

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Low Voltage Cable**with type designation(s)
SUOU 250 V

Issued to

Falmat Inc.
SAN MARCOS CA, United States

is found to comply with

Det Norske Veritas' Rules for Classification of Ships, High Speed & Light Craft and Det Norske Veritas' Offshore Standards**IEC 60092-350 (2008-02)****IEC 60092-376 (2003-05)****IEC 60331-21 (1999-04)****IEC 60332-3-22 (2009-02)****IEC 60754-1 (2011-11)****IEEE 45 1983****Application :****Instrumentation and communication.****Flame retardant Cat. A. Low Halogen.****Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.****Voltage class (V) 250****Temp. class (°C) 95**This Certificate is valid until **2019-06-30**.Issued at **Høvik** on **2015-07-01**DNV GL local station: **Long Beach**Approval Engineer: **Georgy Abramenko**for **DNV GL**

Marit Laumann
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.

Job Id: **262.1-002974-4**
Certificate No: **TAE000003H**

Product description

Type: SUOU 250V

Conductors: Nickeled stranded copper
Insulation: S95
Inner Sheath: SHF1
Metal covering: Tinned copper Braid Armour (optional Bronze, Stainless steel or galvanized steel)
Outer Sheath: SHF1

Number of cores conductor cross-section mm2	Number of cores conductor cross-section mm2	Number of cores conductor cross-section mm2	Number of cores conductor cross-section mm2
1 x 2 x 0,507	Overall Shields	7 x 2 x 1,32	3 x 3 x 1,5
2 x 2 x 0,507	2 x 0,507	1 x 2 x 1,5	5 x 3 x 1,5
4 x 2 x 0,507	3 x 0,507	2 x 2 x 1,5	7 x 3 x 1,5
7 x 2 x 0,507	4 x 0,507	4 x 2 x 1,5	
10 x 2 x 0,507	5 x 0,507	7 x 2 x 1,5	
	7 x 0,507		Singles
Triples Ind. Shields	10 x 0,507	Triples Ind. Shields	Overall Shields
1 x 3 x 0,507		1 x 3 x 1,32	2 x 1,32
3 x 3 x 0,507	Pairs Ind. Shields	3 x 3 x 1,32	3 x 1,32
5 x 3 x 0,507	1 x 2 x 1,32	5 x 3 x 1,32	4 x 1,32
7 x 3 x 0,507	2 x 2 x 1,32	7 x 3 x 1,32	5 x 1,32
	4 x 2 x 1,32		7 x 1,32
Singles		1 x 3 x 1,5	10 x 1,32
			12 x 1,32

Application/Limitation

This type of 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 Bundles of Cables or Wires) are fulfilled without any additional measures.

Type Approval documentation

Tests carried out

Type tests according to IEC 60092-350, IEC 60092-376, IEEE 45-1983, IEC 60332-3-22, IEC 60331-21 and IEC 60754-1.

Marking of product

FALMAT – Marine-Flex FP - SUOU – Size – 250V – IEC 60331 – IEC 60332 Cat. A – Lot. No.

Periodical assessment



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

The main elements of the survey are:

- Inspection on factory samples, selected at random from the production line (where practicable)
- Results from Production Sample Tests (PST) and Routines (RT) checked (if not available tests according to PST and 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.

Survey to be performed at least every second year.

END OF CERTIFICATE