



Marine & Offshore
Division

Certificate number: 32048/A0 BV

File number: ACE1/126/8

Product code: 2502I

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

UNTEL KABLOLARI SANAYI VE TICARET A/S
KOCAELI - TURKEY

for the type of product

CABLES (MEDIUM/HIGH VOLTAGE)

MVCECH series.

3.6/6kV, 6/10kV, 8.7/15kV, 12/20kV.

Requirements:

Bureau Veritas Rules for the Classification of Steel Ships for the Classification of Steel Ships.

IEC 60092-350/354/360 (2014), IEC 60228 (2004), IEC 60332-1-2 (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 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: 13 Apr 2020

For BUREAU VERITAS,

At BV ISTANBUL, on 13 Apr 2015,

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 :

The **MVCECH series** are medium and high voltage cables for Marine and Offshore applications:

1.1 - General specifications:

Rated voltage:	3.6/6kV, 6/10kV, 8.7/15kV, 12/20kV
Temperature range:	-40°C / +90°C
Flame retardant:	IEC 60332-1-2, IEC 60332-3-22 Cat.A
Halogen free:	IEC 60754-1/2
Low smoke:	IEC 61034-1/2

1.2 - Construction:

Conductor:	Stranded, annealed copper wire Class 2 (Class 5 or tinned copper on request)
Screening:	Semiconductive layer
Insulation:	HEPR
Screening:	Semiconductive layer
Separator:	Copper tape
Bedding and/or inner sheath and/or filler:	Bedding/Inner sheath: Halogen free compound. Filler: Flame retardant & non-hygroscopic material.
Screen:	Copper braided screen
Outer sheath:	SHF1

1.3 - Approval range:

Type: MVCEH	Number of core	Cross-sect. area (mm ²)
3.6/6kV	1 & 3	10 to 400
6/10kV		16 to 400
8.7/15kV		25 to 400
12/20kV		35 to 400

2. DOCUMENTS AND DRAWINGS :

Data sheets ref. FR70-021 Rev. 2, dated 19.Nov.2014.

3. TEST REPORTS :

UNTEL KABLOLARI SANAYI VE TICARET A/S:

- Tests reports dated 17.Mar.2015, witnessed by BV's Surveyor.
- Tests reports dated 03.Feb.2015, witnessed by BV's Surveyor.
- Tests reports dated 30.Mar.2015, witnessed by BV's Surveyor.

4. APPLICATION / LIMITATION :

BUREAU VERITAS Rules for the Classification of Steel Ships.

5. PRODUCTION SURVEY REQUIREMENTS :

5.1 - The **MVCECH series** are to be supplied by **UNTEL KABLOLARI 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 :

This approval is given on the understanding that the Society reserves the right to require check tests to be carried out on the units at any time and that **UNTEL KABLOLARI 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 units and the conditions of this approval.

***** END OF CERTIFICATE *****