



## *Confirmation of Product Type Approval*

Please refer to the "Service Restrictions" shown below to determine if Unit Certification is required for this product. This certificate reflects the information on the product in the ABS Records as of the date and time the certificate is printed.

Pursuant to the Rules of the American Bureau of Shipping (ABS), the manufacturer of the below listed product held a valid Manufacturing Assessment (MA) with expiration date of 07/NOV/2018. The continued validity of the Manufacturing Assessment is dependent on completion of satisfactory audits as required by the ABS Rules.

And; a Product Design Assessment (PDA) valid until 25/MAY/2021 subject to continued compliance with the Rules or standards used in the evaluation of the product.

The above entitle the product to be called Product Type Approved.

The Product Design Assessment is valid for products intended for use on ABS classed vessels, MODUs or facilities which are in existence or under contract for construction on the date of the ABS Rules used to evaluate the Product.

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.

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.

**Product Name:** Cable, Electric

**Model Name(s):** U-HF m, U-HFA m, U-HFA m EMC, U-HFFR m, U-HFFRA m, U-HFAT m, U-HFAT m (I), U-HFAT m (C), U-HFAT m (I+C), U-HFFRAT m, U-HFFRAT m (I), U-HFFRAT m (C), U-HFFRAT m (I+C).

**Presented to:**

UNIKA UNIVERSAL KABLO SAN. VE TIC A.S.  
VELIKOY ORGANIZE SANAYI BOLGESI SANAYI MAH. 3.CADDE NO.4 CERKEZKOY  
Turkey

**Intended Service:**

Power and Communication Cables for Marine and Offshore Applications. Not intended for use as propulsion cable.

**Description:**

U-HF m 0.6/1 kV unarmored power cables; U-HFA m 0.6/1 kV armored power cables; U-HFA m EMC 0.6/ 1kV armored power cables; U-HFFR m 0.6/1 kV fire resistant unarmored power cables; U-HFFRA m 0.6/1 kV fire resistant armored power cables; U-HFAT m 250 V armored communication cables; U-HFAT m (I) 250 V armored communication cables; U-HFAT m (C) 250 V armored communication cables; U-HFAT m (I+C) 250 V armored communication cables; U-HFFRAT m 250 V fire resistant armored communication cables; U-HFFRAT m (I) 250 V fire resistant armored communication cables; U-HFFRAT m (C) 250 V fire resistant armored communication cables; U-HFFRAT m (I+C) 250 V fire resistant armored communication cables. For further details of the cable construction and the approved cable sizes please refer to the Attachment.

**Ratings:**

0.6/1 kV (power cables) and 250 V (communication cables); maximum operating temperature 90 deg C; maximum current carrying capacity as per 4-8-3/Table 6 of the Steel Vessels Rules for XLPE (R85) insulation type.

**Service Restrictions:**

Unit Certification is not required for this product.

**Comments:**

The Manufacturer has provided a declaration about the control of, or the lack of

Asbestos in this product.

**Notes / Documentation:**

1. Doc. titled "U-HF m 0.6/1kV Unarmored Power Cables IEC 60092-353", 3 pages  
 2. Doc. titled "U-HFA m 0.6/1kV Unarmored Power Cables IEC 60092-353", 3 pages  
 3. Doc. titled "U-HFA m EMC 0.6/1kV Armored Power Cables IEC 60092-353", 2 pages  
 4. Doc. titled "U-HFFR m 0.6/1kV Unarmored Power Cables IEC 60092-353", 3 pages  
 5. Doc. titled "U-HFFRA m 0.6/1kV Fire Resistant Armored Power Cables IEC 60092-353", 3 pages  
 6. Doc. titled "U-HFAT m 250V Armored Communication Cables IEC 60092-375 & 376", 4 pages  
 7. Doc. titled "U-HFAT m (I) 250V Armored Communication Cables IEC 60092-375 & 376", 3 pages  
 8. Doc. titled "U-HFAT m (C) 250V Armored Communication Cables IEC 60092-375 & 376", 3 pages  
 9. Doc. titled "U-HFAT m (I+C) 250V Armored Communication Cables IEC 60092-375 & 376", 3 pages  
 10. Doc. titled "U-HFFRAT m 250V FR Armored Communication Cables IEC 60092-375 & 376", 3 pages  
 11. Doc. titled "U-HFFRAT m (I) 250V FR Armored Communication Cables IEC 60092-375 & 376", 3 pages  
 12. Doc. titled "U-HFFRAT m (C) 250V FR Armored Communication Cables IEC 60092-375 & 376", 3 pages  
 13. Doc. titled "U-HFFRAT m (I+C) 250V FR Armored Communication Cables IEC 60092-375 & 376", 3 pages  
 14. Doc. titled "Power Cables Standard IEC 60092-353", 14 pages  
 15. Doc. titled "Power Cables Standard IEC 60092-353", 10 pages  
 16. Doc. titled "Communication Cables Standard IEC 60092-376", 17 pages  
 17. Doc. titled "Communication Cables Standard IEC 60092-376", 18 pages  
 18. UNIKA Electrical and Physical (Type) Test Report, Mechanical and Thermal (Type) Test Report, Low Smoke Test Report, Flame Propagation Test, High Voltage Test for 4 Hours, Fire Resistance Test Report, Halogen - PH and Conductivity Test Report, Smoke Density Test System, 50 pages  
 19. UNIKA Halogen Test Report, Fire Resistance Test Report, Halogen - PH and Conductivity Test Report, Low Smoke Test Report, Smoke Density Test System, Fire Resistance Test Report (for reference), 19 pages  
 20. ABS Istanbul Survey Report No. IS1817153, dated 12 April 2010, 3 pages  
 21. ABS Istanbul Survey Report No. IS1954248-X, dated 25 February 2011, 1 page  
 22. IEC 60092-353, IEC 60092-350 & IEC 60092-360 Gap Analysis, 1 page  
 23. IEC 60092-350 Gap Analysis, 1 page  
 24. UNIKA Test Reports for Cold Impact, Cold Bending & Elongation at Break dated 19 May 2016, 3 pages

**Term of Validity:**

This Product Design Assessment (PDA) Certificate 16-PR1521562-PDA, dated 26/May/2016 remains valid until 25/May/2021 or until the Rules or specifications used in the assessment are revised (whichever occurs first). This PDA is intended for a product to be installed on an ABS classed vessel, MODU or facility which is in existence or under contract for construction on the date of the ABS Rules or specifications used to evaluate the Product. Use of the Product on an ABS classed vessel, MODU or facility which is contracted after the validity date of the ABS Rules and specifications used to evaluate the Product, will require re-evaluation of the PDA. Use of the Product for non ABS classed vessels, MODUs or facilities is to be to an agreement between the manufacturer and intended client.

**ABS Rules:**

The Rules for Conditions of Classification, Part 1 - 2016 Steel Vessels Rules 1-1-4/7.7, 1-1-A3, 1-1-A4, which covers the following: - 2016 Steel Vessel Rules 4-8-3/9.1, 4-8-3/9.3, 4-8-3/9.5, 4-8-3/9.9, 4-8-3/9.17, 4-8-5/3.7.6 - 2016 Steel Vessel Rules Under 90 Meters in Length 4-6-4/13.1.1, 4-6-4/13.1.2, 4-6-4/13.1.4, 4-6-5/1.11.4 - 2016 Offshore Support Vessel Rules 4-8-3/9.1, 4-8-3/9.3, 4-8-3/9.5, 4-8-3/9.9, 4-8-3/9.17, 4-8-5/3.7.6 The Rules for Conditions of Classification, Part 1 - 2016 Offshore Units and Structures 1-1-4/9.7, 1-1-A2, 1-1-A3, which covers the following: - 2016 Mobile Offshore Drilling Unit Rules 4-3-4/7.1.1, 4-3-4/7.1.2, 4-3-4/7.1.4, 4-3-5/1.11

**National Standards:**

CSA C22.2 No. 0.3-09-09 Standard (Section 5.12 abnormal low temperature, cold bend and cold impact tests as per CSA C22.2 No. 2556-07).

**International Standards:**

IEC 60092-353:2011, IEC 60092-375:1977, IEC 60092-376:2003, IEC 60228:2004, IEC 60092-350:2014, IEC 60092-360:2014, IEC 60331-21:1999, IEC 60331-1:2009, IEC 60332-3-22:2009, IEC 60811.

**Government Authority:**

**EUMED:**

**Others:**

**Model Certificate**

PDA

**Model Certificate No**

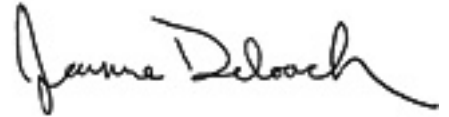
16-PR1521562-PDA

**Issue Date**

26/MAY/2016

**Expiry Date**

25/MAY/2021



ABS Programs

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 was printed. Type Approval requires Drawing Assessment, Prototype Testing and assessment of the manufacturer's quality assurance and quality control arrangements. Limited circumstances may allow only Prototype Testing to satisfy Type Approval. The approvals of Drawings and Products remain valid as long as the ABS Rule, to which they were assessed, remains valid. ABS cautions manufacturers to review and maintain compliance with all other specifications to which the product may have been assessed. Further, unless it is specifically indicated in the description of the product; Type Approval does not necessarily waive witnessed inspection or survey procedures (where otherwise required) for products to be used in a vessel, MODU or facility intended to be ABS classed or that is presently in class with ABS. 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.