



Marine & Offshore

Certificate number: 76703/A1 BV

File number: MPA2400187

Product code: 2505H

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

2M KABLO SANAYI VE TICARET A.S.
TEKIRDAG - Türkiye

for the type of product

INSTRUMENTATION AND COMMUNICATION CABLES

150/250V

Type: FM2X series

Requirements:

Bureau Veritas Rules for the Classification of Offshore Units.

IEC 60092-350 (2020), IEC 60092-360 (2021), IEC 60092-376 (2017)

IEC 60228 (2023)

IEC 60331-1/2 (2018), IEC 60331-21 (2004)

IEC 60332-1-2 (2015), IEC 60332-3-22 (2018)

IEC 60684-2 (2011)

IEC 60754-1/2 (2019)

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: 15 Jul 2029

For Bureau Veritas Marine & Offshore,

At BV ISTANBUL, on 04 Feb 2025,

Gurcan Yilmaz

This certificate was created electronically and is valid without signature



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: <https://www.veristarm.com/veristarnb/jsp/viewPublicPdfTypepec.jsp?id=ebqfgmwqlv>

BV Mod. Ad.E 530 June 2017

This certificate consists of 3 page(s)

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION :

1.1 - Technical Specification:

Rated Voltage:	150/250V
Temperature Class:	90°C
Flame Retardant:	IEC 60332-1-2 and IEC 60332-3-22 (Cat.A)
Fire Resistant:	IEC 60331-1/2/21 (FE 180 type)
Halogen Free:	IEC 60684-2 and IEC 60754-1/2
Smoke Density:	IEC 61034-1/2

1.2 - Construction:

Conductor:	Plain or tinned stranded copper - Class 2 or 5
Fire-resisting layer:	Mica tape (FE 180 type)
Insulation:	XLPE
Inner covering/sheath:	HFFR filler or SHF1 (FM2XSH, FM2XASH)
Individual screen:	Al-PET foil (with tinned copper drain wire) (FM2XCCH, FM2XAACH, FM2XAAH, FM2XH(I))
Overall screen:	Tinned or annealed copper wire braiding (90% coverage) (FM2XCH, FM2XCCH, FM2XACH, FM2XAACH) Al-PET foil (with tinned copper drain wire) (FM2XACH, FM2XASH, FM2XAACH, FM2XAAH, FM2XAH)
Armour:	Galvanized steel wire braid (FM2XSH, FM2XASH)
Outer sheath:	SHF1

1.3 - Product Range:

Type	Number of cores	Cross-Sect. areas (mm ²)
FM2XCCH FE 180, FM2XCSH FE 180 FM2XACH FE 180, FM2XAACH FE 180 FM2XAASH FE 180 FM2XCH FE 180, FM2XSH FE 180 FM2XH(I) FE 180, FM2XAH FE 180 FM2XAAH FE 180 FM2XH FE 180 FM2XCCH, FM2XACH, FM2XASH FM2XAACH FM2XCH, FM2XSH FM2XH(I), FM2XAH, FM2XAAH FM2XH	1C to 37C 1P to 37P 1T to 12T 1Q to 12Q	0.5 to 2.5

2. DOCUMENTS AND DRAWINGS :

Specification N° 0157-3-22, dated 13 Jan 2022.
 Specification N° 0158-4-22, dated 13 Jan 2022.
 Specification N° 0247-22, dated 13 Jan 2022.
 Specification N° 0249-1-22, dated 13 Jan 2022.
 Specification N° 0254-3-22, dated 13 Jan 2022.
 Specification N° 0257-22, dated 13 Jan 2022.
 Specification N° 0258-4-22, dated 13 Jan 2022.
 Specification N° 0261-1-22, dated 13 Jan 2022.

3. TEST REPORTS :

2M KABLO SANAYI VE TICARET A.S.:

- Test reports dated 05 Apr 2016.
- Test reports dated 21 May 2024
- Test reports N° KE-01031138-1 to KE-01031138-14, dated 20 May 2024.
- Test reports N° KE-00982542-1 to KE-00982542-14, dated 20 May 2024.
- Test reports N° KE-00982533-1 to KE-00982533-15, dated 20 May 2024.

TSE:

- Test reports N° 291791, 291793, 291796 and 291798 dated 25 Mar 2016.
- Test reports N° 293974, 293975, 293978 and 293979 dated 14 Apr 2016.

4. APPLICATION / LIMITATION :

BUREAU VERITAS Rules for the Classification of Offshore Units.

5. PRODUCTION SURVEY REQUIREMENTS :

5.1 - The above products are to be supplied by **2M 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 HBV of Bureau Veritas Rule Note NR320 and as such does not require a BV product certificate.

5.3 - **2M 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, **2M KABLO SANAYI VE TICARET A.S.** has declared to Bureau Veritas the following production site:

2M KABLO SANAYI VE TICARET A.S.

GAZIOSMANPASA OSB MAH

4. CAD. NO: 18/A

CERKEZKOY

TEKIRDAG

TEKIRDAG

Türkiye

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:

- Rated voltage
- Number of cores and cross-sectional area of the conductors
- Manufacturer's name or trademark
- Applicable standards to flame retardant and fire resistance (with the category if applicable)
- Code designation (optional)

7. OTHERS :

7.1 - It is **2M 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° 76703/A0 BV issued by the Society.

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