

TYPE APPROVAL CERTIFICATE

This is to certify:

That the High Voltage Cable

with type designation(s)
3.6/1kV & 6/10kV (FA-)SPYCB(C), (FA-)TPYC(C)

Issued to

TMC Co., Ltd
Cheonan-si Chungcheongnam-do, Republic of Korea

is found to comply with
DNV GL rules for classification – Ships, offshore units, and high speed and light craft
JIS C 3410:2010

Application :

General power. Flame retardant.

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Voltage (kV) 3.6/6, 6/10
Temp. class (°C) 90

This Certificate is valid until **2021-10-11**.

Issued at **Busan** on **2016-10-12**

DNV GL local station: **Seoul**

for **DNV GL**

Approval Engineer: **Dong Ho Park**

.....
Baeg Soon Choi
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 : 3.6/6kV (FA-)SPYCB(C*), (FA-)TPYC(C*)
6/10kV (FA-)SPYCB(C*), (FA-)TPYC(C*)

Conductor : Stranded tinned annealed copper wires
Conductor screen : Semi-conductivity layer
Insulation : EPR
Insulation screen : Semi-conductivity layer with copper tape
Sheath : PVC
Armour : Braid of galvanized steel wire(C) or copper alloy wire(CB)

* Cable type with 'C' for cold resistant characteristic (option)

Number of cores x conductor cross-section mm ²	Number of cores x conductor cross-section mm ²	Number of cores x conductor cross-section mm ²	Number of cores x conductor cross-section mm ²
3.6/6kV (FA-)SPYCB(C)	3.6/6kV (FA-)TPYC(C)	6/10kV (FA-)SPYCB(C)	6/10kV (FA-)TPYC(C)
1x10	1x240	3x150	1x240
1x16	1x300	1x16	1x300
1x25	3x10	1x25	3x16
1x35	3x16	1x35	3x25
1x50	3x25	1x50	3x35
1x70	3x35	1x70	3x50
1x95	3x50	1x95	3x70
1x120	3x70	1x120	3x95
1x150	3x95	1x150	3x120
1x185	3x120	1x185	3x150

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 measures for 'FA-' type only.

Type Approval documentation

Tests carried out

Standard	Issued	Limitation
JIS 3410	2010	
IEC 60332-1(As JIS 3410, 7.6)	2004	
IEC 60332-3-22 (As JIS 3410, 7.7)	2009	'FA-' type only
CSA C22.2 No.03	2009	'C' type only

Marking of product

3.6/6kV or 6/10kV – Cable type – Size – TMC – Year of manufacture – Length or

3.6/6kV or 6/10kV – Cable type – Size – IEC 60332-3 CAT.A – TMC – Year of manufacture – Length

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.

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)



Job Id: **262.1-015062-2**
Certificate No: **TAE00001E7**

- (if not available, PSTand 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

Survey is to be performed at least every second year.

END OF CERTIFICATE