



Marine & Offshore

Certificate number: 46262/A1 BV

File number: AP 1

Product code: 2501H

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 WSR TYPES

Requirements:

Bureau Veritas Rules for the Classification of Steel Ships
IEC 60092-350 (2014), IEC 60092-353 (2016), IEC 60092-360 (2014)
IEC 60228 (2004)
IEC 60331-1/2 (2009), IEC 60331-11/21 (1999)
IEC 60332-1 (2004), IEC 60332-3-22 Cat.A (2009)
IEC 60754-1/2 (2011)
IEC 61034-1/2 (2013)

This certificate is issued to attest that Bureau Veritas Marine & Offshore 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: 28 Jun 2022

For Bureau Veritas Marine & Offshore,

At BV ISTANBUL, on 18 Sep 2019,

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 Marine & Offshore. 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 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 Marine & Offshore 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.veristarp.com/veristarnb/jsp/viewPublicPdfTypepec.jsp?id=y2u8nw4bmu>

BV Mod. Ad.E 530 June 2017

This certificate consists of 3 page(s)

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION:

- Product model or type designation :
U-HFFR m WSR & U-HFFRA m WSR

- Product description:

Low voltage cables for Marine and Offshore applications (Water Spray Resistance)

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 60331-21, IEC 60331-1/2, EN 50200 Annex E, BS 8491
Halogen Free:	IEC 60754-1/2
Low Smoke:	IEC 61034-1/2
Cold Bend / Cold Impact	CSA C22.2 NO. 0.3-09 (-40 °C Cold Bend, -35 °C Cold Impact)

1.2 - Construction:

Conductor:	Plain or tinned stranded copper - Class 2 or Class 5
Fire protection:	Glass Fiber tape
Insulation:	Cross-Linked Polyolefin (HF 90)
Filler:	Halogen Free material
Screen:	Collective copper backed Polyester tape
Armouring:	Plain or tinned copper wire braid, or galvanized steel wire braid (U-HFFRA m WSR)
Outer Sheath:	Halogen Free Thermoplastic compound - SHF1 or SHF2

1.3 - Approval range:

Type	Number of core	Cross Sect. (mm ²)
U-HFFR m WSR U-HFFRA m WSR	1	1.0 to 300
	2	1.0 to 120
	3	1.0 to 240
	4	1.0 to 240
	5	1.0 to 185
	6 to 37	1.0 to 2.5

2. DOCUMENTS AND DRAWINGS:

ÜNİKA:

- U-HFFR m WSR data sheet No.4253711 Rev.0, dated Jun 17, 2016
- U-HFFRA m WSR data sheet No.4253712 Rev.0, dated Jun 17, 2016
- Test plan Ref.: U-HF_WSR_Series_(ÜNİKA_Test_Plan-POWER), dated Jul 2016

3. TEST REPORTS:**ÜNİKA:**

Routine tests and Flame Tests according to IEC 60332-1 & IEC 60332-3-22 dated 03/2017 and BV Witnessed.
 Test report 1.1 dated 02 Mar 2017, witnessed by BV'Surveyor.
 Test report 1.2 dated 02 Mar 2017, witnessed by BV'Surveyor.
 Test report 1.3 dated 02 Mar 2017, witnessed by BV'Surveyor.
 Test report 2.1 dated 14 Avr 2017, witnessed by BV'Surveyor. HF 90
 Test report 2.2 dated 14 Avr 2017, witnessed by BV'Surveyor. Halogen-free Thermoplastic
 Test report 2.3 dated 14 Avr 2017, witnessed by BV'Surveyor. Halogen-free rubber
 Test report 3.1 dated 03 Mar 2017, witnessed by BV'Surveyor. Cold Bending
 Test report 3.2 dated 03 Mar 2017, witnessed by BV'Surveyor. Cold impact
 Test report 4.1, 4.2, 4.3 dated 03 Mar 2017, witnessed by BV'Surveyor. Flame Retardancy
 Test report 5.1, 5.2, 5.3 dated 09 Mar 2017, witnessed by BV'Surveyor. Flame propagation
 Test report 6.1, 6.2, 6.3 dated 09 Mar 2017, witnessed by BV'Surveyor. Smoke density
 Test report 7.1, 7.2, 7.3 dated 17 Mar 2017, witnessed by BV'Surveyor. Halogen acid gas content
 Test report 8.1, 8.2, 8.3 dated 17 Mar 2017, witnessed by BV'Surveyor. Fire resistivity
 Test report 9.1, 9.2, 9.3 dated 06 Mar 2017, witnessed by BV'Surveyor. Fire resistivity
 Test report 10.1 dated 09 Mar 2017, witnessed by BV'Surveyor. Increase in A.C Capacitance after immersion in water

4. APPLICATION / LIMITATION:

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

5. PRODUCTION SURVEY REQUIREMENTS:

5.1 - The above products are to be supplied by **ÜNİKA UNIVERSAL KABLO SANAYI VE TICARET A.S.** in compliance with the type described in this certificate.
 5.2 - This type of product is within the category HBV of Bureau Veritas Rule Note NR320 and as such does not require a BV product certificate.
 5.3 - **ÜNİKA UNIVERSAL KABLO SANAYI VE TICARET A.S.** has to make the necessary arrangements to have its works recognised by Bureau Veritas in compliance with the requirements of NR320 for HBV products.
 5.4 - For information, **ÜNİKA UNIVERSAL KABLO SANAYI VE TICARET A.S.** has declared to Bureau Veritas the following production site:

**ÜNİKA UNIVERSAL KABLO SANAYI VE TICARET A.S.
 VELIKOY SANAYI BOLGESI
 CERKEZKOY / TEKIRDAG
 TEKIRDAG
 TURKEY**

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 **ÜNİKA UNIVERSAL KABLO SANAYI VE TICARET A.S.**'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° 46262/A0 BV issued on 28 Jun 2017 by the Society.

*** END OF CERTIFICATE ***