Certificate No:
TAE00004UE

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Electric Power Cable

with type designation(s)
GEXOL®-HF FLAME RETARDANT ARMOURED SINGLE CORE POWER CABLES,
GEXOL®-HF FLAME RETARDANT ARMOURED POWER CONTROL AND INSTRUMENTATION CABLES

Issued to
AMERCABLE INCORPORATED dba Nexans AmerCable
El Dorado, AR, USA

is found to comply with
DNV rules for classification – Ships, offshore units, and high speed and light craft

Application :

Low voltage power and instrumentation cable. Armoured
Products approved by this certificate are accepted for installation on all vessels classed by DNV.

Type	Rated voltage (kV)	Temp. class (°C)
GEXOL®-HF FLAME RETARDANT ARMOURED SINGLE CORE POWER CABLES	2	90
GEXOL®-HF FLAME RETARDANT ARMOURED POWER CONTROL AND INSTRUMENTATION CABLES	0,6/1	90

Issued at **Høvik** on **2025-04-15**
This Certificate is valid until **2029-02-27**.
DNV local station: **Houston, Approval CMC**

Approval Engineer: **Ivar Bull**

for **DNV**

Frederik Tore Elter
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid.
The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.

Product description

GEXOL®-HF FLAME RETARDANT ARMOURED SINGLE CORE POWER CABLES 2kV
GEXOL®-HF FLAME RETARDANT ARMOURED POWER CONTROL AND INSTRUMENTATION CABLES 0,6/1kV

Construction:

Conductor:	Flexible tinned stranded copper per IEEE 1580 table 2
Insulation:	Cross linked polyolefin LSE or LSX
Shield:	AL/PE foil with tinned drain wire (instrumentation cables only)
Metal covering:	Bronze or tinned copper wire braid
Tape	Polyester tape
Outer sheath:	LS HF polyolefin per IEEE 1580

Single core power cables 2kV:

No of cores:	Cross sectional area [AWG]	Cross sectional area [mm2]
1	18 - 1111	1 – 562

2,3,4,5 core and multicore power and control cables 0,6/1kV:

No of cores:	Cross sectional area [AWG]	Cross sectional area [mm2]
1	18 - 1111	1 – 562
2	16 – 1/0	1,3 - 54
3	16 - 777	1,3 – 394
4	16 - 646	1,3 – 326
5	18 – 4/0	1 – 109
4, 5, 7, 8, 10, 16, 20, 24, 37, 44, 60 , 91	16	1,3
4, 5, 6, 7, 10, 12, 14, 20, 24, 37, 44, 91	14	2,1
4, 5, 6, 10, 20, 24, 37	12	3,3

Shielded Pairs and Triads instrumentation cables 0,6/1kV:

No of elements:	Cross sectional area [AWG]	Cross sectional area [mm2]
1, 2, 3, 4, 5, 7, 8, 10, 12, 16, 18, 24 Pairs	18	1
1, 2, 3, 4, 5, 7, 8, 10, 12, 16, 18, 24 Pairs	16	1,3
1, 2, 3, 4, 5, 7, 8, 10, 12 Pairs	14	2,1
1, 2, 3, 4, 5, 7, 8, 10, 12 Triads	18	1
1, 2, 3, 4, 5, 7, 8 Triads	16	1,3

Application/Limitation

The requirements of SOLAS Amendments Chapter II-1, Part D, Reg. 45, 5.2 (provision to be taken to limit Fire Propagation along Bunches of Cables or Wires) are fulfilled without any additional measures.

Type Approval documentation

Tests carried out

	Release	General description	Limitation
DNV-CP-0399	2021-08	Class Programme Electric cables	
IEEE 1580	2021	1580-2021 - IEEE Recommended Practice for Marine Cable for Use on Shipboard and Fixed or Floating Facilities	LSE or LSX insulation LS HF polyolefin sheath
IEC 60092-350	2020-01	General construction and test methods of power, control and instrumentation cables for shipboard and offshore applications	
IEC 60092-360	2021-01	Electrical installations in ships - Part 360: Insulating and sheathing materials for shipboard and offshore units, power, control, instrumentation and telecommunication cables.	
IEC 60092-353	2024-06	Electrical installations in ships - Part 353: Power cables for rated voltages 1 kV and 3 kV	
IEC 60332-3-22	2018-07	Tests on electric and optical fibre cables under fire conditions – Part 3-22: Test for vertical flame spread of vertically-mounted bunched wires or cables – Category A	Charred portion of sample does not exceed 2,5m above bottom edge of burner.
IEC 60754-1	2019-11	Test on gases evolved during combustion of materials from cables - Part 1: Determination of the halogen acid gas content	Low Halogen: <0,5% Halogen
IEC 60754-2	2019-11	Test on gases evolved during combustion of materials from cables - Part 2: Determination of acidity (by pH measurement) and conductivity	Halogen free: pH > 4,3 Conductivity < 10µS/mm
IEC 61034-1/2	2019-11	Measurement of smoke density of cables burning under defined conditions – Test apparatus, procedure and requirements	Low smoke Light transmittance ≥60%
IEC 60092-350	2020-01	Annex E: Cold bend test and impact test for low temperature behaviour	Cold bend: -40°C Cold impact: -35°C

Marking of product

NEXANS AMERCABLE – Factory code - GEXOL®-HF – FLAME RETARDANT ARMOURED POWER or CONTROL or INSTRUMENTATION CABLES – No of conductors x Cross section – Voltage – IEC 60332-3-22 – Lot No

Factory code = El Dorado

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the Type approval are complied with and that no alterations are made to the product design or choice of materials.

The main elements of the assessment are:

- Inspection on factory samples, selected at random from the production line (where practicable)
- Results from Routine tests (RT) and selected type tests (ref. to applicable class programs) checked (if not available these tests shall be carried out)
- Review of type approval documentation
- Review of possible change in design, materials and performance
- Ensuring traceability between manufacturer's product type marking and Type Approval Certificate.

Periodical assessment is to be performed after 2 years and after 3.5 years.
A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE