



Marine & Offshore
Division

Certificate number: 39397/A3 BV

File number: ACE1/113/10

Product code: 2501H

This certificate is not valid when presented without the full attached schedule composed of 7 sections

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TYPE APPROVAL CERTIFICATE

This certificate is issued to

UNIKA UNIVERSAL KABLO SANAYI VE TICARET A.S.
TEKIRDAG - TURKEY

for the type of product

CABLES (LOW VOLTAGE)

MGSGO-FR, MGSGO, MGSGO-EMC, LMGSGO & LMGSGO-FR series.
0.6/1kV & 550V.

Requirements:

Bureau Veritas Rules for the Classification of Steel Ships.

IEC 60092-350 (2014), IEC 60092-360 (2014), IEC 60228 (2004), IEC 60754-1/2 (2011), IEC 61034-1/2 (2013), IEC 60331-21 (1999), IEC 60332-1 (2004), IEC 60332-3-22 Cat.A (2009).

This certificate is issued to attest that BUREAU VERITAS did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.

This certificate will expire on: 10 Oct 2019

For BUREAU VERITAS,

At BV ISTANBUL, on 19 Sep 2016,

Gurcan Yilmaz



This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with BUREAU VERITAS. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. This certificate is issued within the scope of the General Conditions of BUREAU VERITAS Marine & Offshore Division available on the internet site www.veristar.com. Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against BUREAU VERITAS for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

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BV Mod. Ad.E 530 October 2014

This certificate consists of 3 page(s)

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION :

MGSGO & LMGSOG series are low voltage cables for Marine and Offshore applications.

1.1 - Datas:

Rated voltage:	0.6/1kV (MGSGO) 550V (LMGSOG)
Flame retardant:	IEC 60332-1-2 & IEC 60332-3-22 Cat.A
Fire resistant:	IEC 60331-21 (-FR type only)
Low smoke:	IEC 61034-1/2
Halogen free:	IEC 60754-1/2

1.2 - Construction:

Conductor:	Stranded annealed bare or tinned copper wire (Class 2 or 5)
Fire resisting layer:	Mica tape (-FR only)
Insulation	XLPE, EPR (MGSGO, MGSGO-FR & MGSGO-EMC types only)
Inner sheath:	Polyester tape or halogen free compound
EMC layer:	Collective copper backed polyester tape (EMC type only)
Screen:	Bare or tinned copper wire braiding
Outer sheath:	SHF2 (Halogen free cross-linked compound)

Note: The construction is in accordance with VG 95218 Part 61 (LMGSOG), VG 95218 Part 60 (MGSGO).

1.3 - Range:

Type	Number of core	Cross-sect. area (mm ²)
LMGSOG	2 to 19C	1.5
	2 to 7C	2.5
LMGSOG-FR	3 to 14C	1.5
MGSGO	1C	4 to 95
	2C	1.5
	3C	1.5 to 120
	4C	16
MGSGO - FR	1C	25 to 95
	3C	1.5 to 25
MGSGO-EMC	3C	50 to 95
	4C	50 to 70

2. DOCUMENTS AND DRAWINGS :

MGSGO data sheet ref. 16048-4133321 Rev. 0, dated 02.Mar.2016.

MGSGO-FR data sheet ref. 16421-4144311 Rev. 0, dated 29.Aug.2016.

MGSGO-EMC data sheet ref. 4128512 Rev. 0, dated 11.Jan.2013.

LMGSOG data sheet ref. 16048-4133322 Rev. 0, dated 02.Mar.2016.

LMGSOG-FR data sheet ref. 4144312 Rev. 0, dated 18.Jun.2013.

3. TEST REPORTS :

UNIKA:

- Test report dated 08.Sep.2014.
- Test report N°2014-425, dated 08.Sep.2014.
- Test report N°14-425/3169, or/3173, or /3178, or /3170, or /3177 dated 29.Aug.2014
- Tests reports dated 21.Aug.2014.
- Tests report N°14575-4144311, dated 13.Nov.2014.
- Tests report N° 4133321, dated 29.Feb.2016.
- Tests report N° 4133311, dated 29.Feb.2016.
- Tests report N° 4133322, dated 29.Feb.2016.
- Tests report N° 4133312, dated 29.Feb.2016.
- Tests report N° 4128512, dated 29.Feb.2016.

For A3 version:

UNIKA:

- Test report dated 31.Aug.2016.

4. APPLICATION / LIMITATION :

BUREAU VERITAS Rules and Regulations for the Classification of Steel Ships.

5. PRODUCTION SURVEY REQUIREMENTS :

5.1 - The above cables are to be supplied by **UNIKA UNIVERSAL KABLO SANAYI VE TICARET A.S.** in compliance with the type and the requirements described in this certificate.

5.2 - This type of product is within the category IBV of Bureau Veritas Rule Note NR320.

5.3 - BV product certificate is required.

6. MARKING OF PRODUCT :

The cable shall be marked on the surface outer sheath, in a durable legible and visible manner, with the following information through the length of cable:

- 1) - Voltage grade.
- 2) - Cable symbol and temperature class.
- 3) - Number of conductors and conductor size.
- 4) - Applicable standard(s) to flame retardant and fire resistance if any
- 5) - Manufacturer's name or trade mark.
- 6) - Year of manufacture.

7. OTHERS :

7.1 - It is **UNIKA UNIVERSAL KABLO SANAYI VE TICARET A.S.** responsibility to inform shipbuilders or their sub-contractors of the proper methods of fitting, use and general maintenance of the approved equipment and the conditions of this approval.

7.2 - This certificate supersedes the Type Approval Certificate N° 39397/A2 BV issued on 21.Mar.2016 by the Society.

*** END OF CERTIFICATE ***