Certificate No.: 2507210925428034

TÜRK LOYDU

TYPE APPROVAL CERTIFICATE

This is to certify that the

TYPE 1 : NAVY SHIP POWER AND LIGHTING CABLES

TL Project No	**23-1514**
Manufacturer	**BAŞOĞLU Kablo ve Profil Sanayi ve Tic. A.Ş.**
Address	**Merkez, Organize Sanayi Bölgesi, Akın Çakmak Blv. Bolu**
Product Type	**TAGYYO, TAGYYO FR-180, TAGYEYO FR-180, TAGYEYO FR-180 (EMC), TAGYEYO (EMC)**
Reference Rule	**TL Rules, Part E, Chapter 105 - Naval Ship Technology, Electrical Installations, 01.01.2022** **TL Rules, Part B, Chapter 5, Electric, 01.07.2022** **S-P 01/21 REV.01 ASKERİ GEMİ KABLOLARI İÇİN TEST GEREKSİNİMLERİ, 01.07.2024**
Expire Date of Previous Certificate	-
Place and Date	**İSTANBUL / 22.07.2025**

This certificate supersedes 2307211519543878 numbered certificate.

Subject to the conditions referred to in the following pages, this certificate is valid until 27.12.2027.

Emrah SÖĞÜTÇÜ

New Building Division Manager

124902

This certificate is subject to terms and conditions described below:

- Any significant change in design or construction may render this Certificate invalid. Type Approval 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 revelant international instruments that apply to it.

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Product	: TYPE 1 : NAVY SHIP POWER AND LIGHTING CABLES
Type of Product	: TAGYYO, TAGYYO FR-180, TAGYEYO FR-180, TAGYEYO FR-180 (EMC), TAGYEYO (EMC)
Product Description	: Voltage Rate: 1,2kV AC / 1,8kV DC Test Voltage: 3,5kV AC Operating Temperature: -30 °C / +90 °C Conductor: Electrolytic Copper Wires (Bare or Tinned Coated), EN 60228 Class 5 or Class 2. Insulation: Halogen-Free, Silicone Insulation Compound Lay Up: Cores are Stranded in Layers Inner Sheath: Halogen Free Flame Retardant Compound Separator: PET or Fiber Class tape (optional) Screen: Tinned Copper Braid (for EMC also Cu-PET Foil Screen Optional) Separator: PET (optional) Outer Sheath: Halogen-Free, Flame Retardant, Cross-Linked Sheathing Compound Number of Cores: 1 to 33 Cross-sections: 1 mm^2 to 300 mm^2
Approval No / Date	: PAE-EPAS/016458/23-1192/EA- 04.07.2023 PAE-EPAS/016823/23-1192/EA- 17.08.2023 PAE-EPAS/018397/23-2194/EA- 25.03.2024
Application	: TYPE 1, Power and Lighting Cables for Naval Ships
Standart	: Fire Resistance: IEC 60331-21 for FR type, Flame Retardant: IEC 60332-1-2, IEC 60332-3-22, Halogen Free: IEC 60754/1-2, Smoke Density: IEC 61034-2
Performed Tests	: Following tests and QMS Audit have been carried out and found satisfactory according to TL SP01/21 "Test Requirements for Cables of Naval Ships" ; 1- Visual inspection and dimensional controls 2- Construction and finishing control 3- Marking control 4- Print durability control 5- Mechanical controls: Tensile strength and elongation tests (Insulation and sheath), Abrasion test, Notch sensitivity test, Tear resistance test 6- Thermal effect tests : Cold bend test, Coiling test at low temperature, Hot set test, Shrinkage test, Heat shock test 7- Flame retardant tests (single cable and cable bunch) 8- Tensile strength and elongation change tests after aging treatment (Insulation, sheath and complete cable) 9- Ozone resistance test 10- Smoke density control 11- Electrical controls : Conductor resistance test, High voltage test, Insulation resistance test, Electromagnetic compatibility test, Increase in AC capacitance test 12- Halogen content control, corrosivity of combustion gases and Fluorine content test 13- In service life control 14- Toxicity index control 15- Operation under fire condition (3h) test (Fire resistant types only) 16- Chemical resistance and oil resistance tests for sheath
Test Place	: BAŞOĞLU KABLO VE PROFİL SANAYİ VE TİCARET ANONİM ŞİRKETİ-BOLU
Test Scope	: Type Tests
Last Inspection Date	: 17.07.2025

Surveyor Name : İbrahim Evren DAL

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Approval Conditions : Applications other than the "Product Description" mentioned in this certificate are not covered by this type approval certificates.

Surveyor Name : İbrahim Evren DAL

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