DNV·GL

Certificate No:
TAE00001SD

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Switchboard wire

with type designation(s)
0.6/1kV HFF-CXP

Issued to
Seoul Electric Wire Co., Ltd.
Eumseong-gun Chungcheongbuk-do, Republic of Korea

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

Application :

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

Issued at **Busan** on **2017-02-21**
This Certificate is valid until **2022-02-20**.
DNV GL local station: **Seoul**

for **DNV GL**

Approval Engineer: **Eun Jin Lee**

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 : 0.6/1kV HFF-CXP

Conductors: Stranded plain or tinned annealed copper, Class 2 or Class 5
Core insulation: HF90

Number of cores x conductor cross-section	Overall diameter
mm^2	mm
1 x 1	2.8 ± 0.3
1 x 1.5	3.1 ± 0.3
1 x 2.5	3.6 ± 0.3
1 x 4	4.2 ± 0.3
1 x 6	4.9 ± 0.4
1 x 10	5.8 ± 0.5
1 x 16	7.3 ± 0.6
1 x 25	9.2 ± 0.8
1 x 35	10.6 ± 0.8
1 x 50	12.7 ± 1.0
1 x 70	15.1 ± 1.2
1 x 95	17.2 ± 1.4
1 x 120	19.0 ± 1.6

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 60092-353	2016-09	Power cables for rated voltages 1kV and 3kV	
IEC 60092-360	2014-04	Insulating and sheathing materials for shipboard and offshore units, power, control, instrumentation, telecommunication cables	
IEC 60332-1	2004-07	Test for vertical flame propagation for a single insulated wire or cable	
IEC 60754-1	2011	Test on gases evolved during combustion of materials from cables – Determination of the amount of halogen acid gas	Low Halogen <0,5%
IEC 60754-2	2011	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 condctivity	Halogen free ≥4,3pH, ≤10µS/mm
IEC 60684-2	2011	Flexible insulating sleeving – Part 2: Methods of test.	Fluorine content <0,1%
IEC 61034-1/2	2013-06	Measurement of smoke density of cables burning under defined conditions – Test apparatus, procedure and requirements	Low smoke >60%

Marking of product

0.6/1 kV – HFF-CXP – Size – Seoul Electric Wire – 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)
- Routine Tests(RT) is to be carried out and check the results
- 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