Certificate No: **2608180804198034**
TL Project No: **26-2953**

TÜRK LOYDU

TYPE APPROVAL CERTIFICATE

This is to certify that the

TYPE 3: NAVY SHIP SIGNAL AND COMMUNICATION CABLES

Manufacturer : **ÜNTEL KABLOLARI SAN VE TİC A.Ş.**

Address : **Demirciler Köyü, Makine Osb 6. Cad No:4, 41455 Dilovası / Kocaeli**

Product Type : **TASYEYO, TASYEYO-FR-180**

Reference Rule : **TL Rules, Part E, Chapter 105 - Naval Ship Technology, Electrical Installations, 01.01.2022**
TL Rules, Part B, Chapter 5, Electric , 01.01.2024
S-P 01/21 REV.01 ASKERİ GEMİ KABLOLARI İÇİN TEST GEREKSİNİMLERİ, 01.07.2024

Subject to the conditions referred to in the following pages, this certificate is valid until **22.06.2031**
Surveyor: **İbrahim Evren DAL**

Issued at **İstanbul** on **28.08.2026**

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: 22.06.2026

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.

Product	**: TYPE 3: NAVY SHIP SIGNAL AND COMMUNICATION CABLES**
Type of Product	**: TASYEYO, TASYEYO-FR-180**
Approval No / Date	**: PAE-EPAS/023049/25-3060/NB , 18.11.2025**
Application	**: Type 3: Navy Ship Signal and Communication Cables**
Design	**: Voltage Class up to 250VAC &355VDC and Temp. Class 90°C**
Cross Section	**: 0,75mm²**
Size	**: Pair Count: 1,2,4,6,8,10,14,16**
Product Description	**: Twisted pair, overall screneed around pairs, signal and communication cables for fixed applications for naval and commercial ship with following properties:** **Voltage Ratings: 250VAC or 355VDC** **Temperature Class : 90°C** **Cables mentioned in this certificate are "Type-3" cables in S-P 01/21 Test Requirements for Cables of Naval Ships.**
Type Designation	**: Below type designations can be used;** **TASYEYO: Halogen free, screned signal and communication cables.** **TASYEYO-FR-180: Halogen free, screned signal and communication cables-FR** **FR: Fire resistivity.**
Material Used	**: Conductor: Copper for electrical application.** **Material for separator: Polyester foil or equivalent halogen free, low smoke, fire retardant type.** **Material for insulation: Halogen free, cross linked material.** **Material for covering of cores: Halogen free elastic or plastic compound.** **Material for screen: Cooper for electrical applications and additional cover for EMC types.** **Material for sheat: Halogen free, cross linked elastomeric compund.** **Material for FR: Fire resistive tape around conduktor.**
Application/Limitation	**: 1- Applications other than the "Material Used*" upper mentioned are not covered by this type approval certificates.** **2- Core color codes and numbers are to be according to related standards and/or manufacturer specification may change the color codes with permission of TL. Different core coding must be stated in the TL test certificates.**
Documentation	**: Flor test for sheat, Report Date: 21.05.2026, Report Number: 717007, issued by TSE.** **Flor test for insulation (EPR), Report Date: 12.06.2026, Report Number: 742559, issued by TSE.** **Flor test for insulation (XLPE), Report Date: 12.06.2026, Report Number: 742624, issued by TSE.** **Chemical Resistance test for H-542 and S-737, Report Date: 09.09.2025, Report Number: 6109588, issued by VDE.** **Ozone Resistance for Sheath (SHF2), Report Date: 10.03.2023, Report Number: 76844, issued by TSE.** **Service Life Test report, Report Date: 14.08.2026, Report Number: 2026TL140826, issued by ÜNTEL.** **Toxicity test report for SHF2, Report Date: 02.01.2026, Report Number: 100-8857, issued by VTEC.** **Toxicity test report for EPR, Report Date: 29.06.2026, Report Number: 100-9069-4, issued by VTEC.** **Toxicity test report for XLPE, Report Date: 09.06.2026, Report Number: 100-9069-3, issued by VTEC.** **Fire Resistive test, Report Date: 14.08.2026, Report Number: 2025-407, issued by ÜNTEL.** **Type Tests Report, issued by ÜNTEL**
Performed Tests	**: Following Test have been carried out and found satisfactory;** **Quality Audit** **Visual Inspection and Dimensional Controls** **Marking Control** **Print Durability Control**

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	Mechanical Controls; **-Tensile Strength and Elongation Tests** **-Abrasion Test** **-Tear Resistance Test** **-Pressure Test at High Temperature** **Thermal Effect Tests;** **- 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 (Transfer Impedance Test)** **-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	**: ÜNTEL KABLOLARI SANAYİ VE TİCARET ANONİM ŞİRKETİ-KOCAELİ**
Marking of Product	**: ÜNTEL, TASYEYO, TASYEYO-FR-180 (TL:Tip3), Number of Cores, Cross Section, TL SP 01/21, Lot Number, Year of Production, Length of Cable**
Test Scope	**: Type Tests**
Last Inspection Date	**: 14.08.2026**
Approval Conditions	**: Approved cables can be used on connections of fixed or mobile equipments which can be connected with hot surfaces. Can be used indoor, outdoor, dry, wet, oily environments.**

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