



Confirmation of Product Type Approval

Company Name: UNTEL KABLOLARI SANAYI VE TICARET ANONIM SIRKETI

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

Product: Cable, Flame Retardant Electric Power Cables

Model(s): M2XCH VFD

Endorsements:

Certificate Type	Certificate Number	Issue Date	Expiry Date
Product Design Assessment (PDA)	24-2494623-PDA	22-FEB-2024	21-FEB-2029
Manufacturing Assessment (MA)	22-5264918	09-JUN-2022	08-JUN-2027
Product Quality Assurance (PQA)	NA	NA	NA

Tier

3 - Type Approved, unit certification not required

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)

Ratings

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 Restrictions

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 2024,
- 4-5-5/5.17.11 (e) of the ABS Steel Vessels for Service on Rivers and Intracoastal Waterways Rules 2024, and
- 4-6-5/3.17.11 (e) of the ABS High Speed Craft Rules 2024.

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, Drawings and Documentation

Drawing No. 17-GD1602614-PDA-1, M2XCH VFD 3x16+3G6 TEST REPORT- ABS Surveyor witness test, Revision: 02, Date: 15.02.2024, Pages: 22

Drawing No. 17-GD1602614-PDA-2, M2XCH VFD 3x2,5+3G1,5 TEST REPORT- ABS Surveyor witness test, Revision: 02, Date: 15.02.2024, Pages: 22

Drawing No. 17-GD1602614-PDA-3, M2XCH VFD 3X95+3G16 TEST REPORT- ABS Surveyor witness test, Revision: 02, Date: 15.02.2024, Pages: 22

Drawing No. 17-GD1602614-PDA-4R1, M2XCH VFD 3x120+3G25 TEST REPORT - ABS Surveyor witness test, Revision: 02, Date: 15.02.2024, Pages: 22

Drawing No. Revision: 00, Date: 23.02.2024, Pages: 01

Term of Validity

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.

ABS Rules

- Marine Vessel Rules (2024): 1-1-4/7.7, 1-1-A3&A4: 4-8-3/9.1, 4-8-3/9.5, 4-8-3/9.9, 4-8-3/9.17, 4-8-5/5.17.11;
- Facilities on Offshore Installations (2024): 1-1-4/9.7, 1-1-A2&A3, 3.6/13.1, 3.6/13.3, 3.6/13.5, 3.6/13.7;
- Mobile Offshore Units (2024): 1-1-4/9.7, 1-1-A2&A3, 6-1-1/9, 6-1-1/13, 4-1-1/7.9, 4-3-4/7.1.1, 4-3-4/7.1.2, 4-3-4/7.1.4;
- Steel Vessels for Service on Rivers and Intracoastal Waterways (2024): 1-1-4/7.7, 1-1-A3&A4; 4-5-4/13.1.1, 4-5-4/13.1.2, 4-5-4/13.1.4;
- High Speed Craft Rules (2024): 1-1-4/11.9, 1-1-A2&A3, 4-6-4/13.1.1, 4-6-4/13.1.2, 4-6-4/13.1.4;
- Steel Barge Rules (2024): 1-1-4/7.9, 1-1-A3&A4, 4-1-3/9.

International Standards

- IEC 60092-350 Ed 5.0: 2020,
- IEC 60092-353 Ed 4.0: 2016,
- IEC 60332-3-22 Ed 2.0:2018,
- IEC 60332-1-2 Ed 1.1:2015,
- 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

EU-MED Standards

NA

National Standards

NA

Government Standards

NA

Other Standards

NA



A handwritten signature in black ink, appearing to read 'James J. White', is written over a light blue grid background.

Corporate ABS Programs
American Bureau of Shipping
Print Date and Time: 04-Mar-2024 7:45

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.