



Marine & Offshore
Division

Certificate number: 13562/C2 BV

File number: ACE 01/113/08

Product code: 25011

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

www.veristar.com

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)

0.6/1 kV.

U-HFxxx m, MGCH & MGH series.

Requirements:

BUREAU VERITAS Rules for the Classification of Steel Ships.

IEC 60092-350 (2014), 353 (2014), 360 (2014), IEC 60228 (2004), IEC 60754-1/2 (2011), IEC 61034-1/2 (2013), IEC 60331-11/21 (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: 16 Apr 2019

For BUREAU VERITAS,

At BV ISTANBUL, on 12 May 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.

The electronic version is available at: <http://www.veristarm.com/veristarnb/jsp/viewPublicPdfTypepec.jsp?id=e245fusqdc>

BV Mod. Ad.E 530 October 2014

This certificate consists of 3 page(s)

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION:

Low voltage cables for Marine and Offshore applications.

1.1 - Specifications:

Rated voltage:	0.6/1 kV
Temperature class:	90°C
Flame retardant:	IEC 60332-1 and IEC 60332-3-22 Cat. A
Fire resistant:	IEC 60331-11/21 (FR Type only)
Halogen Free:	IEC 60754-1/2
Low Smoke:	IEC 61034-1/2

1.2 - Construction:

Conductor:	Plain or tinned stranded copper - Class 2 or Class 5
Fire protection:	Mica tape (FR Type only)
Insulation:	Cross-Linked PolyEthylene - XLPE, HEPR (MGCH, MGCH-FR, MGCH-EMC & MGH types only)
Filler:	Halogen Free material
Screen:	Collective copper backed Polyester tape (EMC Type only)
Armouring:	Plain or tinned copper wire braid, or galvanized steel wire braid (Armoured Type only)
Outer Sheath:	Halogen Free Thermoplastic compound - SHF1

1.3 - Approval range:

Type	Number of core	Cross Sect. (mm ²)
UHF m UHFA m	1	1.0 to 300
	2	1.0 to 25
	3	1.0 to 150
	4	1.0 to 120
	5 to 61	1.0 to 4
U-HFA m	2	50 & 70
U-HFA m-EMC	3	2.5 to 95
U-HFFR m U-HFFRA m	1	1.0 to 300
	2	1.0 to 16
	3	1.0 to 120
	4	1.0 to 16
	5 to 27	1.0 to 1.5
MGCH	1	25 & 95
	2	1.5 to 6
	3	1.5 to 95
	4 to 19	1.5
MGCH-FR	3	1.5 to 25
	4 to 16	1.5
MGCH-EMC	3	2.5 to 95
MGH	1	25 to 95
	2	1.0 to 95
	3	1.0 to 95

2. DOCUMENTS AND DRAWINGS:

ÜNİKA:

Data sheet U-HFFRA m

Data sheet for additional cable type (U-HFFR m) dated 02.02.2007.

Manufacturer's letter ref. N° 0033/05 dated 10.05.2005- (U-HFA m & U-HF m are identical to previous product types: GXCH & GXH).

U-HFA m data sheet N°4138111, dated 24.05.2013

U-HFA m EMC data sheet N°4138114, dated 24.02.2013

U-HFFRA m data sheet N°4138113, dated 24.05.2013

H-HFFR m data sheet N°4138112, dated 24.05.2013

U-HF m data sheet N°4138021, dated 24.05.2013

Datasheets N°4152833, N°4152834, N°4152835, dated 11.Sep.2013

Datasheets N° 16145-413814 & 16145-4138111, dated 31.Mar.2016.

Datasheet N° 16145-4135517, dated 31.Mar.2016.

3. TEST REPORTS:

TSE: Report N° 0.16.01.05/2002-1630 dated 19/06/2002 and Reports N° 0.16.01.05/2001-2712/2713/2714 dated 16/11/2001.

Nexans: Test certificates dated 13/11/2001 & 27/11/2001.

Türk Pirelli Material Laboratory: Test Reports N° 279/2 dated 29/05/2002 and N° 270 dated 15.02.2002.

ÜNİKA:

Routine tests, order 357 dated 22.01.2007, stamped by BV Surveyor.

Routine tests and Flame Tests according to IEC 60332-1 & IEC 60332-3-22 dated 02/2009 and BV Witnessed.

Tests reports N°13-172/1335, dated 15.08.2013, witnessed by BV'Surveyor.

Tests reports N°13-316/2481, dated 15.08.2013, witnessed by BV'Surveyor.

Tests reports N°500/FRM/007 Rev.1, dated 14.02.2014, witnessed by BV'Surveyor.

Halogen acid gas content tests reports dated 17.Mar.2014.

Mutual capacitance and measurements ratio dated 10.Mar.2014.

Smoke density tests reports dated 03.Mar.2014.

Flame propagation tests reports dated 03.Mar.2014.

Fire resistivity tests reports dated 03.Mar.2014.

Cold impact tests reports dated 10.Mar.2014.

Tests report dated 31.Mar.2016.

SKY HOLDING PTE LTD:

Test report N°SK/201109/1003, dated 05.09.2011.

4. APPLICATION / LIMITATION:

BUREAU VERITAS Rules for the Classification of Steel Ships and IEC 60092 series.

5. PRODUCTION SURVEY REQUIREMENTS:

5.1 - The described cables are to be supplied by **ÜNİKA ÜNİVERSAL 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 - This approval is given on the understanding that the Society reserves the right to require check tests to be carried out on the cables at any time and that **ÜNİKA ÜNİVERSAL KABLO SANAYI VE TICARET A.S** will accept full responsibility for informing shipbuilders, shipowners or their sub-contractors of the proper methods of use and general maintenance of the cables and the conditions of this approval.

7.2 - This Certificate supersedes the Type Approval Certificates N° 13562/C1 BV issued on 18.Jun.2015.

*** END OF CERTIFICATE ***