TYPE APPROVAL CERTIFICATE

Certificate no.:
TAE0000441
Revision No:
1

This is to certify:

that the Low Voltage Cable

with type designation(s)
GENFIRE 606 BFOU (i) S3/S7 MUD 250V, GENFIRE 606 BFOU (c) S4/S8 MUD 250V, GENFIRE 606 BFOU (i+c) MUD 250V

issued to
Grupo General Cable Sistemas, S.L.
Abrera, Barcelona, Spain

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

Application:

Instrumentation, communication and control. Fire resistant.
Products approved by this certificate are accepted for installation on all vessels classed by DNV.

Type	Rated voltage (V)	Temp. class (°C)
GENFIRE 606 BFOU (i) S3/S7 MUD 250V	250	90
GENFIRE 606 BFOU (c) S4/S8 MUD 250V	150/250	90
GENFIRE 606 BFOU (i+c) MUD 250V	150/250	90

Issued at **Høvik** on **2026-10-05**

This Certificate is valid until **2030-11-30**.
DNV local unit: **Area NB/CMC Iberia**

Approval Engineer: **Deep Vaishampayan**

for **DNV**

This document has been digitally signed and will therefore not have handwritten signature

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 USD 300 000.

Product description

Type: GENFIRE 606 BFOU (i) S3/S7 MUD 250V,
GENFIRE 606 BFOU (c) S4/S8 MUD 250V,
GENFIRE 606 BFOU (i+c) MUD 250V

Construction:

Conductors:	Tinned annealed stranded copper class 2
Core insulation:	Mica-tape + EPR
Screen:	Individual or common screen of Copper polyester tape w/ tinned copper drain wire
Inner covering:	Halogen-free compound
Metal covering:	Tinned copper wire braid
Outer sheath:	SHF2 or SHF MUD

Collective screen (c) and/or Individual screen (i):

No of Elements:	Cross sectional area [mm^2]
1, 2, 4, 8, 12, 16, 19, 24 pairs	0,75
1, 2, 4, 8, 12, 16, 19, 24, 27, 30, 37 pairs	1,0
1, 2, 4, 8, 12 pairs	1,5
1, 2, 4, 8, 12, 16 pairs	2,5
1, 2, 3, 4, 8, 12, 14, 15, 18, 20, 24 pairs	0,50 0,75 1,0 1,5 2,5
1, 2, 4, 8, 12 triples	0,75
1, 8 triples	1,0
1, 2, 4 triples	1,5
16 triples	2,5

Manufactured by:

Production site: Santa Perpetua Plant -Poligon Industrial
Can Vinyalets 2 - 08130 Santa Perpetua de Mogoda, Barcelona, Spain

Application/Limitation

This cable is fire resistant in accordance with IEC Publication 60331.

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

Data sheets: General Cable GENFIRE 606 S3/S7 BFOU (i) 150/250V CuSn2 Rev2 25-Sept-2020
General Cable GENFIRE 606 S4/S8 BFOU (c) 150/250V CuSn2 Rev 2 20-March-2020
General Cable GENFIRE 606 BFOU (i)(c) MUD 150/250V CuSn2 Rev 2 20-March-2020

Test reports: See approval letter

Tests carried out

Standard	Release	General description	Limitation
IEC 60092-350	2020-01	Electrical installations in ships - Part 350: General construction and test methods of power, control and instrumentation cables for shipboard and offshore applications	
IEC 60092-376	2025-04	Electrical installations in ships - Part 376: Cables for control and instrumentation circuits 150/250 V (300 V)	
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.	

Standard	Release	General description	Limitation
IEC 60331-1/2	2018-03	Tests for electric cables under fire conditions - Circuit integrity - Part 1/2: Test method for fire with shock at a temperature of at least 830 °C for cables of rated voltage up to and including 0,6/1,0 kV and with an overall diameter exceeding / not exceeding 20 mm	Minimum 90 min+15 min cooling down time
IEC 60332-1-2	2025-06	Tests on electric and optical fibre cables under fire conditions – Part 1-2: Test for vertical flame propagation for a single insulated wire or cable –Procedure for 1 kW pre-mixed flame	Flame retardant small scale. Distance between the lower edge of the top support and the onset of charring > 50 mm and charring not to extend downwards > 540 mm from the lower edge of the top support.
IEC 60332-3-22	2018-07	Tests on electric 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 – Determination of the degree of acidity of gases evolved during the combustion of materials taken from electric cables by measuring pH and conductivity	Halogen free: pH > 4,3 Conductivity < 10µS/mm
IEC 60684-2	2025-05	Flexible insulating sleeving – Part 2: Methods of test Clause 47.1 Methods of determination of low levels of chlorine, and/or Bromine and/or iodine Clause 47.2 Methods of determination of low levels of fluorine	HF max 0,1% [0,02% can be detected]
IEC 61034-1/2	2019-11	Measurement of smoke density of cables burning under defined conditions – Part 1: Test apparatus Part 2: Test procedure and requirements	Low smoke Light transmittance >60%
NEK TS606 Ed.7	2025-03	Cables for offshore installations - halogen-free low smoke flame-retardant / fire-resistant (HFFR-LS). Technical specification.	Mud resistance test: Required Max variations ±: IRM902 & 903 100°C 7d. TS & E@B, Weight & vol.: ±30% Calc. Bromide 70°C 56d. TS & E@B: ±25%, Weight: ±15%, vol.: ±20% Oil based mud: **EDC 95/11 70°C 56d** TS & E@B ±30%, Weight & vol.: ±25%
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

GENERAL CABLE SAP – GENFIRE 606 BFOU (i) S3/S7 or BFOU (c) S4/S8 or BFOU (i+c) -MUD -150/250 V [section], [year fab.], NEK 606 IEC 60332-3-22 IEC 60331 Lot No., [meter marking]

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) checked (if not available tests according to RT to 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