

Type Approval Certificate

This is to certify that the undernoted product(s) has/have been tested with satisfactory results in accordance with the relevant requirements of the Lloyd's Register Type Approval System.

Manufacturer	TELDOR Cables & Systems
Address	Kibbutz Ein-Dor, 1933500, Israel
Place of Production	TELDOR Cables & Systems Kibbutz Ein-Dor, 1933500, Israel
Type	Electrical Power Cables
Description	Power / Low Voltage / Instrumentation / Control & Signal 600/1000V low smoke, zero halogens, flame retardant, fire resistance (optional) cables for Marine / Oil / Gas / Offshore applications
Trade Name	Teldor
Application	Power and Control & Instrumentation cables for Marine and Offshore applications
Specified Standard	IEC 60353:2016, IEC 60092-376:2017, IEC60092 -350:2020, IEC 60092-360:2021, IEC 60754-1/2:2019, IEC61034-1/2:2019, IEC 60332-1-1/2/3:2015, IEC 60332-3-22:2018, IEC60332-3-24:2018, BS6387:2013; IEC 60331-1:2018, IEC 60331-2:2018, IEC60331-21:1999, NEK 606:2016; ISO/IEC 11801:2017, CSA 22.2 No. 03:2009 (Coldbend, Cold Impact), SOLAS Amendments chapter II-1, Part D, Reg. 45, 5.2.

19th Floor, 550 Yan An dong Road, Shanghai,
Huangpu District, China

Ke Lin Zhang

Lead Specialist to Lloyd's Register
Classification Society (China) Co Ltd
A member of the Lloyd's Register group

Lloyd's Register Group Limited, its affiliates and subsidiaries and their respective officers, employees or agents are, individually and collectively, referred to in this clause as 'Lloyd's Register'. Lloyd's Register assumes no responsibility and shall not be liable to any person for any loss, damage or expense caused by reliance on the information or advice in this document or howsoever provided, unless that person has signed a contract with the relevant Lloyd's Register entity for the provision of this information or advice and in that case any responsibility or liability is exclusively on the terms and conditions set out in that contract.

Type Approval Certificate

Ratings

Power / Low Voltage / Instrumentation, Signal & Control 600/1000V cables for Marine, OIL/GAS, Offshore and Industrial applications made from solid or stranded conductors. The cables are made from multi-core, multi-pair and multi-triad constructions and their combinations with SHF1 / SHF2 / SHF2-Mud-resistant per NEK606 jackets. The cables are flame retardant per IEC60332-3 have fire resistant option per IEC60331-21/22, halogen free, low smoke emission, armored and Non-armored.
Details see certificate appendix

This certificate is not valid for equipment, the design, ratings or operating parameters of which have been varied from the specimen tested. The manufacturer should notify Lloyd's Register Classification Society (China) Co Ltd of any modification or changes to the equipment in order to obtain a valid Certificate.

The Design Appraisal Document LR21438255TA and its supplementary Type Approval Terms and Conditions form part of this Certificate.

Appendix

SPECIAL PROPERTIES:

600/1000V power / low voltage cores, single cores, pairs or triads for instrumentation / Control / Signal applications, Halogen free per IEC 60754-1/2, Flame retardant per IEC 60332-3-22 (cat.A), 60332-3-24 (cat.C), IEC 60332-1-1/2/3, IEC 60332-2, Low Smoke per IEC 61034-1/2, Armor/Non-Armor Fire resistant per IEC 60331-21/22 (Optional), Various Jacket types (SHF1, SHF2, SHF2-MUD resistant per NEK606), Designed for marine and offshore application, Oil resistant, Designed for harsh conditions
 Combinations of cross sections and single/pair/core structures are permitted

Construction:

- Conductor: Plain or tinned annealed copper Class 2 or Class 5
- Flame barrier: Inorganic tapes / Fire resistance tape
- Insulation: HF90, HF XLPE (Halogen-Free, Low-Smoke, Flame retardant)
- Individual screen: Aluminium/polyester tape with tinned copper drain wire
- Collective screen: Aluminium/polyester tape with tinned copper drain wire
- Inner sheath: SHF1 or SHF2 or SHF2 MUD single or double layer
- Metal covering / Armor: Plain/tinned copper wire braid or copper alloy wire braid or galvanized steel wire braid (multi core cables only) or Braided aluminum alloy wire or Braided bronze wire
- Outer sheath: SHF1 or SHF2 or SHF2 MUD single or double layer

No of cores:	Cross sectional area [mm ²]
1-37	1 1,5 2,5 4
1-33	6
1-23	10

No of Pairs:	Cross sectional area [mm ²]
2-27	1
2-23	1,5

2-19	2,5
------	-----

No of Triads:	Cross sectional area [mm ²]
1-27	1
1-21	1,5
1-16	2,5

Cables may also include combinations of the above

Cable structure:

Unit Count	Basic Unit type	Conductor Cross-section	Conductors Material	Individual Shield	Overall Shield	Armor	Fire resistant	Jacket Type (Inner/Outer)
nn	S: Singles P: Pairs T: Triads	05: 0.5 mm ² 07: 0.75 mm ² 10: 1.0 mm ² 15: 1.5 mm ² 25: 2.5 mm ² 04: 4.0 mm ² 06: 6.0 mm ² 100: 10.0 mm ²	T: Tin-coated copper B: Bare copper	1: Unshielded 2: Al. foil 3: Copper foil 4: BC braid 5: TC braid 6: Al. foil + TC braid 7: CU foil + BC braid	1: Unshielded 2: Al. foil 3: Copper foil 4: BC braid 5: TC braid 6: Al. foil + TC braid 7: CU foil + BC braid	T: Braided tinned copper wire B: Braided bare copper wire G: Braided galvanized steel wire A: Braided aluminum alloy wire C: Braided copper alloy wire Z: Braided bronze wire	F=fire resistant (opt.)	SHF1 SHF2 MUD Resistance(NEK606)

APPLICATION LIMITATION:

Operation temperature: -40°C to +95°C

Storage temperature: -40°C to +95°C

Installation temperature: -30°C to +50°C