

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Low Voltage Cable**with type designation(s)
MPY, TTPY, FA-MPY, FA-TTPY

Issued to

Kukdong Electric Wire Co., Ltd.
Jincheon-gun Chungcheongbuk-do, Koreais found to comply with
DNV GL rules for classification – Ships, offshore units, and high speed and light craft
JIS C 3410:2010**Application :****Instrumentation and communication. Control.****Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.****Rated voltage (V) 250**
Temp. class (°C) 90Issued at **Busan** on **2018-01-25**This Certificate is valid until **2022-06-30**.for **DNV GL**DNV GL local station: **Seoul**Approval Engineer: **Eun Jin Lee**

Michael Jost Auf der Stroth
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.



Product description

Type : MPY, TTPY, FA-MPY, FA-TTPY

Conductors : Tinned annealed stranded copper conductor, Class 2
Core insulation : EPR
Outer sheath : ST2

Number Of Cores X Conductor- section	Number Of Cores X Conductor- section	Number Of Cores X Conductor- section	Number Of Cores X Conductor- section
mm ²	mm ²	mm ²	mm ²
MPY, FA-MPY		TTPY, FA-TTPY (Pair)	14 x 0.75
2 x 1.0	23 x 1.0	1 x 0.75	15 x 0.75
3 x 1.0	27 x 1.0	1 x 0.75 Tr	19 x 0.75
4 x 1.0	33 x 1.0	1 x 0.75 Qd	24 x 0.75
5 x 1.0	37 x 1.0	2 x 0.75	30 x 0.75
7 x 1.0	44 x 1.0	3 x 0.75	37 x 0.75
9 x 1.0	77 x 1.0	4 x 0.75	48 x 0.75
12 x 1.0		7 x 0.75	
16 x 1.0		10 x 0.75	
19 x 1.0			

Application/Limitation

The requirement of SOLAS Chapter II-1 Part D Reg.45, 5.2 to limit Fire Propagation along Bunches of cables or wires are fulfilled without any additional measure for 'FA-' type only.

Type Approval documentation

Tests carried out

Standard	Issued	Limitation
JIS C3410	2010	
IEC 60332-1	2004	
IEC 60332-3-22	2009	Bunch test Cat.A 'FA-' type only.
CSA C22.2 No. 03		For '-ICE' type only: Cold bend (-40 °C) Cold impact (-35 °C)

Marking of product

250 V – MPY or TTPY – Size – Kukdong – Year of manufacture – Length

250 V – FA-MPY or FA-TTPY – Size – Kukdong – IEC 60332-3 Cat.A – Year of manufacture – Length

*If "-ICE" symbol is added, cable has cold resistant property.

Periodical assessment

The scope of the retention/renewal survey is to verify that the conditions stipulated for the Type Approval Certificate are complied with and that no alterations are made to the design and/or the material of product.



Job Id: **262.1-012905-3**
Certificate No: **TAE0000234**

The main elements of the survey are:

- Inspection on factory samples, selected at random from the production line (where practicable)
- Check of the results from Production Sample Tests(PST) and Routine Tests(RT) (if not available, PST and RT are to be carried out)
- Review of type approval documentation
- Review of possible changes in design, material 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