



Confirmation of Product Type Approval

Company Name: 2M KABLO SAN. VE TIC. A.S.

Address: GAZIOSMANPASA OSB MAHALLESİ 4.CADDENO:18 A CERKEZKOY TEKIRDAG Turkey

Product: Cable, Power and Control

Model(s): M2XCH; M2XSH; M2XCH EMC; M2XACH; M2XASH FM2XCH; FM2XSH; FM2XCCH;
FM2XASH; FM2XACH; FM2XAACH

Endorsements:

Certificate Type	Certificate Number	Issue Date	Expiry Date
Product Design Assessment (PDA)	26-0565771-PDA	11-MAY-2026	10-MAY-2031
Manufacturing Assessment (MA)	22-5147135	09-MAR-2022	08-MAR-2027
Product Quality Assurance (PQA)	NA	NA	NA

Tier

3 - Type Approved, unit certification not required

Intended Service

Low voltage power and control cables for electrical equipment of shipboard applications. Not intended for use as propulsion cables.

Description

Flame retardant halogen-free, power and control cables for installation in both safe and Ex areas

Ratings

Voltage grade: 0.6/1 kV (Power), 150/250 V (Control)

Insulation: XLPE

Sheath: Halogen-free, flame retardant compound (HFFR) (SHF1) (Black or Gray)

Maximum conductor operating temperature: 85 deg. C

Lowest ambient temperature for fixed installation: -40 deg. C

Service Restrictions

Unit Certification is not required for this product.

If the manufacturer or purchaser request an ABS Certificate for compliance with a specification or standard, the specification or standard, including inspection standards and tolerances, must be clearly defined.

Comments

1. The installation of single conductor cables are to be in accordance to 4-8-4/21.7 of Marine Vessel Rules 2022.
2. The following cable markings are to be provided in accordance with IEC 60092-353:
 - Indication of origin (manufacturer's name or trade mark) and rated voltage (U_o/ U) and construction (number of cores and cross sectional area of the conductor).
3. The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.
4. Not suitable for installation in mechanically aggressive environments and UV exposed applications.
5. When cables are used in hazardous areas, they are to be armored or mineral-insulated metal-sheathed, except for cables of intrinsically safe circuits subject to the requirements of 4-8-4/21.15 of ABS Marine Vessel Rules. Where cables pass through boundaries of such locations, they are to be run through gastight fittings. No splices are allowed in hazardous areas, except in intrinsically safe circuits.
6. For cables intended for routing between hazardous area and safe area, test report for limitation of the gas flow through the cable, as specified in Table 9 of IEC 60092-353:2024 and Table 10 of IEC 60092-376:2025, by independent 3rd party laboratory is to be provided. Alternatively, test can be performed at the manufacturer's in-house laboratory facilities in the presence of the attending ABS Surveyor.

Notes, Drawings and Documentation

Drawing No. 5, LR Approved Sample Test Reports.pdf, Revision: 0, Pages: 35

Drawing No. 6, ISO 9001, Revision: -, Pages: 4

Drawing No. 0157-3-22, Datasheet of FM2XCH & FM2XSH, Revision: -, Pages: 2

Previously Submitted Documentation

Drawing No. 0151-1-22, Datasheet, Revision: -, Pages:

Drawing No. 0153-22, Datasheet, Revision: -, Pages:

Drawing No. 0157-3-22, Datasheet, Revision: -, Pages:

Drawing No. 0247-22, Datasheet, Revision: -, Pages:

Drawing No. 0252-1-22, Datasheet, Revision: -, Pages:

Drawing No. 2M Kablo Turkey, IEC Test Report 61034, Smoke Density, 05 Jan.2016, Revision: -, Pages: -

Drawing No. TSE Deney Turkey, IEC Test Report PRD00051440 456_442, 11 March 2016, Revision: -, Pages: -

Drawing No. Zwick Roel Lab Turkey, IEC Test Report PRD000514356, 14 Jan. 2016, Revision: -, Pages: -

Drawing No. Zwick Roel Lab Turkey, IEC Test Report PRD00051440, 13 Jan. 2016 ,Revision: -, Pages: -

Drawing No. Zwick Roel Lab Turkey, IEC Test Report PRD00062442, 12 Jan. 2016, Revision: -, Pages: -

Drawing No. 2M Kablo Turkey - IS3059526 - Test Report, 04 Feb.2016, Revision: -, Pages: -

Drawing No.2M Kablo Turkey - Flammability Test Report No. 16-0420, 08 Jan. 2016, Revision: -, Pages:

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Drawing No. Statement of design description 17 Sept. 2021, Revision: -, Pages:

Term of Validity

This Product Design Assessment (PDA) Certificate remains valid until 10/May/2031 or until the Rules and/or Standards used in the assessment are revised or until there is a design modification warranting design reassessment (whichever occurs first).

Acceptance of product is limited to the "Intended Service" details prescribed in the certificate and as per applicable Rules and Standards.

This Certificate is valid for installation of the listed product on ABS units which exist or are under contract for construction on or previous to the effective date of the ABS Rules and standards applied at the time of PDA issuance. Use of the Product for non-ABS units is subject to agreement between the manufacturer and intended client.

ABS Rules

2026 Rules for Conditions of Classification - Ship 1A-1-4/7.7, 1A-1-A3 and A4, which covers the following:

2026 Rules for Building and Classing Marine Vessels: 4-8-3/9.1, 4-8-3/9.3, 4-8-3/9.5, 4-8-3/9.9

2025 Rules for Conditions of Classification - Offshore 1B-1-4/9.7, 1B-1-A2 and A3, which covers the following:

2026 Rules for Building and Classing Offshore Units: 4-3-4/7.1.1, 4-3-4/7.1.2, 4-3-4/7.1.4

2026 Rules for Conditions of Classification - Light and High-Speed Craft 1C-1-4/11.9, 1C-1-A2 and A3, which covers the following:

2026 Rules for Building and Classing High Speed Crafts: 4-6-4/13.1.1, 4-6-4/13.1.2, 4-6-4/13.1.4

International Standards

IEC 60228 (Ed. 4.0: 2023),

IEC 60092-353 (Ed. 5.0: 2024),

IEC 60332-3-10 (Ed. 2.0: 2018),

IEC 60684-2 (Ed. 4.0: 2025),

IEC 60811-501 (Ed 1.0: 2012/AMD2: 2023),

IEC 60092-376 (Ed. 4.0: 2025),

IEC 60332-1-1 (Ed. 1.1: 2015),

IEC 60332-1-2 (Ed. 2.0: 2025),

IEC 60332-3-22 (Ed. 2.0: 2018) Cat A,

IEC 61034-1/2 (Ed. 3.2: 2019),

IEC 60754-1 (Ed. 3.1: 2019),

IEC 60754-2 (Ed. 2.1: 2019),

IEC 60092-350 (Ed. 5.0: 2020)

EU-MED Standards

NA

National Standards

NA

Government Standards

NA

Other Standards

NA



Corporate ABS Programs
 American Bureau of Shipping
 Print Date and Time: 14-May-2026 12:08

ABS has used due diligence in the preparation of this certificate, and it represents the information on the product in the ABS Records as of the date and time the certificate is printed.

If the Rules and/or standards used in the PDA evaluation are revised or if there is a design modification (whichever occurs first), a PDA revalidation may be necessary.

The continued validity of the MA is dependent on completion of satisfactory audits as required by the ABS Rules. The validity of both PDA and MA entitles the product to receive a **Confirmation of Product Type Approval**.

Acceptance of product is limited to the "Intended Service" details prescribed in the certificate and as per applicable Rules and Standards.

This Certificate is valid for installation of the listed product on ABS units which exist or are under contract for construction on or prior to the effective date of the ABS Rules and standards applied at the time of PDA issuance. ABS makes no representations regarding Type Approval of the Product for use on vessels, MODUs or facilities built after the date of the ABS Rules used for this evaluation.

Type Approval requires Drawing Assessment, Prototype Testing and assessment of the manufacturer's quality assurance and quality control arrangements. The manufacturer is responsible to maintain compliance with all specifications applicable to the product design assessment. Unless specifically indicated in the description of the product, certification under type approval does not waive requirements for witnessed inspection or additional survey for product use on a vessel, MODU or facility intended to be ABS classed or that is presently in class with ABS.

Due to wide variety of specifications used in the products ABS has evaluated for Type Approval, it is part of our contract that; whether the standard is an ABS Rule or a non-ABS Rule, the Client has full responsibility for continued compliance with the standard.

Questions regarding the validity of ABS Rules or the need for supplemental testing or inspection of such products should, in all cases, be addressed to ABS.