



INDUSTRIAL RESEARCH INSTITUTE

Report Number: 5223 /007/541591/2020 (M1)
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Type Test Report

Customer name	MEDITERRANEAN CABLES COMPANY S.A.L
Customer address	South Lebanon – Saida – El Ghazieh

Date of item's reception	03. 07. 2020
Date or period of tests	03-08. 07. 2020
Date of report issue	09. 07. 2020

Product description	Copper Conductor
Manufacturer, brand name or trademark	MEDITERRANEAN CABLES
Reference, model	NYM 4 × 6 mm ² , NYM 4 × 10 mm ² , NYM 3 × 35 mm ²
Product category	Cables

Testing according to the requirements of:	IEC 60228 / IEC 60502-1
General comments:	Conform

Tested by (+ Signature)	Eng. Ahmad HASSAN Electrical laboratory unit head
Verified by (+ Signature)	Eng. Bilal Hussein Electrical laboratory head
Approved by (+ Signature)	Dr. Imad Hage Chehade

Note: * Results relate only to the item tested.

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Norm	Result				
	Cable designation	Parameter	Limit Value (Norm)	Measured Value	Code N°
IEC 60228 & IEC 60502-1	4×6 mm ²	Conductor section (mm ²)	6	6	267-9
		Number of wires	7	7	267-9
		Nominal diameter of wires (mm)	1,04	1,04	267-9
		Conductor exterior diameter (mm)	2,95	3,0	267-9
		PVC insulation thickness (mm)	1	1	267-9
		Outer Diameter	---	16,3	267-9
		PVC outer sheath thickness	1,8	1,8	267-9
		Weight (Kg/Km)	---	510	267-9
		Electrical resistance (Ω/Km)	3,08	3,1	267-9



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Norm	Result			
Cable designation	Parameter	Limit Value (Norm)	Measured Value	Code N°
IEC 60228 & IEC 60502-1	4×10 mm ²	Conductor section (mm ²)	10	10 267-9
		Number of wires	7	7 267-9
		Nominal diameter of wires (mm)	1,35	1,35 267-9
		Conductor exterior diameter (mm)	3,82	3,90 267-9
		PVC insulation thickness	1	1 267-9
		Outer Diameter	---	21,6 267-9
		PVC outer sheath thickness	1,8	1,78 267-9
		Weight (Kg/Km)	---	740 267-9
		Electrical resistance (Ω/Km)	1,83	1,84 267-9





* MAGE SAEHADE Ph.D
 Technology & Development Director
 INDUSTRIAL RESEARCH INSTITUTE



Report Number: 5223 /007/541591/2020 (M1)
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Norm	Result				
	Cable designation	Parameter	Limit Value (Norm)	Measured Value	Code N°
IEC 60228 & IEC 60502-1	3×35 mm ²	Conductor section (mm ²)	35	35	267-9
		Number of wires	7	7	267-9
		Nominal diameter of wires (mm)	2,5	2,51	267-9
		Conductor exterior diameter (mm)	7,5	7,45	267-9
		PVC insulation thickness	1,2	1,2	267-9
		Outer Diameter	---	25,8	267-9
		PVC outer sheath thickness	1,8	1,78	267-9
		Weight (Kg/Km)	---	1515	267-9
		Electrical resistance (Ω/Km)	0,524	0,525	267-9

This report, modified on 14/07/2020, cancels and replaces the previous report issued under the same date and number, amended information is identified by a straight line in the margin.





INSTITUT DE RECHERCHE INDUSTRIELLE

Report Number: 5223/24/519894/2019

Page: 1 of 2

Type Test Report

Customer name	MEDITERRANEAN CABLES COMPANY S.A.L
Customer address	South Lebanon – Saida – El Ghazieh

Date of item's reception	23. 09. 2019
Date or period of tests	23 – 24. 09. 2019
Date of report issue	26. 09. 2019

Product description	Cables (Hard Drawn Copper)
Manufacturer, brand name or trademark	MEDITERRANEAN CABLES
Reference, model	CU NU 25 (HDC)
Product category	Cables

Testing according to the requirements of:	DIN 48201/1 & IEC 60228
General comments:	Conform

Tested by (+ Signature)	Eng. Ahmad HASSAN Electrical laboratory unit head
Verified by (+ Signature)	Eng. Bilal Hussein Electrical laboratory head
Approved by (+ Signature)	Dr. Imad Hage Chehade



Imad HAGE CHEHADE Ph.D
Technology & Development
Director



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Report Number: 5223/24/519894/2019

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Norm	Result				
	Cable designation	Parameter	Limit Value (Norm)	Measured Value	Code N°
DIN 48201/1	CU NU 25 (HDC)	Cable section (mm ²)	24,25	24,24	267-4
		Number of wires	7	7	267-4
		Nominal diameter of wires (mm)	2,10	2,10	267-4
		Exterior diameter (mm)	6,30	6,31	267-4
		Weight (Kg/Km)	218	218,5	267-4
IEC 60228	CU NU 25 (HDC)	Electrical resistance (Ω/Km)	0,727	0,740	267-4





INDUSTRIAL RESEARCH INSTITUTE

Date: 26/08/2015

Report

CLIENT

No: 5221/1648/308849/2015

Name: MESSRS MEDITERRANEAN CABLES CO. S.A.L.
SAIDA - SOUTH LEBANON

Reference: Your letter dated on 12/08/2015

IRI Bldg. - Lebanese University Campus
Hadath (Baabda) - Lebanon

P.O. Box: 11-2806 Beirut

Tel/Fax: +961 5 467831- Mobile: +961 3 286340

e-mail: info@iri.org.lb - http://www.iri.org.lb



SAMPLE

Received as:
Aluminium Wire (9.5 mm)"

Received on: 13/08/2015

Results

Testing duration: From 14/08/2015 to 24/08/2015 Unless otherwise specified, the sampling was done by the client.

CHEMICAL ANALYSIS

IRI
Code No

267 - 28

Chemical Composition:*

- Iron, as Fe (%)	0.02
- Silicon, as Si (%)	0.08
- Manganese, as Mn (%)	Less than 0.01
- Zinc, as Zn (%)	Less than 0.01
- Nickel, as Ni (%)	Less than 0.01
- Chromium, as Cr (%)	Less than 0.01
- Lead, as Pb (%)	Less than 0.01
- Copper, as Cu (%)	Less than 0.01
- Titanium, as Ti (%)	Less than 0.01
- Tin, as Sn (%)	Less than 0.01
- Vanadium, as V (%)	Less than 0.01
- Bismuth, as Bi (%)	Less than 0.01
- Aluminum, as Al (%)	More than 99.8

* Reference Method: Optical Emission Spectrometer.

Results relate only to the sample tested.

MZ/ny

Dr. Joseph Matta
Division Head
Laboratories



Nadia Khoury

Applied Research & Testing
Director

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INDUSTRIAL RESEARCH INSTITUTE

Date: 26/08/2015

Report

No: 5221/1648/308849/2015

CLIENT

Name: **MESSRS MEDITERRANEAN CABLES CO. S.A.L.**
SAIDA – SOUTH LEBANON

Reference: Your letter dated on 12/08/2015

IRI Bldg. - Lebanese University Campus
 Hadath (Baabda) - Lebanon

P.O. Box: 11-2806 Beirut

Tel/Fax: +961 5 467831- Mobile: +961 3 286340

e-mail: info@iri.org.lb - http://www.iri.org.lb



SAMPLE Received as:
"Aluminium Wire (9.5 mm)"

Received on: 13/08/2015

SAMPLE

Results

Testing duration: From 14/08/2015 to 14/08/2015 Unless otherwise specified, the sampling was done by the client.

Tensile Testing

NF EN 10002-1

IRI Code No. (403 – 7A)

Your sample identification

Nominal Diameter (mm)

Yield strength at 0.2% offset (MPa)

Tensile Strength (Mpa)

Elongation (%)

Aluminium

9.5

65

86

32

Results relate only to the sample tested.

MT/ny

2/2

Nadia Khoury

Applied Research & Testing
Director

Dr. Joseph Matta
Division Head
Laboratories



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Report Number: 5223 /039/304148 / 2015

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Type Test Report

Customer name	MEDITERRANEAN CABLES COMPANY S.A.L
Customer address	South Lebanon -- Saida – Zahrani - Teffahta

Date of item's reception	07. 07. 2015
Date or period of tests	14. 07. 2015
Date of report issue	16. 07. 2015

Product description	Cable
Manufacturer, brand name or trademark	MEDITERRANEAN CABLES
Reference, model	ACRS 490/65 mm ²
Product category	Aluminium conductors steel reinforced

Testing according to the requirements of:	DIN 42204 / IEC 61089
General comments:	Conform

Tested by (+ Signature)	Eng. Ahmad HASSAN Electrical laboratory unit head
Verified by (+ Signature)	Eng. Bilal Hussein Electrical laboratory head
Approved by (+ Signature)	Dr. Imad Hage Chehade

Notes: * Results relate only to the item tested.

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Report Number: 5223 /039/304148 / 2015

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Norm	Result				
DIN 48204 / IEC 61089	ACSR 490/65 mm ²	Cable designation	Parameters	Value (Norm)	Measured Value
		No. * Dia. Of Al. wires	54 * 3,40 mm	54 * 3,40 mm	267-9
		No. * Dia. Of steel wires	7 * 3,40 mm	7 * 3,41 mm	267-9
		Outer Diameter	30,6 mm	30,62 mm	267-9
		Electrical resistance @ 20°C	0,0588 Ω/Km	0,059 Ω/Km	267-9
		Total Weight without grease	1866 Kg/Km	1867 Kg/Km	267-9



Imad HAGE CHEHADA Ph.D
Technology & Development





Report Number: 5223 /047/418613 / 2017

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Type Test Report

Customer name	MEDITERRANEAN CABLES COMPANY S.A.L
Customer address	South Lebanon – Saida – El Ghazieh

Date of item's reception	09. 10. 2017
Date or period of tests	10-16. 10. 2017
Date of report issue	17. 10. 2017

Product description	Cables (Aluminum conductors)
Manufacturer, brand name or trademark	MEDITERRANEAN CABLES
Reference, model	16 mm ² ; 25 mm ² ; 50 mm ² ; 54,6 mm ² ; 70 mm ² ; 150 mm ²
, Product category	Cables

Testing according to the requirements of:	NF C 33-209
General comments:	Conform

Tested by (+ Signature)	Eng. Ahmad HASSAN Electrical laboratory unit head	
Verified by (+ Signature)	Eng. Bilal Hussein Electrical laboratory head	
Approved by (+ Signature)	Dr. Imad Hage Chehade	 Imad HAGE CHEHADE Ph.D Technology & Development Director

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Norm	Code Nº	Result				
		Cable designation	Parameter	Limit Value (Norm)	Measured Value	Code Nº
NF C 33-209	16 mm ²		Cable section (mm ²)	16	16,07	267-2
			Number of wires	7	7	267-2
			Nominal diameter of wires (mm)	4,6 < d < 5,1	5,0	267-2
			Exterior diameter (mm)	7,0 < D < 7,8	7,30	267-2
			Electrical resistance (Ω/Km)	< 1,91	1,7	267-2
	25 mm ²		Cable section (mm ²)	25	25,41	267-2
			Number of wires	7	7	267-2
			Nominal diameter of wires (mm)	5,8 < d < 6,3	6,0	267-2
			Exterior diameter (mm)	8,6 < D < 9,4	8,9	267-2
			Electrical resistance (Ω/Km)	< 1,20	0,96	267-2



Imad HAGE CHEHADE Ph.D
Technology & Development
Director



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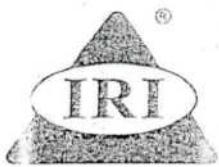
Norm	Code N°	Result				
		Cable designation	Parameter	Limit Value (Norm)	Measured Value	Code N°
NFC 33-209	50 mm ²	50 mm ²	Cable section (mm ²)	50	50,14	267-2
			Number of wires	7	7	267-2
			Nominal diameter of wires (mm)	7,9 < d < 8,4	8,38	267-2
			Exterior diameter (mm)	11,1 < D < 12,0	11,62	267-2
			Electrical resistance (Ω/Km)	< 0,641	0,55	267-2
	54,6 mm ²	54,6 mm ²	Cable section (mm ²)	54,6	54,89	267-2
			Number of wires	7	7	267-2
			Nominal diameter of wires (mm)	9,2 < d < 9,6	9,43	267-2
			Exterior diameter (mm)	12,3 < D < 13,0	12,83	267-2
			Electrical resistance (Ω/Km)	< 0,63	0,53	267-2



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Norm	Code N°	Result				
		Cable designation	Parameter	Limit Value (Norm)	Measured Value	Code N°
NF C 33-209	70 mm ²	70 mm ²	Cable section (mm ²)	70	68,5	267-2
			Number of wires	7	7	267-2
			Nominal diameter of wires (mm)	10 < d < 10,2	10,15	267-2
			Exterior diameter (mm)	12,9 < D < 13,6	13,4	267-2
			Electrical resistance (Ω/Km)	< 0,50	0,42	267-2
	150 mm ²	150 mm ²	Cable section (mm ²)	150	150,86	267-2
			Number of wires	19	19	267-2
			Nominal diameter of wires (mm)	13,9 < d < 15,0	14,8	267-2
			Exterior diameter (mm)	17,3 < D < 18,6	19,2	267-2
			Electrical resistance (Ω/Km)	< 0,206	0,19	267-2





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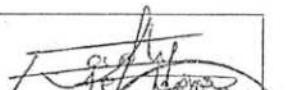
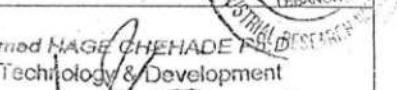
Type Test Report

Customer name	وزارة الاقتصاد والتجارة - مديرية حماية المستهلك - دائرة قمع المفتش
Customer address	بيروت - لبنان

Date of item's reception	02.02.2015
Date or period of tests	From 02.02.2015 To 03.02.2015
Date of report issue	03.02.2015

Product description	كابلات كهربائية مسجلة تحت رقم ٢٠١٤/١ د	
Item reference (If any)		
Manufacturer, brand name or trademark	شركة البحر المتوسط للكابلات	Country of origin: لبنان
Reference, model	NYA / 2.5 mm ² / 100 YDS	
Product category	CONDUCTORS OF INSULATED CABLES	

Testing according to the requirements of	IEC 60228
Conformity	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
General comments	Conform

Tested by (+ Signature)	Eng. Fady MELHEM Assistant Unit Head	
Verified by (+ Signature)	Eng. Bilal Hussein Electrical Laboratory Head	
Approved by (+ Signature)	Dr. Imad Hage Chehade	  Imad HAGE CHEHADE Ph.D. Technology & Development Director

Note: * Results relate only to the item tested

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CONDUCTORS OF INSULATED CABLES
IEC 60228

Clause	Requirement - Test	Result - Remark	Verdict ¹
3	Classification		P
		-Class 2 : Stranded conductors	P
4	Materials		P
		Plain or metal-coated annealed copper	P
5	Solid conductors and stranded conductors		P
	The wires shall all have the same nominal diameter	0.67 mm / wire	P
	Number of wires in each conductor	7	P

Cross sectional area	2.47 mm ²
Length of the cable	99.74 Yard = 91.2 meter

Remarks	مسجلة في دائرة قمع الغش في بيروت تحت رقم ٦/١٠٦
---------	--

1- Test case verdict: P = Pass, F = Fail, N/A = Case not apply to the test object.



IRI LEBANON INDUSTRIAL RESEARCH INSTITUTE

Iman HAGE CHEHADE Ph.D
Technology & Development Director





INDUSTRIAL RESEARCH INSTITUTE

Report Number: 5223/011 /286769/2015

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Type Test Report

Customer name	وزارة الاقتصاد والتجارة - مديرية حماية المستهلك - دائرة قمع الغش
Customer address	بيروت - لبنان

Date of item's reception	06.02.2015
Date or period of tests	From 10.02.2015 To 12.02.2015
Date of report issue	13.02.2015

Product description	كابلات كهربائية مسجلة تحت رقم ٤١٢٣	
Item reference (If any)		
Manufacturer, brand name or trademark	Med cables	Country of origin: لبنان
Reference, model	NYMHY 2 X 2.5 mm ²	
Product category	CONDUCTORS OF INSULATED CABLES	

Testing according to the requirements of	IEC 60228
Conformity	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
General comments	Conform

Tested by (+ Signature)	Eng. Fady MELHEM Assistant Unit Head	
Verified by (+ Signature)	Eng. Bilal Hussein Electrical Laboratory Head	
Approved by (+ Signature)	Dr. Imad Hage Chehade	 Dr. IMAD HAGE CHEHADE Ph.D Technology & Development Director

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