DNV·GL

Certificate No:
TAE00002YM

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Electric Power Cable

with type designation(s)
Flat cable Woertz 5 x 2,5 mm², 49846
Flat cable Woertz 5 x 16 mm², 49606

Issued to
WOERTZ AG
MUTTENZ, Switzerland

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.
Rated voltage (kV) 0,6/1
Temp. class (°C) 90

Issued at **Hamburg** on **2018-07-03**
This Certificate is valid until **2023-07-02**.
DNV GL local station: **Augsburg**

for **DNV GL**

Approval Engineer: **Carsten Hunsalz**

Arne Schaarmann
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.

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Product description

Halogen free low fuming and flame retardant flat cables

Type:	Flat cable Woertz 5 x 2,5 mm², 49846	
	Flat cable Woertz 5 x 16 mm², 49606	
Conductor:	Plain flexible stranded Cu conductor	class 5 for 49606
		class 6 for 49846
Insulation:	Halogen free cross linked polyethylen / HIT1	
Sheath:	Halogen free thermoplastic polyolefin compound / ST8	

Application/Limitation

For use of WOERTZ AG quick connection installation systems.
To be installed in accordance with the manufacturer's instructions and DNV GL rules.

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.

Ecobus Power 49846; for fixed installation in dry spaces inside the ship.
Ecofil i 49606; for fixed installation inside the ship.

Type Approval documentation

Test report : VDE Prüf- und Zertifizierungsinstitut, Ausweis Nr. 119173 and
No. 134759; Report 8787-H, page 1-12 + 7443-K, page 1-12, 16.03.2006;
SEV Reg. 070004:2011-05-02; OVE Certificate No.: 11974-001-00;
ETS No.: 17111701-1, dated 2017-12-19

Tests carried out

EN 50214:2006; EN 60228:2005; HD 604 S1:1994; IEC 60502-1:2004; SEV 1011:2009;
EN 60332-3-24:2009; IEC 60332-1-2:2004

Marking of product

Manufacturer - Type designation

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) checked (if not available tests according to 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.

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