



MARINE DIVISION

Certificate number: 17391/A1 BV

File number: ACE 01/126/05

Product code: 25011

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 KABLROLARI SANAYI VE TICARET A/S

Istanbul - TURKEY

for the type of product

CABLES (LOW VOLTAGE)

0.6/1 kV

Type: M2XY-FR and M2XCY-FR

Requirements:

BUREAU VERITAS Rules for the Classification of Steel Ships.
IEC 60092-350/351/353/359, IEC 60228, IEC 60811, IEC 60332-1, IEC 60332-3-22.

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: 01 Mar 2012

For BUREAU VERITAS,

At BV ISTANBUL, on 17 May 2010,

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 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 SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION :

Flame Retardant Marine and Offshore Power, Lighting and Control cables.

1.1 - Common specifications:

Rated voltage: 0.6/1 kV
 Temperature class: 90°C
 Flame retardant: IEC 60332-1-2 and IEC 60332-3-22 (Cat. A)

1.2 - Construction:

Conductor: Stranded annealed copper (Class 2 or Class 5)
 Insulation: Thermoset compound (XLPE)
 Armouring: Plain copper wires braid (M2XCY Type only)
 Outer Sheath: Thermoplastic compound (ST2)

1.3 - Product Range:

Type	Number of cores	Cross-Section. area (mm ²)	Remarks
M2XY-FR	1	4 to 150	Flame retardant according to IEC 60332-1-2 & 3-22 (Cat. A)
	2	1 to 25	
	3	1 to 120	
	4	1 to 95	
	5 to 19	1.0 & 1.5	
M2XCY-FR	1	4 to 150	Flame retardant according to IEC 60332-1-2 & 3-22 (Cat. A) Copper Braided
	2	1 to 25	
	3	1 to 120	
	4	1 to 95	
	5 to 19	1.0 & 1.5	

2. DOCUMENTS AND DRAWINGS :

UNTEL KABLORARI:

Specifications and Construction Data Sheets.

3. TEST REPORTS :

UNTEL KABLORARI:

Type Test Reports dated 22.12.2006 and witnessed by BV Surveyor.
 Quality Control report N°06/04/212 - 1 dated 10/Feb./2010

4. APPLICATION / LIMITATION :

4.1 - BUREAU VERITAS Rules for the Classification of Steel Ships.

4.2 - Approval valid for units having to comply with IMO Resolution A649 (The "MODU Code").

5. PRODUCTION SURVEY REQUIREMENTS :

5.1 - The cables are to be manufactured, examined and tested by **UNTEL KABLORARI SANAYI VE TICARET A/S**, in accordance with the type described in this certificate and Bureau Veritas Rules for the Classification of Steel Ships.

5.2 - Arrangements shall be made for a Society's Surveyor to attend the relevant tests and examinations at manufacturer's works or to perform the relevant audits when an alternative survey scheme (BV Mode I) has been agreed. Relevant Bureau Veritas certificate will be issued after satisfactory completion of the procedure.

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:

- 6.1 - Voltage grade.
- 6.2 - Cable symbol and temperature class.
- 6.3 - Number of conductors and conductor size.
- 6.4 - Applicable standard(s) to flame retardant.
- 6.5 - Manufacturer's name or trade mark.
- 6.6 - 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:

UNTEL KABLOLARI SANAYI VE TICARET A/S
Alemdag cod. Armagan evlar Dura Gite yolu
Umraniye, Istanbul
TURKEY

will accept full responsibility for informing shipbuilders, ship-owners 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 Certificate N° 17391/A0 BV issued on 01/Mar./2007 by the Society.

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

