Certificate No: **2602061145016354**
TL Project No: **25-0366**

TYPE APPROVAL CERTIFICATE

This is to certify that the

TYPE-3 : NAVY SHIP SIGNAL AND COMMUNICATION CABLES

Manufacturer	:	**KABLOTEK KABLO SAN. ve Tic. A.Ş.**
Address	:	**Mimarsinan Mah. Sadi Sok. Kabtek Kablo Blok No: 46/A Silivri, İstanbul**
Product Type	:	**TASYEYO, TASYEYO FR-180**
Reference Rule	:	**TL Rules, Part E, Chapter 105 - Naval Ship Technology, Electrical Installations, 01.01.2022** **S-P 01/21 ASKERİ GEMİ KABLOLARI İÇİN TEST GEREKSİNİMLERİ, 15.01.2021** **TL Rules, Part B, Chapter 5, Electric , 01.01.2024**

Subject to the conditions referred to in the following pages, this certificate is valid until **06.02.2031**

Surveyor: **Abdullah DEMİRCİ**

-

Issued at **İstanbul** on **14.04.2026**

This document is electronically signed and does not require a manual signature

Click here for the verification website

Emrah SÖĞÜTÇÜ
New Building Division Manager
TÜRK LOYDU

Expire Date of Previous Certificate: -

For Information Only

This certificate is subject to terms and conditions described below:
Any significant change in design or construction may render this Certificate invalid. Certificate is not valid for equipment, the design or manufacture of which has been varied or modified from the specimen tested. This certificate is not valid for products without marking above mentioned. The manufacturer should notify TÜRK LOYDU of any modifications or changes to equipment in order to obtain valid certificate. This certificate shows that tested specimens as representative of the product complies of the TÜRK LOYDU rules, and relevant international instruments that apply to it.

Approval No / Date	**: PAE-EPAS/020122/24-3010/MY//05.12.2024**
Application	**: Type 3, Twisted Pair, Signal and Communication Cables for Naval Ships**
Cross Section	**: 0,75 mm²**
Size	**: Pair Count: 1, 2, 4, 6, 8, 10, 14,16**
Type Designation	**: TASYEYO/TASYEYO FR-180: Halogen free, screened signal and communication cables with fire resistive option.**
Material Used	**: Conductor: Bare or Tinned Copper, stranded** **Material for Insulation: EPR Ethylene-Propylene Rubber** **- Halogen free, cross-linked compound in which the elastomer is an ethylene-propylene** **Material for Covering of Cores:** **- Halogen free, elastic compound** **Material for Screen:** **- Bare or Tinned Copper, stranded** **Material for Sheath: SHF 2 halogen-free rubber** **- Halogen free, cross-linked compound in which the polymer is a polyolefin or equivalent synthetic polymer**
Operating Temperature	**: -40°C to +90°C**
Documentation	**: 1. Type-3 : Navy Ship Signal and Communication Cables Test Plan** **2. Service Life Test for SHF2 (Sheath), Issued By KABLOTEK-02/01/2026** **3. Service Life Test for EPR (Insulation), Issued By KABLOTEK-02/01/2026** **4. Routine Test Report, Issued By KABLOTEK-06/02/2025** **5. Ageing Test with Air Oven Test Report, Issued By KABLOTEK-14/02/2025** **6. Ageing Test with 15W40 Test Report, Issued By KABLOTEK-14/02/2025** **7. Ageing Test with MDO-Main Diesel Oil Test Report, Issued By KABLOTEK-14/02/2025** **8. HotSet Test for SHF 2 Test Report, Issued By KABLOTEK-30/04/2025** **9. HotSet Test for EPR Test Report, Issued By KABLOTEK-30/04/2025** **10. Flame Propagation Test Report Issued By KABLOTEK-06/02/2025** **11. Ozone Resistance(Method B), Halogen Gas Emission (pH min,resistivity max), Test Report Issued By KABLOTEK-30/04/2025** **12. Fluorine Content (HF Max.), Toxicity Test Report for SHF2 Issued By TÜV Rheinland, Report No.: CN25D0XG 001, 21/04/2025** **13. Cold Bending Test Report, Issued By KABLOTEK-30/04/2025** **14. Cold Elongation Test Report, Issued By KABLOTEK-06/02/2025** **15. Transfer Impedance Test Report, Issued By KABLOTEK-06/02/2025** **16. Halogen Content -Determination of Acidity and Conductivity Test Report, Issued By KABLOTEK-30/04/2025** **17. Tear Resistance and Abrasion for SHF2 Test Report, Issued By KABLOTEK-30/04/2025** **18. Pressure Test at High Temperature Test Report, Issued By KABLOTEK-30/04/2025** **19. Shrinkage Test Report, Issued By KABLOTEK-30/04/2025** **20. Heat Shock Test Report, Issued By KABLOTEK-30/04/2025** **21. Smoke Density Test Report, Issued By KABLOTEK-06/02/2025** **22. Fire Resistivity Test Report, Issued By KABLOTEK-02.03.2026** **23. Ageing of Insulation in Air Bomb Test Report, Issued By KABLOTEK-14.02.2026**
Performed Tests	**: Following Test have been carried out and found satisfactory;** **Quality Audit** **Visual Inspection and Dimensional Controls**

For Information Only

Marking Control
Print Durability Control
Mechanical Controls;
-Tensile Strength and Elongation Tests
-Abrasion Test
-Tear Resistance Test
-Pressure Test at High Temperature
Thermal Effect Tests;
- Cold Bending Test
- Cold ElongationTest
-Hot Set Test
-Shrinkage Test
-Heat Shock Test
- Ageing of Insulation in Air Bomb Test
Flame Retardant Test
Fire Resistance Test
Tensile Strength and Elongation Change Tests Before Ageing Treatment
Tensile Strength and Elongation Change Tests After Ageing Treatment
Ozone Resistance Test
Smoke Density Test
In Service Life Test
Electrical Controls;
-Conductor Resistance Test
-High Voltage Test
-Insulation Resistance Test
-Electromagnetic Compatibility
-Increase in AC Capacitance Test
Halogen Content Control, Corrosivity of Combustion Gases and Fluorine Content Test
Toxicity Index Control
Chemical Resistance and Oil Resistance Tests for Sheath

Test Place	**: KABLOTEK KABLO SANAYİ VE TİCARET ANONİM ŞİRKETİ, Mimarsinan Mah. Sadi Sok. Kabtek Kablo Blok No: 46/A Silivri, İstanbul**
Marking of Product	**: KABTEK, TASYEYO/TASYEYO FR-180 (TL:Tip3), Number of Cores, Cross Section, TL SP 01/21, Lot Number, Year of Production, Length of Cable**
Approval Conditions	**: 1- Applications other than the "Material Used*" upper mentioned are not covered by this type approval certificates.**

For Information Only