Certificate No:
TAE00004AK

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Low Voltage Cable

with type designation(s)
MPYSLA, MPY-S, FA-MPYSLA, FA-MPY-S

Issued to
Hien Electric Industries, Ltd.
Fukuchiyama, Kyoto Pref., Japan

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

Application :

Instrumentation and communication

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV.
Rated voltage (V) 150/250
Temp. class (°C) 90

Issued at **Busan** on **2021-06-09**
This Certificate is valid until **2026-06-08**.
DNV local station: **Kobe**

Approval Engineer: **Eun Sook Kim**

for **DNV**

Andreas Kristoffersen
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

Type: MPYSLA, MPY-S, FA-MPYSLA, FA-MPY-S

Construction:

Conductor	Tinned annealed copper wire, stranded
Insulation	EPR
Screen	Plain copper wire braid ('-S' type only)
Common shield	Aluminium laminate tape ('SLA' type only)
Outer sheath	ST2

Number of cores x conductor cross-section
mm^2
2 x 1,0
4 x 1,0
7 x 1,0

Number of cores x conductor cross-section
mm^2
12 x 1,0
19 x 1,0
27 x 1,0

Number of cores x conductor cross-section
mm^2
37 x 1,0
44 x 1,0
77 x 1,0

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 ('FA' type only).

Type Approval documentation

Tests carried out

Standard	Release	General description	Limitation
IEC 60092-350	2014-08	General construction and test methods of power, control and instrumentation cables for shipboard and offshore applications	
IEC 60092-376	2017-05	Cables for control and instrumentation circuits 150/250V	
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	Bunch test Category A 'FA' type only

Marking of product

150/250 V – MPYSLA, MPY-S – Size – Hien elec. – Year – Length
150/250 V – FA-MPYSLA, FA-MPY-S – Size – IEC 60332 Cat. A – Hien elec. – Year – Length

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