard	PASS
8.2	All external projection edges, and corners of cable gland components shall be smooth, to prevent danger from injury in handling the cable gland	External edges and corners of BW, CW, A2, A2F, E1FW and E1W Cable Glands are free from burr and smooth to handling the cable glands	PASS
8.3	Cable glands shall be constructed to avoid cable damage when installed in accordance with manufacturers	Internal of BW, CW, A2F, E1FW, A2 and E1W Cable Glands are free from burr and smooth to handling the cable glands	PASS
8.4	Cable glands shall provide a minimum degree of IP54 as per IEC 60529 Compliance is checked with 12.1	IP Rating of BW Cable Gland IP54 while CW, A2, A2F, E1FW and E1W Cable glands are IP Rating is IP66/67.	PASS
8.5	Cable glands shall be suitable for use with in minimum temperature range of -20°C to +65°C.	All Cable Glands are suitable for temperature range -60°C to +125°C.	PASS
8.6	Resistance to Corrosion Compliance is checked with 12.2	All types of Cable Gland IP rating is more than IP54.00	PASS
8.7	Resistance to Ultra Violet	There are no exposed non-metallic materials likely to degrade with UV exposure.	NA



CERTIFICATE OF ANALYSIS
(Sample drawn and Submitted by the Party)

9	MECHANICAL PROPERTIES		
9.1	General	As described above in 6.2.1.3	
9.2	Retention Test	All Cable Glands are tested with retention test with circular mandrel with minimum and maximum value of sealing ring is declared by manufacturer. The Load was maintained for 5 min and displacement noted when unloaded. Remark of testing as below	PASS

A2/A2F Cable Gland	CABLE RETENTION N	
	Applied Weight (N)	Remark
16	10	No Displacement more than 3mm
20s16	10	No Displacement more than 3mm
20s	15	No Displacement more than 3mm
20L	20	No Displacement more than 3mm
25s	20	No Displacement more than 3mm
25L	25	No Displacement more than 3mm
32	25	No Displacement more than 3mm
40	30	No Displacement more than 3mm
50s	45	No Displacement more than 3mm
50L	45	No Displacement more than 3mm
63s	55	No Displacement more than 3mm
63L	55	No Displacement more than 3mm
75S	70	No Displacement more than 3mm
75L	70	No Displacement more than 3mm
90	70	No Displacement more than 3mm

Clause	Requirement – Test	Result	Verdict
9.3	Cable Anchorage Test for Unarmoured Cable Gland	PASS	

Cable Glands made of Brass were subjected to the anchorage tests. The testes were carried out on the Unarmoured Cables for 50 times for duration of 1 second without jerks in direction of its axis with relevant pull force and no displacement found more than 2mm.

A2/A2F Cable Gland	CABLE ANCHORAGE TEST		
	Applied Load (N)-Type A	Applied Load (kg)	Remark tested at ambient temperature
16	30	3.06	No Displacement more than 2mm
20s16	30	3.06	No Displacement more than 2mm
20s	42	4.29	No Displacement more than 2mm
20L	42	4.29	No Displacement more than 2mm
25s	55	5.61	No Displacement more than 2mm
25L	55	5.61	No Displacement more than 2mm
32	70	7.14	No Displacement more than 2mm
40	80	8.16	No Displacement more than 2mm
50s	90	9.18	No Displacement more than 2mm
50L	90	9.18	No Displacement more than 2mm
63s	100	10.20	No Displacement more than 2mm



CERTIFICATE OF ANALYSIS

(Sample drawn and Submitted by the Party)

63L	100	10.20	No Displacement more than 2mm
75S	115	11.73	No Displacement more than 2mm
75L	115	11.73	No Displacement more than 2mm
90	115	11.73	No Displacement more than 2mm

The tests shall be repeated using a test mandrel equivalent to the maximum value of the anchorage range of the cable gland as declared by the manufacturer with the test value of the relevant maximum cable diameter specified in below table

A2/A2F Cable Gland	CABLE ANCHORAGE TWIST TEST		
	Applied Load (N)	Applied Load (kg)	Remark tested at ambient temperature
16	0.10	0.01	No Displacement more than 2mm
20s16	0.15	0.02	No Displacement more than 2mm
20s	0.15	0.02	No Displacement more than 2mm
20L	0.35	0.04	No Displacement more than 2mm
25s	0.60	0.06	No Displacement more than 2mm
25L	0.60	0.06	No Displacement more than 2mm
32	0.80	0.08	No Displacement more than 2mm
40	0.90	0.09	No Displacement more than 2mm
50s	0.90	0.09	No Displacement more than 2mm
50L	0.90	0.09	No Displacement more than 2mm
63s	1.00	0.10	No Displacement more than 2mm
63L	1.00	0.10	No Displacement more than 2mm
75S	1.20	0.12	No Displacement more than 2mm
75L	1.20	0.12	No Displacement more than 2mm
90	1.20	0.12	No Displacement more than 2mm

9.4	Cable Anchorage Test for Armoured Cable Gland	PASS	
-----	------------------------------------------------------	------	--



CERTIFICATE OF ANALYSIS

(Sample drawn and Submitted by the Party)

Two Samples of each cable glands are assembled with armoured cable as declared by Akshar Brass Industries with 300mm distance between two glands end part. Load is maintain for 5 min at ambient temperature and displacement is not more than 3mm at either side of cable gland.

Size	BW Cable Gland Cable Anchorage Test		
	Applied Load (N)-Type C	Applied Load (kg)	Remark tested at ambient temp.
20s	130	13.27	No Displacement more than 2mm
20L	140	14.29	No Displacement more than 2mm
25L	250	25.51	No Displacement more than 2mm
32	250	25.51	No Displacement more than 2mm
40	350	35.71	No Displacement more than 2mm
50s	350	35.71	No Displacement more than 2mm
50L	400	40.82	No Displacement more than 2mm
63s	400	40.82	No Displacement more than 2mm
63L	450	45.92	No Displacement more than 2mm
75S	450	45.92	No Displacement more than 2mm
75L	450	45.92	No Displacement more than 2mm
90	450	45.92	No Displacement more than 2mm

Size	CW Cable Gland Cable Anchorage Test		
	Applied Load (N)-Type C	Applied Load (kg)	Remark tested at ambient temp.
16	130	13.27	No Displacement more than 2mm
20s16	130	13.27	No Displacement more than 2mm
20s	130	13.27	No Displacement more than 2mm
20L	140	14.29	No Displacement more than 2mm
25s	140	14.29	No Displacement more than 2mm
25L	250	25.51	No Displacement more than 2mm
32	250	25.51	No Displacement more than 2mm
40	350	35.71	No Displacement more than 2mm
50s	400	40.82	No Displacement more than 2mm
50L	400	40.82	No Displacement more than 2mm
63s	400	40.82	No Displacement more than 2mm
63L	450	45.92	No Displacement more than 2mm
75S	450	45.92	No Displacement more than 2mm
75L	450	45.92	No Displacement more than 2mm
90	450	45.92	No Displacement more than 2mm

Size	E1W/E1FW Cable Gland Cable Anchorage Test		
	Applied Load (N)-Type C	Applied Load (kg)	Remark tested at ambient temp.
16	130	13.27	No Displacement more than 2mm
20s16	130	13.27	No Displacement more than 2mm
20s	130	13.27	No Displacement more than 2mm



CERTIFICATE OF ANALYSIS

(Sample drawn and Submitted by the Party)

20L	140	14.29	No Displacement more than 2mm
25s	140	14.29	No Displacement more than 2mm
25L	250	25.51	No Displacement more than 2mm
32	250	25.51	No Displacement more than 2mm
40	350	35.71	No Displacement more than 2mm
50s	400	40.82	No Displacement more than 2mm
50L	400	40.82	No Displacement more than 2mm
63s	400	40.82	No Displacement more than 2mm
63L	450	45.92	No Displacement more than 2mm
75S	450	45.92	No Displacement more than 2mm
75L	450	45.92	No Displacement more than 2mm
90	450	45.92	No Displacement more than 2mm

Test For Resistance to Excess Torque

Size	BW Cable Gland Cable		
	Base Torque	1.5 x Base Torque	Remark tested at ambient temp.
20s	25	38	No Defects Observed
20L	25	38	No Defects Observed
25L	30	45	No Defects Observed
32	35	53	No Defects Observed
40	45	68	No Defects Observed
50s	60	90	No Defects Observed
50L	65	98	No Defects Observed
63s	65	98	No Defects Observed
63L	75	113	No Defects Observed
75S	80	120	No Defects Observed
75L	80	120	No Defects Observed
90	110	165	No Defects Observed

Size	CW Cable Gland		
	Base Torque	1.5 x Base Torque	Remark tested at ambient temp.
16	25	38	No Defects Observed
20s16	25	38	No Defects Observed
20s	25	38	No Defects Observed
20L	25	38	No Defects Observed
25s	30	45	No Defects Observed
25L	30	45	No Defects Observed
32	35	53	No Defects Observed
40	45	68	No Defects Observed
50s	60	90	No Defects Observed
50L	65	98	No Defects Observed
63s	65	98	No Defects Observed



CERTIFICATE OF ANALYSIS

(Sample drawn and Submitted by the Party)

	63L	75	113	No Defects Observed
	75S	80	120	No Defects Observed
	75L	80	120	No Defects Observed
	90	110	165	No Defects Observed
	E1W/E1FW Cable Gland			
	Size	Base Torque	1.5 x Base Torque	Remark tested at ambient temp.
	16	25	38	No Defects Observed
	20s16	25	38	No Defects Observed
	20s	25	38	No Defects Observed
	20L	25	38	No Defects Observed
	25s	30	45	No Defects Observed
	25L	30	45	No Defects Observed
	32	35	53	No Defects Observed
	40	45	68	No Defects Observed
	50s	60	90	No Defects Observed
	50L	65	98	No Defects Observed
	63s	65	98	No Defects Observed
	63L	75	113	No Defects Observed
	75S	80	120	No Defects Observed
	75L	80	120	No Defects Observed
	90	110	165	No Defects Observed
	A2/A2F Cable Gland Cable Anchorage Test			
	Size	Base Torque	1.5 x Base Torque	Remark tested at ambient temp.
	16	40	60	No Defects Observed
	20s16	40	60	No Defects Observed
	20s	40	60	No Defects Observed
	20L	40	60	No Defects Observed
	25s	45	68	No Defects Observed
	25L	45	68	No Defects Observed
	32	55	83	No Defects Observed
	40	70	105	No Defects Observed
	50s	120	180	No Defects Observed
	50L	120	180	No Defects Observed
	63s	170	255	No Defects Observed
	63L	170	255	No Defects Observed
	75S	230	345	No Defects Observed
	75L	230	345	No Defects Observed
	90	320	480	No Defects Observed
9.5	Resistance to impact			



CERTIFICATE OF ANALYSIS

(Sample drawn and Submitted by the Party)

	<p>The Cable glands made of Brass material were subjected to the resistance to impact test with minimum value mandrel in A2, E1W, A2F, E1FW and CW Cable gland with ambient temperature. Prior to impact test cable gland placed in the refrigerator for -65°C for 8 hours. No deformation was observed</p>	<p>PASS</p>		
	IMPACT TEST			
Size	Striking Mass Wt. 1 kg	Drop Height Meter	BW Observation	CW Observation
16	1	1	-	No Crack or damage found
20s16	1	1	-	No Crack or damage found
20s	1	1	No Crack or damage found	No Crack or damage found
20L	1	1	No Crack or damage found	No Crack or damage found
25s	1	1	-	No Crack or damage found
25L	1	1	No Crack or damage found	No Crack or damage found
32	1	1	No Crack or damage found	No Crack or damage found
40	1	1	No Crack or damage found	No Crack or damage found
50s	1	1	No Crack or damage found	No Crack or damage found
50L	1	1	No Crack or damage found	No Crack or damage found
63s	1	1	No Crack or damage found	No Crack or damage found
63L	1	1	No Crack or damage found	No Crack or damage found
75S	1	1	No Crack or damage found	No Crack or damage found
75L	1	1	No Crack or damage found	No Crack or damage found
90	1	1	No Crack or damage found	No Crack or damage found
	IMPACT TEST			
Size	Striking Mass Wt. 1 kg	Drop Height Meter	A2 Observation	E1W Observation
16	1	1	No Crack or damage found	No Crack or damage found
20s16	1	1	No Crack or damage found	No Crack or damage found
20s	1	1	No Crack or damage found	No Crack or damage found
20L	1	1	No Crack or damage found	No Crack or damage found
25s	1	1	No Crack or damage found	No Crack or damage found
25L	1	1	No Crack or damage found	No Crack or damage found
32	1	1	No Crack or damage found	No Crack or damage found
40	1	1	No Crack or damage found	No Crack or damage found
50s	1	1	No Crack or damage found	No Crack or damage found
50L	1	1	No Crack or damage found	No Crack or damage found
63s	1	1	No Crack or damage found	No Crack or damage found
63L	1	1	No Crack or damage found	No Crack or damage found
75S	1	1	No Crack or damage found	No Crack or damage found
75L	1	1	No Crack or damage found	No Crack or damage found
90	1	1	No Crack or damage found	No Crack or damage found
9.6	Seal Performance			



CERTIFICATE OF ANALYSIS
(Sample drawn and Submitted by the Party)

	Cable Gland A2, E1W, A2F, E1FW and CW are tested with maximum sizes of mandrel is fitted and applied torque declared by manufacturer. Seal performance report is declared in 6.4.1 clause		PASS
10	ELECTRICAL PROPERTIES		
10.1	Equipotential bonding		
	Cable glands declared in accordance with 6.3.1.1 shall have adequate conductivity to the enclosure	As described above in 6.3.1.1	PASS
	In no case shall the resistance exceed 0,1 ohm.	As described above in 6.3.1.1	PASS
10.2	Electrical connection to metallic layer(s) of cable		
	Cable glands declared in accordance with 6.3.1.2 shall have adequate electrical connection with the metallic layer of the cable	As described above in 6.3.1.2	PASS
	the resistance shall not exceed 0,1 ohm.	As described above in 6.3.1.2	PASS
10.3	Protective connection to earth		
10.3.1	Cable glands declared in accordance with 6.3.1.3 shall resistant to earth fault current and compliance is checked and reported in 10.3.2		
10.3.2	Electrical Current Test		
	Test is carried out test 9.4 and 10.2 Assembled Cable Gland both end of cable with Armour termination and pass electrical current value as below and measured with a source of 10 A and is equal to or less than 0.1 . They don't show any cracks to normal or corrected vision without magnification nor have any loose parts or deformations impairing normal use.		Category B for BW, CW and E1W, E1FW Cable Gland.
11	ELECTROMAGNETIC COMPATIBILITY		
12	EXTERNAL INFLUENCES		
12.1	IP code in accordance with EN60529		
	The degree of protection provided by cable glands is checked in accordance with 12.1.1 immediately followed by 12.1.2	As described in 6.3.1.1	PASS
12.1.1	General		
	The tested sample is conducted on completed the tests according to 9.5 and 9.6		PASS
12.1.2	IP5X or above	IP5X	
	The sample is deemed to have passed the test if there is no ingress of solid foreign objects/dust visible to normal orcorrected vision without magnification.	Inside enclosure there is no ingress of dust and IP 5X for BW Cable Gland and IP6X for CW, A2 and E1W Cable Gland	PASS
12.1.3	IPX6/7/8 or above	IPX6/7/8	
	The sample is deemed to have passed the test if there is no ingress of solid foreign objects/dust visible to normal orcorrected vision without magnification.	Inside enclosure there is no ingress of water and IP X4 for BW Cable Gland and IPX6/7 for A2, E1W, A2F, E1FW and CW Cable Gland	PASS
12.2.	Resistance to Corrosion		
	<i>Cable glands according to 6.1.1 and 6.1.3 made of steel shall be subjected to the test in ISO 9227 (neutral salt spray test) for a duration of minimum 96 h.</i>		NA

CERTIFICATE OF ANALYSIS
(Sample drawn and Submitted by the Party)

	<p><i>Cable glands made from non-metallic materials, stainless steel containing at least 13 % chromium, copper alloys containing at least 55 % copper, aluminum alloy and zinc alloy are not subjected to the test.</i></p> <p>Cable Gland are containing more than 56.5 % copper are not subjected to further test</p>	PASS
--	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	------

Object / part No.	Manufacturer/ Trademark	Type /model	Standard
BW2P	Akshar Brass Industries / CABTEK	BW	EN/IEC 62444:2013
CW		CW	EN/IEC 62444:2013
A2		A2	EN/IEC 62444:2013
A2F		A2F	EN/IEC 62444:2013
E1W		E1W	EN/IEC 62444:2013
E1FW		E1FW	EN/IEC 62444:2013

-- End of Test Report --