CERTIFICATE NUMBER	24-2494623-1-PDA
EFFECTIVE DATE	16-Sep-2026
EXPIRY DATE	21-Feb-2029
ABS TECHNICAL OFFICE	Istanbul Engineering Department

CERTIFICATE OF

Product Design Assessment

This is to certify that a representative of this Bureau did, at the request of

UNTEL KABLOLARI SANAYI VE TICARET ANONIM SIRKETI

located at

MAKINE OSB, 6.CAD. NO: 4 41455, DILOVASI-GEBZE, , KOCAELI, Türkiye

assess design plans and data for the below listed product. This assessment is a representation by the Bureau as to the degree of compliance the design exhibits with applicable sections of the Rules. This assessment does not waive unit certification or classification procedures required by ABS Rules for products to be installed in ABS classed vessels or facilities. This certificate, by itself, does not reflect that the product is Type Approved. The scope and limitations of this assessment are detailed on the pages attached to this certificate.

Product:	**Cable, Flame Retardant Electric Power Cables**
Model:	**M2XCH VFD**
Endorsements:	
Tier:	**3 - Type Approved, unit certification not required**

This Product Design Assessment (PDA) Certificate remains valid until 21/Feb/2029 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.

American Bureau Of Shipping

Amit Gupta,Engineer/Consultant

NOTE: This certificate evidences compliance with one or more of the Rules, Guides, standards or other criteria of ABS or a statutory, industrial or manufacturer's standards. It is issued solely for the use of ABS, its committees, its clients or other authorized entities. Any significant changes to the aforementioned product without approval from ABS will result in this certificate becoming null and void. This certificate is governed by ABS Rules 1-1-A3/5.9 Terms and Conditions of the Request for Product Type Approval and Agreement (2010)

Sensitivity: Internal & Restricted

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Web: www.untel.com

Tier: 3 - Type Approved, unit certification not required

Product: **Cable, Flame Retardant Electric Power Cables**
Model: **M2XCH VFD**
Endorsements:

Intended Service:
Power cable for variable frequency drives

Description:
Halogen-free, flame retardant, screened, power cable
Conductor: Circular stranded annealed electrolytic copper conductor (class 2 or class 5 and/or tinned on request acc. to IEC 60228),
Insulation: XLPE,

Filler and/or separator and/or bedding and/or inner sheath:
*Filler.
*Polyester tape over laid up cores.
*Halogen-free compound.
*Halogen-free, flame retardant, thermoplastic polyolefin base compound (SHF1 - according to IEC 60092-360)

Screen: CU/PETP Tape (100% coverage), Electrolytic copper braided screen (90% coverage density),
Outer Sheath: Halogen-free, flame retardant , thermoplastic polyolefin based compound (SHF1 - according to IEC 60092-360)

Rating:
Voltage grade: 0.6/1 kV (1.8/3kV)
Maximum operating temperature: 90 deg. C
Lowest ambient temperature for fixed installation: -40 deg. C

Service Restriction:
Unit Certification is required for propulsion controls, propulsion semiconductors and propulsion cables.
All propulsion cables, other than internal wiring in control gears and switchboards are to be subjected to Dielectric and Insulation Tests at the Plant of Manufacture and on board in the presence of the Surveyor.
Refer to:
- 4-1-1/Table 3 (item 21) and 4-8-5/5.17.11 (e) of the ABS Marine Vessels Rules 2026,
- 4-5-5/5.17.11 (e) of the ABS Steel Vessels for Service on Rivers and Intracoastal Waterways Rules 2026, and
- 4-6-5/3.17.11 (e) of the ABS High Speed Craft Rules 2026.

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 Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.
2. Records of test are to be maintained and are to be available to ABS upon request.

Notes/Drawing/Documentation:
Drawing No. 202635259, M2XCH VFD 3x185+3G25 SY 1;8/3kV, ÜNTEL LABORATUVARI Issued on: 12.08.2026, Revision: -, Pages: 5

Terms of Validity:
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(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.

STANDARDS

ABS Rules:
2026 Rules for Conditions of Classification: 1A-1-4/7.7, 1A-1-A3, 1A-1-A4, which covers the following:
2026 Rules for Building and Classing Marine Vessels 4-8-3/9.1, 4-8-3/9.4, 4-8-3/9.5, 4-8-3/9.9, 4-8-3/9.17, 4-8-5/5.17.11,
2026 Rules for Building and Classing Steel Vessels for Service on Rivers and Intracoastal Waterways: 4-5-4/13.1.1, 13.1.2, 13.1.4,
2026 Rules for Building and Classing Steel Barges: 4-1-3/9.

2026 Rules for Conditions of Classification - Offshore Units: 1B-1-4/9.7, 1B-1-A2, 1B-1-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.

National:
NA

International:
IEC 60092-350 Ed 5.0: 2020,
IEC 60092-353 Ed 4.0: 2024,
IEC 60332-3-22 Ed 2.0:2018,
IEC 60332-1-2 Ed 1.1:2025,
IEC 60754-1 Ed 3.1:2019,
IEC 60754-2 Ed 2.1:2019,
IEC 61034-1 Ed 3.2:2019,
IEC 61034-2 Ed 3.2: 2019.

Government:
NA

EUMED:
NA

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OTHERS:
NA