

TEST REPORT
No. C001/02-S8-24/02-R0

ELECTRICAL TESTS ON MV PREMOLDED STRAIGHT JOINT, FOR CABLE 3X400 MM², 36 KV

Project Number

GEPL-24/02-01-C001/02

Prepared for

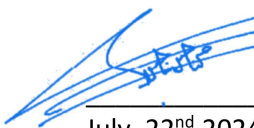
ELSEWEDY ELECTRIC INDUSTRIAL LTD

Purchase Order: PO # 24_000005

Issue Date

2024-Jul-22

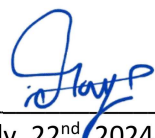
Prepared by:
Nasser Abu Sittah



July. 22nd, 2024
Signature & Date
Testing Lab Engineer

GEPL

Reviewed by:
Rayan Dessuky



July. 22nd, 2024
Signature & Date
Technical Lab Manager

GEPL

Approved by:
Nasser Al-Qahtani



July. 22nd, 2024
Signature & Date
General Manager

GEPL

TEST REPORT
No. C001/02-S5-24/02-R0

**ELECTRICAL TESTS ON MV SCREENED DEADBREAK SEPARABLE
CONNECTOR ELBOW, INTERFACE TYPE C FOR CABLE 3X400
MM2, 36 KV**

Project Number

GPL-24/02-01-C001/02

Prepared for

ELSEWEDY ELECTRIC INDUSTRIAL LTD - KSA

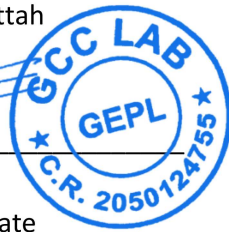
Purchase Order: PO # 24_000005

Issue Date

2024-Jul-17

Prepared by:

Nasser Abu Sittah



July 17th, 2024

Signature & Date

Testing Lab Engineer

GEPL

Reviewed by:

Rayan Dessuky



July 17th, 2024

Signature & Date

Technical Lab Manager

GEPL

Approved by:

Nasser Al-Qahtani



July 17th, 2024

Signature & Date

General Manager

GEPL

TEST REPORT
No. C001/02-S7-24/02-R0

**ELECTRICAL TESTS ON MV SINGLE PIECE OUTDOOR
TERMINATION FOR CABLE 3X400 MM2, 36 KV**

Project Number

GPL-24/02-01-C001/02

Prepared for

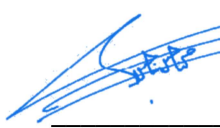
ELSEWEDY ELECTRIC INDUSTRIAL LTD - KSA

Purchase Order: PO # 24_000005

Issue Date

2024-Jul-22

Prepared by:
Nasser Abu Sittah



Jul. 22th, 2024
Signature & Date
Testing Lab Engineer

GEPL

Reviewed by:
Rayan Dessuky



JUL. 22th 2024
Signature & Date
Technical Lab Manager

GEPL

Approved by:
Nasser Al-Qahtani



Jul. 22th, 2024
Signature & Date
General Manager

GEPL

TEST REPORT
No. C001/02-S6-24/02-R0

**ELECTRICAL TESTS ON MV SINGLE PIECE INDOOR
TERMINATION FOR CABLE 3X400 MM2, 36 KV**

Project Number

GEPL-24/02-01-C001/02

Prepared for

ELSEWEDY ELECTRIC INDUSTRIAL LTD

Purchase Order: PO # 24_000005

Issue Date

2024-Jul-22

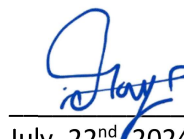
Prepared by:
Nasser Abu Sittah



July. 22nd, 2024
Signature & Date
Testing Lab Engineer

GEPL

Reviewed by:
Rayan Dessuky



July. 22nd, 2024
Signature & Date
Technical Lab Manager

GEPL

Approved by:
Nasser Al-Qahtani



July. 22nd, 2024
Signature & Date
General Manager

GEPL

TEST REPORT
No. C001/02-S4-24/02-R0

**ELECTRICAL TESTS ON MV PREMOLDED STRAIGHT JOINT, FOR
AL CABLE 3X500 MM² 17.5 KV**

Project Number

GEPL-24/02-01-C001/02

Prepared for

ELSEWEDY ELECTRIC INDUSTRIAL LTD - KSA

Purchase Order: PO # 24_000005

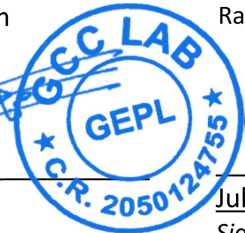
Issue Date

2024-Jul-16

Prepared by:
Nasser Abu Sittah

Reviewed by:
Rayan Dessuky

Approved by:
Nasser Al-Qahtani

July. 16th, 2024
Signature & Date
Testing Lab Engineer

GEPL

July. 16th, 2024
Signature & Date
Technical Lab Manager

GEPL


July. 16th, 2024
Signature & Date
General Manager

GEPL

TEST REPORT
No. C001/02-S3-24/02-R0

**ELECTRICAL TESTS ON MV SINGLE PIECE OUTDOOR
TERMINATION**

Project Number

GPL-24/02-01-C001/02

Prepared for

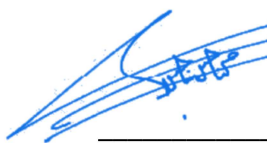
ELSEWEDY ELECTRIC INDUSTRIAL LTD – KSA

Purchase Order: PO # 24_000005

Issue Date

2024-Jul-17

Prepared by:
Nasser Abu Sittah



Stamp: GCC LAB GEPL C.R. 2050124755

Jul. 17th, 2024
Signature & Date
Testing Lab Engineer

GEPL

Reviewed by:
Rayan Dessuky



Stamp: JUL. 17th 2024

JUL. 17th 2024
Signature & Date
Technical Lab Manager

GEPL

Approved by:
Nasser Al-Qahtani



Jul. 17th, 2024
Signature & Date
General Manager

GEPL

TEST REPORT
No. C001/02-S1-24/02-RR

**ELECTRICAL TESTS ON MV SCREENED DEADBREAK SEPARABLE
CONNECTOR ELBOW, INTERFACE TYPE C**

Project Number

GPL-24/02-01-C001/02R00

Prepared for

Elsewedy Electric Cable Accessories – KSA

Purchase Order: PO # 24_000005

Issue Date

2024-Jun-03

Prepared by:
Nasser Abu Sittah



Reviewed by:
Rayan Dessuky

Approved by:
Omar Al-Ghamdi

Jun. 3rd, 2024

Signature & Date
Testing Lab Engineer

GEPL

Jun. 3rd, 2024

Signature & Date
Technical Lab Manager

GEPL

Jun. 3rd, 2024

Signature & Date
General Manager (A)

GEPL

TEST REPORT

No. C001/04-S1-24/45-R0

ELECTRICAL TYPE TESTS ON LV HEATSHRINK TERMINATION AND JOINT FOR CABLE 4X300 MM2, 0.6/1.0 (1.2) KV IN ACCORDANCE WITH BS EN 50393

Project Number

GPL-24/45-01-C001/04

Prepared for

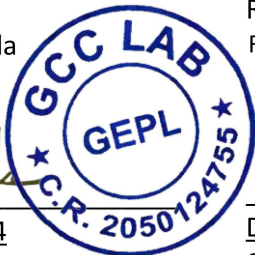
ELSEWEDY ELECTRIC INDUSTRIAL LTD - KSA

Purchase Order: PO # 24_000371

Issue Date

2024-Dec-18

Prepared by:
Mohamed Foda



Dec. 18th, 2024
Signature & Date
Testing Lab Engineer
GEPL

Reviewed by:
Rayan Dessuky



Dec. 18th, 2024
Signature & Date
Technical Lab Manager
GEPL

Approved by:
Nasser Al-Qahtani



Dec. 18th, 2024
Signature & Date
General Manager
GEPL

TEST REPORT

REPORT No. (340/2023)

▪ **CLIENT:** EGYPTIAN COMPANY FOR ADVANCED INDUSTRIES (ELSEWEDY SEDCO)
SUBSIDIARY OF ELSEWEDY ELECTRIC .

Plot No. (35 & 36A) - South (A1) - Industrial Zoon - 10th of Ramadan.

▪ **Report Date:** 22/8/2023

▪ **Place:**

- Extra High Voltage Research Center Laboratories.
- Internal code : TO - AC - 23 - 08 - 01- 02

▪ **Requirements:**

- Type tests for LV heat shrinkable joint and terminations according to EDMS (14 -300 -1).

▪ **Standard Specification:**

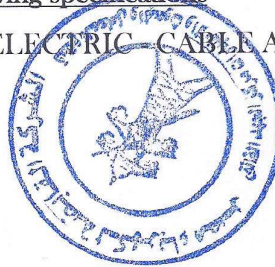
- IEC(60502-1)/(2021) : Power Cables with Extruded Insulation and their Accessories for rated Voltages from 1 kV ($U_m = 1.2$ kV) up to 30 kV ($U_m=36$ kV)
Part 1: Cables for Rated Voltage of 1 kV ($U_m=1.2$ kV) and 3 kV ($U_m=3.6$ kV)
- EDMS (14-300-1)/(2022): Technical specifications for low voltage heat shrinkable cable joints 0.6/1(1.2) kV.
- IEC (60228)/(2004) : Conductors of insulated cables.
- ASTM D(573) : Standard test method for rubber - Determination in an air .
- ASTM D(792) : Standard test method for Density and specific gravity (Relative Density) of plastics by Displacement .
- ISO (527-2) : Plastics - Determination of tensile properties.
- ASTM D (2240) : Standard test method for rubber property - Durometer Hardness.

▪ **Description of Specimen:**

- The test loop consists of heat shrinkable low voltage joint and low voltage terminations installed on Aluminum power cable AL/XLPE, (0.6/1/1.2) kV, $3 \times 70 + 35$ mm², the specifications of the test object as follow:

• **(0.6/1/1.2) kV heat shrinkable joint with the following specifications**

- Manufacturer : ELSEWEDY ELECTRIC CABLE ACCESSORIES.
- Type : SHSJ-4C.
- Cross Section Area of Cable : $3 \times 70 + 35$ mm².
- Voltage Class : 0.6/1(1.2) kV.
- Connector type : Aluminum.
- Number of cores : 4 Cores.



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M. Sobry

M. Khairy

• (0.6/1/1.2) kV heat shrinkable termination with the following specifications

- Manufacturer : ELSEWEDY ELECTRIC - CABLE ACCESSORIES.
- Type : SHST-4C.
- Cross Section Area of Cable: $3 \times 70 + 35 \text{ mm}^2$.
- Voltage Class : 0.6/1(1.2) kV.
- Lug type : Aluminum.
- Number of cores : 4 Cores.

- Specimen Receipt Date: 01/08 /2023

▪ Test Sample:

- Test samples were chosen under the responsibility of the client

▪ Description of Testing Equipment:

- Two voltage transformers - Type: UZGT10 - Serial No. (929130/65) and (925007/65).
- Insulation resistance meter (MEGGAR) - Type: (MIC-10K1) - Calibration certificate No. (4769/23C009/12/117/2023).
- Oven up to (300 °C) - Type: (BINDER) - Serial No.: (02-32772) - Calibration certificate No.: (6059/32C010/249/1348/2023).
- Testing machine (100) kN - Type: (LLOYED) - Model: (LK100 PLUS) - Calibration certificate No.: (6059/14C002/60/597/2023).

▪ Tests:

1- Type Tests

- 1-1 Insulation resistance at ambient temperature.
- 1-2 AC withstand voltage test.
- 1-3 Impulse withstand voltage test.
- 1-4 DC withstand voltage test.
- 1-5 Electrical resistance of connector (crimped on the cable).

2- Physical Type Tests:

- 2-1 Density test.
- 2-2 Tensile strength test.
- 2-3 Ultimate elongation test.
- 2-4 Shore hardness (D) test.

3- Thermal Ageing Type Tests:

- 3-1 Tensile strength test.
- 3-2 Ultimate elongation test.
- 3-3 Percentage change of tensile strength test.
- 3-4 Percentage change of ultimate elongation test.
- 3-5 Loss of mass test.



Eldehaky

M. Sabry

M. Elhany

REPORT OF PERFORMANCE

Test object Premolded joint for 18/30 (36) kV 3x400 mm² Al XLPE insulated power cable

Report No.
103151304-25

Revision 0

Designation 3C - 36 kV - SSJ

Serial No. Not applicable



18/30 (36) kV – 3 x 400 mm² – Al – XLPE

Manufacturer Elsewedy Electric Industrial Co. Ltd. - KSA,
Al Dirah, 2nd Industrial City, Riyadh, KSA
(location as declared by the manufacturer)

Client Elsewedy Electric Industrial Co. Ltd. - KSA,
Al Dirah, 2nd Industrial City, Riyadh, KSA

Date(s) of tests 18 April 2024, 30 September to 7 October 2024

Tested by KEMA B.V. ("KEMA Labs"),
Klingelbeekseweg 195, Arnhem, The Netherlands

Test specification The tests have been carried out in accordance with IEC 60502-4:2023 table 10, test sequences 2.3.

Conclusion The object has complied with the relevant requirements of the standard.

This report applies only to the individual object tested. KEMA Labs makes no representations or warranties with respect to any device other than the object tested. It is the responsibility of the applicable device manufacturer to ensure that any other devices or units having the same name and descriptions as the test object are identical.

This report comprises 51 pages in total.



KEMA B.V.

Bas Verhoeven
Director, High-Voltage
Laboratory

Arnhem, January 29, 2025



REPORT OF PERFORMANCE

Test object Screened deadbreak bolted-type separable connector elbow
(interface type C) 630 A – T shape unsymmetrical

Report No.
103151303-25

Revision 0

Designation 3C - ET2

Serial No. Not applicable



18/30 (36) kV – 3 x 400 mm² – Al – XLPE

Manufacturer Elsewedy Electric Industrial Co. Ltd. - KSA,
Al Dirah, 2nd Industrial City, Riyadh, KSA
(location as declared by the manufacturer)

Client Elsewedy Electric Industrial Co. Ltd. - KSA,
Al Dirah, 2nd Industrial City, Riyadh, KSA

Date(s) of tests 30 September to 7 October 2024

Tested by KEMA B.V. ("KEMA Labs"),
Klingelbeekseweg 195, Arnhem, The Netherlands

Test specification The tests have been carried out in accordance with IEC 60502-4:2023, table 12,
test sequences 4.3.

Conclusion The object has complied with the relevant requirements of the standard.

This report applies only to the individual object tested. KEMA Labs makes no representations or warranties with respect to any device other than the object tested. It is the responsibility of the applicable device manufacturer to ensure that any other devices or units having the same name and descriptions as the test object are identical.

This report comprises 68 pages in total.



KEMA B.V.

Bas Verhoeven
Director, High-Voltage
Laboratory

Arnhem, February 4, 2025



REPORT OF PERFORMANCE

Test object Single piece indoor termination for 18/30 (36) kV –
3x400 mm² Al power cable

Designation 3C 36 ST - I **Serial No.** Not applicable

18/30 (36) kV – 3 x 400 mm² – Al – XLPE

Report No.
703018901-24

Revision 0



Manufacturer Elsewedy Electric Industrial Co. Ltd. - KSA,
Al Dirah, 2nd Industrial City, Riyadh, KSA
(location as declared by the manufacturer)

Client Elsewedy Electric Industrial Co. Ltd. - KSA,
Al Dirah, 2nd Industrial City, Riyadh, KSA

Date(s) of tests 8 April to 17 July 2024

Tested by KEMA B.V. ("KEMA Labs"),
Klingelbeekseweg 195, Arnhem, The Netherlands

Test specification The tests have been carried out in accordance with IEC 60502-4:2023.

Conclusion The object has complied with the relevant requirements of the standard.

This report applies only to the individual object tested. KEMA Labs makes no representations or warranties with respect to any device other than the object tested. It is the responsibility of the applicable device manufacturer to ensure that any other devices or units having the same name and descriptions as the test object are identical.

This report comprises 62 pages in total.



KEMA B.V.


Bas Verhoeven
Director, High-Voltage
Laboratory

Arnhem, November 13, 2024



REPORT OF PERFORMANCE

Test object Single piece outdoor termination for 18/30 (36) kV
3x400 mm² Al power cable

Designation 3C-36 ST - O **Serial No.** Not applicable

18/30 (36) kV – 3 x 400 mm² – Al – XLPE

Report No.
702610601-24

Revision 0



Manufacturer Elsewedy Electric Industrial Co. Ltd. - KSA,
Al Dirah, 2nd Industrial City, Riyadh, KSA
(location as declared by the manufacturer)

Client Elsewedy Electric Industrial Co. Ltd. - KSA,
Al Dirah, 2nd Industrial City, Riyadh, KSA

Date(s) of tests April 11 to July 17, 2024

Tested by KEMA B.V. ("KEMA Labs"),
Klingelbeekseweg 195, Arnhem, The Netherlands

Test specification The tests have been carried out in accordance with IEC 60502-4:2023.

Conclusion The object has complied with the relevant requirements of the standard.

This report applies only to the individual object tested. KEMA Labs makes no representations or warranties with respect to any device other than the object tested. It is the responsibility of the applicable device manufacturer to ensure that any other devices or units having the same name and descriptions as the test object are identical.

This report comprises 54 pages in total.



KEMA B.V.


Bas Verhoeven
Director, High-Voltage
Laboratory

Arnhem, October 29, 2024



TEST REPORT

Test object Premolded joint for 8,7/15 kV 3x500 mm² Al, XLPE insulated power cable

Designation 3C – 17.5 SSJ

Serial No. Not applicable

8,7/15 (17,5) kV – 3 x 500 mm² – Al – XLPE

Report No.

1109-24

Revision 0



Manufacturer Elsewedy Electric Industrial Co. Ltd. - KSA,
Al Dirah, 2nd Industrial City, Riyadh, KSA

Client Elsewedy Electric Industrial Co. Ltd. - KSA,
Al Dirah, 2nd Industrial City, Riyadh, KSA

Date(s) of tests 8 to 19 April 2024

Tested by KEMA B.V. ("KEMA Labs"),
Klingelbeekseweg 195, Arnhem, The Netherlands

Test specification The tests have been carried out in accordance with the client's instructions, see chapter 3 'Tests carried out'. The tests were based on IEC 60502-4:2023.

This report applies only to the individual object tested. KEMA Labs makes no representations or warranties with respect to any device other than the object tested. It is the responsibility of the applicable device manufacturer to ensure that any other devices or units having the same name and descriptions as the test object are identical.

This report comprises 63 pages in total.

Issued by KEMA B.V.

Hannes Vitzthum
Director a.i.,
High Voltage Labs

Arnhem, September 11, 2024



TEST REPORT

Test object Screened deadbreak bolted-type seperable connector elbow for 8,7/15 kV 3x500 mm² Al up to 630 A, unsymmetrical, XLPE insulated power cable

Report No.
102734201-25

Revision 0

Designation 3C-ETC2

Serial No. Not applicable

8,7/15 (17,5) kV – 3 x 500 mm² – Al – XLPE



Manufacturer Elsewedy Electric Industrial Co. Ltd. - KSA,
Al Dirah, 2nd Industrial City, Riyadh, KSA

Client Elsewedy Electric Industrial Co. Ltd. - KSA,
Al Dirah, 2nd Industrial City, Riyadh, KSA

Date(s) of tests 30 September to 8 October 2024

Tested by KEMA B.V. ("KEMA Labs"),
Klingelbeekseweg 195, Arnhem, The Netherlands

Test specification The tests have been carried out in accordance with the client's instructions, see chapter 3 'Tests carried out'. The tests were based on IEC 60502-4:2023 and IEC 61442:2023.

This report applies only to the individual object tested. KEMA Labs makes no representations or warranties with respect to any device other than the object tested. It is the responsibility of the applicable device manufacturer to ensure that any other devices or units having the same name and descriptions as the test object are identical.

This report comprises 68 pages in total.

Issued by KEMA B.V.


Bas Verhoeven
Director,
High Voltage Labs

Arnhem, January 29, 2025



Test Report

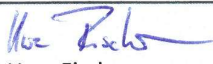
Document No.	03259-23-0012	Copy No.	1	Number of pages	57
Apparatus	Screened bolted-type separable cable connector (Interface type C) 630 A for three-core power cables with extruded insulation with rated voltage 8.7/15 (17.5) kV				
Designation	3C – ETC screened separable connector				
Serial Number	1 test sample (3 core) + 5 test samples (1 core)				
Manufacturer	Elastimold Egypt / Elsewedy SEDCO - subsidiaries of Elsewedy Electric Industrial Region 10th of Ramadan City, EGYPT				
Client	Egyptian Company for Advanced Industries Elsewedy SEDCO Plot No. 27, 1st District, 5th Settlement P.O. Box 311, New Cairo 11835, EGYPT				
Date(s) of test(s)	10 October 2022 to 18 January 2023				
Tested by	IPH Institut „Prüffeld für elektrische Hochleistungstechnik“ GmbH Landsberger Allee 378A 12681 Berlin GERMANY				
Test(s) performed	Test sequences 4.3 & additional test No. 16, 17, 18 & 20 according to table 8 of document IEC 60502-4: 2010-12				

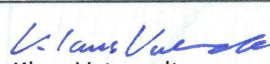
The apparatus, constructed in accordance with the description, drawings and photographs incorporated in this document has been subjected to the series of proving tests in accordance with:

According to client's specification and in reference to
IEC 60502-4: 2010-12
IEC 61442: 2005-03

The results are documented in this test report. The ratings assigned by the Manufacturer are listed on the ratings page. The document applies only to the apparatus tested. The responsibility for conformity of any apparatus having the same designations with that tested rests with the Manufacturer.

14 February 2023


Uwe Fischer
Test Engineer in charge


Klaus Vaterrodt
Approved by

Date

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Deutsche
Akkreditierungsstelle
D-PL-12107-01-00

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CESI

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TEST REPORT

Test object Indoor termination for 8,7/15 kV 3x500 mm² Al, XLPE insulated power cable

Designation 3C – 17.5 ST - I **Serial No.** Not applicable

8,7/15 (17,5) kV – 3 x 500 mm² – Al – XLPE

Report No.

1110-24

Revision 0



Manufacturer Elsewedy Electric Industrial Co. Ltd. - KSA, Al Dirah, 2nd Industrial City, Riyadh, KSA

Client Elsewedy Electric Industrial Co. Ltd. - KSA, Al Dirah, 2nd Industrial City, Riyadh, KSA

Date(s) of tests 8 to 19 April 2024

Tested by KEMA B.V. ("KEMA Labs"), Klingelbeekseweg 195, Arnhem, The Netherlands

Test specification The tests have been carried out in accordance with the client's instructions, see chapter 3 'Tests carried out'. The tests were based on IEC 60502-4:2023.

This report applies only to the individual object tested. KEMA Labs makes no representations or warranties with respect to any device other than the object tested. It is the responsibility of the applicable device manufacturer to ensure that any other devices or units having the same name and descriptions as the test object are identical.

This report comprises 74 pages in total.

Issued by KEMA B.V.

Hannes Vitzthum
Director a.i.,
High Voltage Labs

Arnhem, September 11, 2024



TEST REPORT

Test object Outdoor termination for 8,7/15 (17,5) kV 3x500 mm² Al, XLPE insulated power cable

Report No.
102734202-25

Revision 0

Designation 3C – 17.5 ST - O **Serial No.** Not applicable

8,7/15 (17,5) kV – 3 x 500 mm² – Al – XLPE



Manufacturer Elsewedy Electric Industrial Co. Ltd. - KSA,
Al Dirah, 2nd Industrial City, Riyadh, KSA

Client Elsewedy Electric Industrial Co. Ltd. - KSA,
Al Dirah, 2nd Industrial City, Riyadh, KSA

Date(s) of tests 30 September to 8 October 2024

Tested by KEMA B.V. ("KEMA Labs"),
Klingelbeekseweg 195, Arnhem, The Netherlands

Test specification The tests have been carried out in accordance with the client's instructions, see chapter 3 'Tests carried out'. The tests were based on IEC 60502-4:2023 and IEC 61442:2023.

This report applies only to the individual object tested. KEMA Labs makes no representations or warranties with respect to any device other than the object tested. It is the responsibility of the applicable device manufacturer to ensure that any other devices or units having the same name and descriptions as the test object are identical.

This report comprises 54 pages in total.

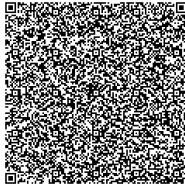
Issued by KEMA B.V.


Bas Verhoeven
Director,
High Voltage Labs

Arnhem, January 29, 2025



INSPECTION REPORT

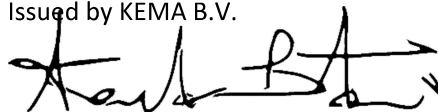
Test object	Power cable system consisting of single-core power cable, 4 terminations and 2 joints, and 1 separate joint	Report No. 702048101-24 Revision 0
Designation	Cable type 38/66 (72,5) kV, 1x1200mm ² Cu/XLPE/LEAD/HDPE Porcelain termination type SEPT-72 Premolded straight joint type 69TCJN Premolded isolated joint type 69TCJS Premolded termination type 69TCT Dry-type termination type CONNEX size 6/6-S GIS switchgear termination type ESG72-H	
Manufacturer(s)	Cable RIYADH CABLES GROUP, New Industrial Estate, Lane 4 Al Kharj Road, 2nd Industrial Area, Riyadh - Saudi Arabia (Location as declared by manufacturer) Accessories See section 1.1.3 Characteristics of the accessories	
Client	Riyadh Cables Group, New Industrial Estate, Lane 4 Al Kharj Road, 2nd Industrial Area, Riyadh - Saudi Arabia	
Date(s) of tests	February 5 to June 26, 2024	
Inspected by	KEMA B.V. ("KEMA Labs"), Klingelbeekseweg 195, Arnhem, The Netherlands	
Test location	Riyadh Cables Group, New Industrial Estate, Lane 4 Al Kharj Road, 2nd Industrial Area, Riyadh - Saudi Arabia	
Test specification	The tests were in accordance with IEC 60840:2023, clause 12 (Type tests on cable systems); subclauses 12.3 (Summary of type tests), 12.4 (Electrical type tests on cable systems), and 12.5 (Non-electrical type tests on cable components and on complete cable).	
Regarding	Type Tests	
Summary and conclusion	The object passed the tests.	

This report applies only to the individual object tested. KEMA Labs makes no representations or warranties with respect to any device other than the object tested. It is the responsibility of the applicable device manufacturer to ensure that any other devices or units having the same name and descriptions as the test object are identical.

This report comprises 195 pages in total.

TYPE I

Issued by KEMA B.V.



Alessandro Bertani
Director,
Services & Smart Technologies

Arnhem, August 26, 2024



TEST REPORT

Test report number: 058425

Total number of pages: 50

Test item: 17.5 kV Indoor Single piece Termination for cable
3*240mm², 17.5 kV

Type / Model: ST-17.5kV

Manufacturer: Elsewedy Electric Industrial Limited
Al Dirah-2nd industrial City
Riyadh -KSA

Customer: Elsewedy Electric Industrial Limited
Al Dirah-2nd industrial City
Riyadh -KSA

Brand name: Elsewedy Electric Cable Accessories

Tests performed: Type tests

Normative documents: IEC 60502-4:2023
Test methods according to IEC 61442:2023

Date of test: 2025-06-23 to 2025-09-22

Conclusion: The test results satisfied the requirements of the
normative documents in the clauses referred to in the
test results using the decision rules in accordance with
ILAC G8_09:2019 clause 4.2.1.

Date of issue: 2025-10-09

Reviewed and verified by:
Ivan Novko, M.Sc.E.E.
Daniel Klobučar, M.E.E.

Approved by:
Dalibor Filipović-Grčić, Ph.D.



The test results apply only to the item tested.

The laboratory is not responsible for the accuracy of the information provided by the customer. When the customer requires the item to be tested acknowledging a deviation from specified conditions, the laboratory will not be responsible for results which may be affected by the deviation.

This test report shall not be reproduced except in full, without the written approval of KONČAR - Electrical Engineering Institute Ltd.

KONČAR - Electrical Engineering Institute Ltd., Fallerovo šetalište 22, 10000 Zagreb, Croatia, www.koncar-institut.hr
Phone: 385 1 3667 315, 3666 351, Fax: 385 1 3667 309, e-mail: info@koncar-institut.hr • lab@koncar-institut.hr

TEST REPORT

Test report number: 058325

Total number of pages: 52

Test item: 17.5 kV Indoor Heat Shrink Termination for cable
3*240mm², 17.5 kV

Type / Model: HST-3C-15kV

Manufacturer: Egyptian Company For Advanced Industries
Elsewedy Sedco

10th of Ramadan City
Industrial zone, Egypt

Customer: Egyptian Company For Advanced Industries
Elsewedy Sedco

10th of Ramadan City
Industrial zone, Egypt

Brand name: Elsewedy Electric Cable Accessories

Tests performed: Type tests

Normative documents: IEC 60502-4:2023
Test methods according to IEC 61442:2023

Date of test: 2025-06-23 to 2025-09-08

Conclusion: The test results satisfied the requirements of the
normative documents in the clauses referred to in the
test results using the decision rules in accordance with
ILAC G8_09:2019 clause 4.2.1.

Date of issue: 2025-10-09

Reviewed and verified by:
Ivan Novko, M.Sc.E.E.
Daniel Klobučar, M.E.E.



Approved by:
Dalibor Filipović-Grčić, Ph.D.

DALIBOR
FILIPOVIĆ-GRČIĆ

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DALIBOR FILIPOVIĆ-GRČIĆ
Date: 2025.11.27 11:35:06
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The test results apply only to the item tested.

The laboratory is not responsible for the accuracy of the information provided by the customer. When the customer requires the item to be tested acknowledging a deviation from specified conditions, the laboratory will not be responsible for results which may be affected by the deviation.

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TEST REPORT

Test report number: 062225

Total number of pages: 54

Test item: 17.5 kV Heat Shrink Joint for cable 3*240mm², 17.5 kV

Type / Model: SHSJ

Manufacturer: Egyptian Company For Advanced Industries
Elsewedy Sedco

10th of Ramadan City
Industrial zone, Egypt

Customer: Egyptian Company For Advanced Industries
Elsewedy Sedco

10th of Ramadan City
Industrial zone, Egypt

Brand name: Elsewedy Electric Cable Accessories

Tests performed: Type test

Normative documents: IEC 60502-4:2023, table 10, sequence 2.1 & 2.3 per customer request

Date of test: 2025-06-23 to 2025-07-22

Conclusion: The test results satisfied the requirements of the normative documents, using the decision rules in accordance with ILAC G8_09:2019 clause 4.2.1.

Date of issue: 2025-10-17

Reviewed and verified by:

Ivan Novko, M.Sc.E.E.

Daniel Klobučar, M.E.E.

Approved by:

Dalibor Filipović-Grčić, Ph.D.



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The test results apply only to the item tested.

The laboratory is not responsible for the accuracy of the information provided by the customer. When the customer requires the item to be tested acknowledging a deviation from specified conditions, the laboratory will not be responsible for results which may be affected by the deviation.

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Test Report

Document No.	03259-23-0012	Copy No.	1	Number of pages	57
Apparatus	Screened bolted-type separable cable connector (Interface type C) 630 A for three-core power cables with extruded insulation with rated voltage 8.7/15 (17.5) kV				
Designation	3C – ETC screened separable connector				
Serial Number	1 test sample (3 core) + 5 test samples (1 core)				
Manufacturer	Elastimold Egypt / Elsewedy SEDCO - subsidiaries of Elsewedy Electric Industrial Region 10th of Ramadan City, EGYPT				
Client	Egyptian Company for Advanced Industries Elsewedy SEDCO Plot No. 27, 1st District, 5th Settlement P.O. Box 311, New Cairo 11835, EGYPT				
Date(s) of test(s)	10 October 2022 to 18 January 2023				
Tested by	IPH Institut „Prüffeld für elektrische Hochleistungstechnik“ GmbH Landsberger Allee 378A 12681 Berlin GERMANY				
Test(s) performed	Test sequences 4.3 & additional test No. 16, 17, 18 & 20 according to table 8 of document IEC 60502-4: 2010-12				

The apparatus, constructed in accordance with the description, drawings and photographs incorporated in this document has been subjected to the series of proving tests in accordance with:

According to client's specification and in reference to
IEC 60502-4: 2010-12
IEC 61442: 2005-03

The results are documented in this test report. The ratings assigned by the Manufacturer are listed on the ratings page. The document applies only to the apparatus tested. The responsibility for conformity of any apparatus having the same designations with that tested rests with the Manufacturer.

14 February 2023


Uwe Fischer
Test Engineer in charge


Klaus Vaterrodt
Approved by

Date

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Test Report

Document No.	02971-22-0439	Copy No.	1	Number of pages	62
Apparatus	Straight joint for three-core power cables with extruded insulation with rated voltage 8.7/15 (17.5) kV				
Designation	3C – 17.5SJ				
Serial Number	4 test samples				
Manufacturer	Elastimold Egypt / Elsewedy SEDCO - subsidiaries of Elsewedy Electric Industrial Region 10th of Ramadan City, EGYPT				
Client	Egyptian Company for Advanced Industries Elsewedy SEDCO Plot No. 27, 1st District, 5th Settlement P.O. Box 311, New Cairo 11835, EGYPT				
Date(s) of test(s)	11 May 2022 to 16 September 2022				
Tested by	IPH Institut „Prüffeld für elektrische Hochleistungstechnik“ GmbH Landsberger Allee 378A 12681 Berlin GERMANY				
Test(s) performed	Test sequences 2.1; 2.2 & 2.3 according to table 6 of document IEC 60502-4: 2010-12				

The apparatus, constructed in accordance with the description, drawings and photographs incorporated in this document has been subjected to the series of proving tests in accordance with:

According to client's specification and based on
IEC 60502-4: 2010-12
IEC 61442: 2005-03

The results are documented in this test report. The ratings assigned by the Manufacturer are listed on the ratings page.
The document applies only to the apparatus tested. The responsibility for conformity of any apparatus having the same designations with that tested rests with the Manufacturer.

14 November 2022



Uwe Fischer
Test Engineer in charge



Klaus Vaterrodt
Approved by

Date

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测思 CENTRO ELETTROTECNICO SPERIMENTALE ITALIANO



CESI

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Test Report

Document No.	14136-21-0260	Copy No.	1	Number of pages	44
Apparatus	Single-core premolded straight joint for 500 mm ² CU polymeric power cable with a rated voltage of 19/33 (36) kV				
Designation	36 PCJ				
Serial Number	6 test samples				
Manufacturer	Elastimold Egypt / Elsewedy SEDCO - Subsidiaries of Elsewedy Electric Industrial Region 10th of Ramadan City, EGYPT				
Client	Egyptian Company for Advanced Industries Elsewedy SEDCO Plot No. 27, 1st District, 5th Settlement P.O. Box 311, New Cairo 11835, EGYPT				
Date(s) of test(s)	20 April to 07 May 2021				
Tested by	IPH Institut „Prüffeld für elektrische Hochleistungstechnik“ GmbH Landsberger Allee 378A 12681 Berlin, GERMANY				
	IPH GmbH is one of KEMA Labs, a CESI brand				
Test(s) performed	Table 6 - Test sequence 2.2: Thermal short circuit screen and conductor - Test sequence 2.3: Thermal short circuit screen and conductor, and dynamic short circuit				

The apparatus, constructed in accordance with the description, drawings and photographs incorporated in this document has been subjected to the series of proving tests in accordance with:

IEC 60502-4: 2010-12
IEC 61442: 2005-03
and client's instructions

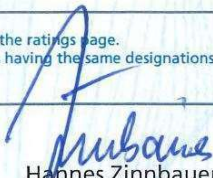
The test objects meet the requirements defined in the specified normative document.

The results are documented in this test report. The ratings assigned by the Manufacturer are listed on the ratings page.
The document applies only to the apparatus tested. The responsibility for conformity of any apparatus having the same designations with that tested rests with the Manufacturer.

07 June 2021

Date


Sai Charan Gedela
Test Engineer in charge


Hannes Zinnbauer
Approved by

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CESI

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Test Report

Document No.	00276-21-0500	Copy No.	1	Number of pages	61
Apparatus	Screened deadbreak separable connector for three-core polymeric power cable with a rated voltage of 18/30 (36) kV				
Designation	Deadbreak separable connector T-Shape, model no. 455				
Serial Number	5 test samples (1 Loop for SC tests, 1 Loop for Dynamic SC tests, 3 Loops for fault initiation tests)				
Manufacturer	Elastimold Egypt / Elsewedy SEDCO - Subsidiaries of Elsewedy Electric Industrial Region 10th of Ramadan City, EGYPT				
Client	Egyptian Company for Advanced Industries Elsewedy SEDCO Plot No. 27, 1st District, 5th Settlement P.O. Box 311, New Cairo 11835, EGYPT				
Date(s) of test(s)	22 September to 04 October 2021				
Tested by	IPH Institut „Prüffeld für elektrische Hochleistungstechnik“ GmbH Landsberger Allee 378A 12681 Berlin, GERMANY				
	IPH GmbH is one of KEMA Labs, a CESI brand				
Test(s) performed	According to client's instructions in reference to IEC 60502-4, Test sequences of table 8, sequences 4.2, 4.3 and special Test No. 18: - Test sequence 4.2: Thermal short circuit screen and conductor, and - Test sequence 4.3: Dynamic short circuit - Test No. 18: Fault current initiation test				

The apparatus, constructed in accordance with the description, drawings and photographs incorporated in this document has been subjected to the series of proving tests in accordance with:

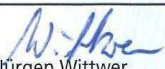
IEC 60502-4: 2010-12
IEC 61442: 2005-03
and client's instructions

The test objects meet the requirements defined in the specified normative document.

The results are documented in this test report. The ratings assigned by the Manufacturer are listed on the ratings page.
The document applies only to the apparatus tested. The responsibility for conformity of any apparatus having the same designations with that tested rests with the Manufacturer.

04 November 2021

Date


Jürgen Wittwer
Test Engineer in charge


Hannes Zinnbauer
Approved by

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Test Report

Document No.	13885-21-0279	Copy No.	1	Number of pages	57
Apparatus	Three-core premolded indoor and outdoor terminations for 400 mm ² AL polymeric power cable with a rated voltage of 18/30 (36) kV				
Designation	Indoor termination 36 MTGI Outdoor termination 36 MTGO				
Serial Number	2 test loops, each consisting 1 indoor and outdoor terminations 1 test loop with 2 indoor terminations 1 test loop with 2 outdoor terminations				
Manufacturer	Elastimold Egypt / Elsewedy SEDCO - Subsidiaries of Elsewedy Electric Industrial Region 10th of Ramadan City, EGYPT				
Client	Egyptian Company for Advanced Industries Elsewedy SEDCO Plot No. 27, 1st District, 5th Settlement P.O. Box 311, New Cairo 11835, EGYPT				
Date(s) of test(s)	31 March to 28 May 2021				
Tested by	IPH Institut „Prüffeld für elektrische Hochleistungstechnik“ GmbH Landsberger Allee 378A 12681 Berlin, GERMANY IPH GmbH is one of KEMA Labs, a CESI brand				
Test(s) performed	Table 5 - Test sequence 1.2: Thermal short circuit screen and conductor - Test sequence 1.3: Thermal short circuit screen and conductor, and dynamic short circuit - Test sequence 1.4: Humidity - Test sequence 1.5: Salt fog				

The apparatus, constructed in accordance with the description, drawings and photographs incorporated in this document has been subjected to the series of proving tests in accordance with:

IEC 60502-4: 2010-12
IEC 61442: 2005-03
and client's instructions

The test objects meet the requirements defined in the specified normative document.

The results are documented in this test report. The ratings assigned by the Manufacturer are listed on the rating page.
The document applies only to the apparatus tested. The responsibility for conformity of any apparatus having the same designations with that tested rests with the Manufacturer.

07 June 2021

Date



Sai Charan Gedela
Test Engineer in charge



Hannes Zinnbauer
Approved by

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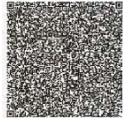


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Trust the Power of Experience

IPH test report for test report for 3C - 400 mm² - 18/30 (36) KV - Indoor and Outdoor
premolded Termination

5. Accreditation

5.2 Product Approvals



Test Report

Document No.	14136-21-0260-1	Copy No.	1	Number of pages	44
Apparatus	Single-core premolded straight joint for 500 mm ² CU polymeric power cable with a rated voltage of 19/33 (36) kV				
Designation	36 PCJ				
Serial Number	6 test samples				
Manufacturer	Elastimold Egypt / Elsewedy SEDCO - Subsidiaries of Elsewedy Electric Industrial Region 10th of Ramadan City, EGYPT				
Client	Egyptian Company for Advanced Industries Elsewedy SEDCO Plot No. 27, 1st District, 5th Settlement P.O. Box 311, New Cairo 11835, EGYPT				
Date(s) of test(s)	20 April to 07 May 2021				
Tested by	IPH Institut „Prüffeld für elektrische Hochleistungstechnik“ GmbH Landsberger Allee 378A 12681 Berlin, GERMANY IPH GmbH is one of KEMA Labs, a CESI brand				
Test(s) performed	Table 6 - Test sequence 2.2: Thermal short circuit screen and conductor - Test sequence 2.3: Thermal short circuit screen and conductor, and dynamic short circuit				

The apparatus, constructed in accordance with the description, drawings and photographs incorporated in this document has been subjected to the series of proving tests in accordance with:

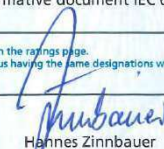
IEC 60502-4: 2010-12
IEC 61442: 2005-03
and client's instructions

The test objects meet the requirements defined in the specified normative document IEC 60502-4 and the client's instructions according to the performed tests.

The results are documented in this test report. The ratings assigned by the Manufacturer are listed on the ratings page. The document applies only to the apparatus tested. The responsibility for conformity of any apparatus having the same designations with that tested rests with the Manufacturer.

12 July 2021


Jörgen Wittwer
 Test Engineer in charge


Hannes Zinnbauer
 Approved by

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Trust the Power of Experience

IPH test report for test report for 1C - 500 mm² - 19/33 (36) KV Premolded straight joint

5. Accreditation

5.2 Product Approvals



Test Report

Document No.	14136-21-0261	Copy No.	1	Number of pages	45
Apparatus	Single-core premolded indoor and outdoor terminations for 500 mm ² CU polymeric power cable with a rated voltage of 19/33 (36) kV				
Designation	Indoor termination 36 MTGI Outdoor termination 36 MTGO				
Serial Number	6 test loops, each consisting of 1 indoor and outdoor terminations				
Manufacturer	Elastimold Egypt / Elsewedy SEDCO - Subsidiaries of Elsewedy Electric Industrial Region 10th of Ramadan City, EGYPT				
Client	Egyptian Company for Advanced Industries Elsewedy SEDCO Plot No. 27, 1st District, 5th Settlement P.O. Box 311, New Cairo 11835, EGYPT				
Date(s) of test(s)	20 April to 07 May 2021				
Tested by	IPH Institut „Prüffeld für elektrische Hochleistungstechnik“ GmbH Landsberger Allee 378A 12681 Berlin, GERMANY IPH GmbH is one of KEMA Labs, a CESI brand				
Test(s) performed	Table 5 - Test sequence 1.2: Thermal short circuit screen and conductor - Test sequence 1.3: Thermal short circuit screen and conductor, and dynamic short circuit				

The apparatus, constructed in accordance with the description, drawings and photographs incorporated in this document has been subjected to the series of proving tests in accordance with:

IEC 60502-4: 2010-12
IEC 61442: 2005-03
and client's instructions

The test objects meet the requirements defined in the specified normative document.

The results are documented in this test report. The ratings assigned by the Manufacturer are listed on the ratings page.
The document applies only to the apparatus tested. The responsibility for conformity of any apparatus having the same designations with that tested rests with the Manufacturer.

07 June 2021

Date

Sai Charan Gedela
Test Engineer in charge

Hannes Zinnbauer
Approved by

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IPH test report for test report for 1C - 500 mm² - 19/33 (36) KV - Indoor and Outdoor premolded termination

5. Accreditation

5.2 Product Approvals



ELASTIMOLD EGYPT

Subsidiary of ELSEWEDY ELECTRIC

Type Test Report

Test Objects:	Premolded cable joint and Terminations
Cable Size:	1core 500 mm ² , CU/XLPE, 36 kV
Test loop configuration	15m of cable, has one joint in the middle, Premolded terminations at both ends, the cable is a non-test object
Voltage Class	19/33 (36 kV)
Installed by	ELASTIMOLD EGYPT / ELSEWEDY SEDCO certified jointers
Manufactured by:	ELASTIMOLD EGYPT – ELSEWEDY SEDCO - Subsidiaries of ELSEWEDY ELECTRIC
Test location:	Elsewedy Cables Egypt Factory Laboratory
Test witnessed by:	BV - Egypt - Dr. Ahmed Mohammed Ahmed Hal
Ref. Standards:	IEC 60502-4, and test method as per IEC 61442

S. NO.	Type of test	Test procedures / method As per IEC 61442	Requirements and Acceptance Criteria	
1	AC withstand voltage	Clause 4	test voltage	81 KV
			test time duration	5 min
			test criteria	no breakdown
2	Partial Discharge test at ambient temperature	Clause 7	test voltage	at 22.5 kv and 30 KV
			test time duration	10 Sec
			test criteria	< 10 pC
3	Impulse voltage test at ambient	Clause 6	test voltage	170 KV
			no. of impulses	10 impulses +ve and 10 impulses -ve
			temperature	ambient temp.
4	Heating Cycle test in air	Clause 9.2 and 9.3	test criteria	no breakdown
			test voltage	45 KV
			no. of cycles	30 cycles
5	Heating Cycle test in water	Clause 9.2 and 9.3	each cycle time	8 hrs. (5hr heating + 3hr cooling)
			test criteria	no breakdown
			test voltage	45 KV
6	Partial Discharge test at ambient temperature	Clause 7	no. of cycles	30 cycles
			each cycle time	8 hrs. (5hr heating + 3hr cooling)
			test criteria	no breakdown
7	Visual examination	-	test voltage	30 KV
			test time duration	10 Sec
			test criteria	< 10 pC
				for information only

Page 1 of 27



Type test witness by BUREAU VEITRAS (BV) 1*500 mm² – 19/33 (36) kV

**ELASTIMOLD EGYPT**

Subsidiary of ELSEWEDY ELECTRIC

Identification of the test object:**1. 36 KV Premolded power cable joint with the following specifications:**

Manufacturer : ELASTIMOLD EGYPT – ELSEWEDY SEDCO
 Subsidiaries of ELSEWEDY ELECTRIC
Type : PCJ 36 KV
Material : EPDM Rubber
Description : Premolded Straight Joint, PCJ 36 kV, 1x500 mm²
Joint connector : Compression tinned copper connector
Year of Manufacturing : 2020

2. 36 KV Premolded power cable Terminations with the following specifications:

Manufacturer : ELASTIMOLD EGYPT – ELSEWEDY SEDCO
 Subsidiaries of ELSEWEDY ELECTRIC
Type : MTG 36 KV
Material : EPDM Rubber
Description : Premolded termination, MTG 36 kV, 1x500 mm²
Termination lug : compression tinned copper lug
Year of Manufacturing : 2020

Present at the test:

Mr. Ahmed Mohamed Ahmed Hal	BV Egypt – 3 rd party inspector
Mr. Sayed Abd Elsattar	ELSEWEDY CABLE
Mr. Ahmed El Arousy	ELSEWEDY CABLE
Mr. Wael Mohamed	ELASTIMOLD EGYPT
Mr. Mohamed Foda	ELASTIMOLD EGYPT
Mr. Ahmed Ebeed	ELASTIMOLD EGYPT
Mr. Ahmed Farag	ELSEWEDY Cables UAE
Ms. Afra Abdalla Alnaqbi	Etihad Water and Electricity
Mr. Abuelgasim Elzaki	Etihad Water and Electricity
Mr. Mubarak Hussain	Scan Electromechanical Cont. Co. L.L.C
Mr. AbuThahir Yousuf	Elsowedy Power Electrical Contracting L.L.C

Page 2 of 27



Test Report

Document No.	02971-22-0437	Copy No.	1	Number of pages	65
Apparatus	Single piece indoor termination for three-core power cables with extruded insulation with rated voltage 8.7/15 (17.5) kV				
Designation	3C – 17.5 ST-I				
Serial Number	4 test samples				
Manufacturer	Elastimold Egypt / Elsewedy SEDCO - subsidiaries of Elsewedy Electric Industrial Region 10th of Ramadan City EGYPT				
Client	Egyptian Company for Advanced Industries Elsewedy SEDCO Plot No. 27, 1st District, 5th Settlement P.O. Box 311, New Cairo 11835 EGYPT				
Date(s) of test(s)	11 May 2022 to 16 September 2022				
Tested by	IPH Institut „Prüffeld für elektrische Hochleistungstechnik“ GmbH Landsberger Allee 378A 12681 Berlin GERMANY				
Test(s) performed	Test sequences 1.1; 1.3 & 1.4 according to table 5 of document IEC 60502-4: 2010-12				

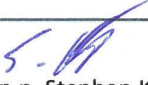
The apparatus, constructed in accordance with the description, drawings and photographs incorporated in this document has been subjected to the series of proving tests in accordance with:

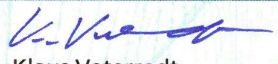
According to client's specification and based on
IEC 60502-4: 2010-12
IEC 61442: 2005-03

The results are documented in this test report. The ratings assigned by the Manufacturer are listed on the ratings page. The document applies only to the apparatus tested. The responsibility for conformity of any apparatus having the same designations with that tested rests with the Manufacturer.

12 December 2022

Date


p.p. Stephan Körber
Test Engineer in charge


Klaus Vaterrodt
Approved by

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CESI

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Type Test Report

Document No.	02971-22-0440-2	Copy No.	1	Number of pages	64
Apparatus	Straight joint for three-core power cables with extruded insulation with rated voltage 8.7/15 (17.5) kV				
Designation	3C – 17.5SSJ				
Serial Number	4 test samples				
Manufacturer	Elastimold Egypt / Elsewedy SEDCO - subsidiaries of Elsewedy Electric Industrial Region 10th of Ramadan City EGYPT				
Client	Egyptian Company for Advanced Industries Elsewedy SEDCO Plot No. 27, 1st District, 5th Settlement P.O. Box 311, New Cairo 11835 EGYPT				
Date(s) of test(s)	11 May 2022 to 16 September 2022				
Tested by	IPH Institut „Prüffeld für elektrische Hochleistungstechnik“ GmbH Landsberger Allee 378A 12681 Berlin GERMANY				
Test(s) performed	Test sequences 2.1; 2.2 & 2.3 according to table 6 of document IEC 60502-4: 2010-12				

The apparatus, constructed in accordance with the description, drawings and photographs incorporated in this document has been subjected to the series of proving tests in accordance with:

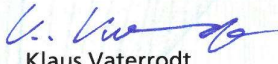
IEC 60502-4: 2010-12
IEC 61442: 2005-03

The results are shown in the record of proving tests and the oscillograms attached hereto. The values obtained and the general performance are considered to comply with the above Standard(s). The ratings assigned by the Manufacturer are listed on the ratings page. The document applies only to the apparatus tested. The responsibility for conformity of any apparatus having the same designations with that tested rests with the Manufacturer.

14 December 2022

Date


p.p. Stephan Körber
Test Engineer in charge


Klaus Vaterrodt
Approved by

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CESI

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TEST REPORT

REPORT No. (256 /2025)

- **CLIENT:** Egyptian Company for Advanced Industries (ELSEWEDY SEDCO) - Subsidiary of ELSEWEDY ELECTRIC
Plot No. 35 & 36 A – South (A1) – Industrial Zone – 10th of Ramadan
- **Report Date:** 07/05/2025.
- **Place:**
 - Extra High Voltage Research Center Laboratories
 - Internal code : TO - AC - 25 - 04 - 13 - 01
- **Requirements:**
 - Additional tests for screened deadbreak separable connectors elbow compliance extension to largest cable cross-section according to IEC 60502-4.
- **Standard Specification:**
 - IEC(60502-4)/(2023): "Power cables with extruded insulation and their accessories for rated voltages from 1.0 kV ($U_m = 1.2$ kV) up to 30 kV ($U_m = 36$ kV)". Part 4: Test requirements on accessories for cables with rated voltages from 6 kV ($U_m = 7.2$ kV) up to 30 kV ($U_m = 36$ kV).
 - IEC(61442)/(2023): "Test method for accessories for power cables with rated voltages from 6 kV ($U_m = 7.2$ kV) up to 30 kV ($U_m = 36$ kV)".
- **Description of specimen:**
 - Screened deadbreak separable connector (T-shape Elbow) installed on a power cable 18/30(36) kV, 3x400 mm² with the following specifications:
 - Manufacturer : Egyptian Company for Advanced Industries (ELSEWEDY SEDCO)
 - Model No. : 455
 - Lug type : Compressed type Elbow lug
 - Material : EPDM Rubber.
 - Rated voltage (U_0/U) : 18/30 kV.
 - Maximum voltage (U_m) : 36 kV
 - Specimens receipt date: 13/4/2025
- **Description of equipment:**
 - High voltage reactor- 400 kV - 5000 kVA - 50 Hz - Type : (KKF 4400-7/OT 257 AC) - Serial No. (454321). Certificate No : (239/23C003/5/194/2024)
 - PD Cibrator - Type: (KAL 9520) - Serial No.: (184060) - Certificate No.: (239/23C006/195/2024)
 - Impulse voltage generator 800 kV - 40 kJ - Type: (SMC 440/1800/H391-14/MIM 200-12/12B) - Certificate No (239/23C006/5/243/2024).

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TEST REPORT

REPORT No. (104 /2025)

- **CLIENT:** Egyptian Company for Advanced Industries (ELSEWEDY SEDCO) - Subsidiary of ELSEWEDY ELECTRIC
Plot No. 35 & 36 A – South (A1) – Industrial Zone – 10th of Ramadan
- **Report Date:** 07/05/2025.
- **Place:**
 - Extra High Voltage Research Center Laboratories
 - Internal code : TO - AC - 25 - 02 - 11 - 05
- **Requirements:**
 - Tests for screened deadbreak separable connectors elbow according to IEC 60502-4.
- **Standard Specification:**
 - IEC(60502-4)/(2023): "Power cables with extruded insulation and their accessories for rated voltages from 1.0 kV ($U_m = 1.2$ kV) up to 30 kV ($U_m = 36$ kV)". Part 4: Test requirements on accessories for cables with rated voltages from 6 kV ($U_m = 7.2$ kV) up to 30 kV ($U_m = 36$ kV).
 - IEC(61442)/(2023): "Test method for accessories for power cables with rated voltages from 6 kV ($U_m = 7.2$ kV) up to 30 kV ($U_m = 36$ kV)".
- **Description of specimen:**
 - Screened deadbreak separable connector (T-shape Elbow) installed on a power cable 18/30(36) kV, 3x240 mm² with the following specifications:
 - Manufacturer : Egyptian Company for Advanced Industries (ELSEWEDY SEDCO)
 - Model No. : 455
 - Lug type : Compressed type Elbow lug
 - Material : EPDM Rubber.
 - Rated voltage (U_0/U) : 18/30 kV
 - Maximum voltage (U_m) : 36 kV
 - Specimens receipt date: 11/2/2025
- **Description of equipment:**
 - High voltage reactor- 400 kV - 5000 kVA - 50 Hz - Type : (KKF 4400-7/OT 257 AC) - Serial No. (454321). Certificate No : (239/23C003/5/194/2024)
 - PD Cibrator - Type: (KAL 9520) - Serial No.: (184060) - Certificate No.: (239/23C006/195/2024)
 - Impulse voltage generator 800 kV - 40 kJ - Type: (SMC 440/1800/H391-14/MIM 200-12/12B) - Certificate No (239/23C006/5/243/2024)
 - Surface thermocouple Type: (K) with digital indicator resolution (0.1 °C) - S.N.: (75080027) Calibration certificate No.: (1199/32C005/146/1573/2024).

TEST REPORT

REPORT No. (838 /2024)

▪ **CLIENT:** Egyptian Company for advanced industries (elsewedy sedco) - Subsidiary of ELSEWEDY ELECTRIC

▪ **Report Date:** 13 /7/2025.

▪ **Place:**

- Laboratories of Extra High Voltage Research Center.
- Internal code : TO – AC – 24– 12 – 25 - 03

▪ **Requirements:**

- Conducting some of tests on outdoor, indoor premolded termination and joint for power cable 18/30 kV, 630 mm² according to table No.(10) of IEC 60502-4.

▪ **Standard Specification:**

- **IEC(60502-4)/(2023):** "Power cables with extruded methods insulation and their accessories for rated voltages from 1.0 kV ($U_m = 1.2$ kV) up to 30 kV ($U_m = 36$ kV)". Part 4- Test requirements on accessories for cables with rated voltages from 6 kV ($U_m = 7.2$ kV) up to 30 kV ($U_m = 36$ kV).
- **IEC(61442)/(2023):** "Test method for accessories for power cables with rated voltages from 6 kV ($U_m = 7.2$ kV) up to 30 kV ($U_m = 36$ kV)".

- **Specimens receipt date:** 25/12/2024

▪ **Description of the Specimens:**

- The specimens consist of two samples "first sample consists of two premolded indoor terminations and premolded joint, second sample consists of two premolded outdoor terminations and joint. Each sample installed on a separate cable. The specification of the premolded indoor, outdoor terminations and joint as follows:

1- (18/30)36 kV single-core premolded indoor termination with the following specifications:

- Manufacturer : Egyptian Company for Advanced industries ELSEWEDY SEDCO
- Model : MTGI 36KV.
- Material : EPDM Rubber.
- Leakage path : 615 mm.
- Flashover path : 360 mm.
- Diameter of sheds : 100 mm.
- Neck diameter : 53 mm.
- Number of sheds : 6.
- Terminations lugs : Bimetallic insert lug

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2- (18/30)36 kV single -core premolded outdoor termination with the following specifications:

- Manufacturer : Egyptian Company for Advanced industries ELSEWEDY SEDCO
- Model : MTGO 36KV.
- Material : EPDM Rubber.
- Leakage path : 1000 mm.
- Flashover path : 500 mm.
- Diameter of sheds : 100 mm.
- Neck diameter : 53 mm
- Number of sheds : 10.
- Terminations lugs : Bimetallic insert lug

3- 36 kV single core premolded joint with the following specifications:

- Manufacturer : Egyptian Company for Advanced industries ELSEWEDY SEDCO
- Model : PCJ 36KV.
- Material : EPDM Rubber.

Specimen receipt date: 25/12/2024

■ Description of the Equipment:

- High voltage reactor - (400) kV - (5000) kVA - Type: (KKF 4400-7/OT 257 AC) - Serial No.: (454321) - Calibration certificate No.: (481/23C002/28/533/2025)
- PD calibrator - type: (KAL 9520) - Serial No.: (184060) - Calibration certificate No.: (239/23C006/5/195/2024).
- Surface thermocouple type K, with digital indicator resolution (0.1) – Type: (FLUKE-52 II) - Serial No.: (75080038) - Calibration certificate No.: (1199/32C005/147/1574/2024).
- AC Current probe/TRUE RMS MULTIMETER - Type: (A110/285) - Calibration certificate No.: (1002/23C010/36/437/2024).
- Insulation resistance meter – Type: (MIC-10K1) – Calibration certificate No: (3430/23C009/105/860/2024)

■ Test Samples:

- Test samples were chosen under the responsibility of the client.

■ Tests:

- 1- Heating cycles voltage test in water.
- 2- AC voltage dry test.
- 3- Partial discharge test at ambient temperature
- 4- Examination.

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TEST REPORT

REPORT No. (526 /2022)

▪ **CLIENT:** Egyptian Company for advanced industries (Elsewedy Sedco) - SUBSIDIARY of ELSEWEDY ELECTRIC

Factory: Plot No. 35, 36 - South (A1) - Industrial Zone – 10th Ramadan.

▪ **Report Date:** 20 /12 /2022.

▪ **Place:**

- Extra High Voltage Research Center Laboratories.
- Internal code : TO - AC - 22- 10 - 05 - 01

▪ **Requirements:**

- Type test on outdoor, indoor premolded terminations for power cable 18/30 kV, 3×185 mm² according to IEC 60502-4.

▪ **Standard Specification:**

- IEC(60502-4)/(2010): Power cables with extruded insulation and their accessories for rated voltages from 1.0 kV ($U_m = 1.2$ kV) up to 30 kV ($U_m = 36$ kV). Part 4: Test requirements on accessories for cables with rated voltages from 6 kV ($U_m = 7.2$ kV) up to 30 kV ($U_m = 36$ kV).
- IEC(61442)/(2005): Test method for accessories for power cables with rated voltages from 6 kV ($U_m = 7.2$ kV) up to 30 kV ($U_m = 36$ kV).

▪ **Description of the Specimens:**

- The specimens consist of two samples, first sample consists of two premolded indoor termination and second sample consists of two premolded outdoor termination. Each samples installed on a separate power cable 18/30 kV, 3×185 mm². The specification of the samples as follows:

1- 36 kV three core premolded outdoor terminations with the following specifications (Page 16):

- Manufacturer : ELSEWEDY ELECTRIC CABLE ACCESSORIES.
- Model : 3C-36MTG-O.
- Material : EPDM Rubber.
- Leakage path : 840 mm.
- Flash over path : 485 mm.
- Diameter of sheds : 80 mm.
- Number of sheds : 10.
- Terminations Lugs : Compression Lugs



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M. Shawky



2- 36 kV three core premolded indoor terminations with the following specifications (Page 17):

- Manufacturer : ELSEWEDY ELECTRIC CABLE ACCESSORIES.
- Model : 3C-36MTG-I.
- Material : EPDM Rubber.
- Leakage path : 695 mm.
- Flash over path : 375 mm.
- Diameter of sheds : 80 mm.
- Number of sheds : 7.
- Terminations Lugs : Compression Lugs.

3 Description of the Equipment:

- High voltage reactor- 400 kV - 5000 kVA - 50 Hz - Type :(RSK) - Serial No. (204322/99). Certificate No :(515/23/2021)
- PD Detector - Type: (TE 57). Certificate No. (516/23/2021)
- Impulse voltage generator (800) kV - (40) kJ - Type: (IP40/ 800M) - Calibration certificate No.: (505/23/2021).
- High voltage Test Set, 100kV- Type: (MU15/TuR100Kv-5A/WO040060) - Calibration certificate No.: (592/23/2021).

■ **Test Samples:**

- Test samples were chosen under the responsibility of the client.

■ **Tests:**

- 1- Dry AC voltage test and DC voltage test.
- 2- Wet AC voltage test for outdoor termination.
- 3- Partial discharge test at ambient temperature.
- 4- Impulse test at elevated temperature.
- 5- Heating cycles test in air.
- 6- Immersion test (for outdoor termination only).
- 7- Partial discharge test
 - 7-1 at elevated temperature.
 - 7-2 at ambient temperature.
- 8- Impulse test at ambient temperature.
- 9- Dry AC voltage test.
- 10- Examination.

■ **Test Method and Results:**

1- **Dry AC voltage test and dc voltage test.**

Testing Date: 10/10/2022

Testing Engineer: Mahmoud Shawky

- The test samples were subjected to a dry AC voltage test and DC voltage test in accordance with test No. (1) in table (5) of IEC (60502-4).
- The dry AC voltage was raised gradually to and held at (4.5 U₀) for (5) min.
- The DC voltage was raised gradually to and held at (4 U₀) for (15) min.

M. Sabry

M. Khairy

