

# TYPE APPROVAL CERTIFICATE

**This is to certify:****That the Low Voltage Cable**with type designation(s)  
**MULTIFLEX 512-C-PUR**

Issued to

**Helukabel GmbH  
Hemmingen, Germany**

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 (V) 300/500, 600 (UL)****Temp. class (°C) 90**Issued at **Hamburg** on **2019-09-27**This Certificate is valid until **2024-09-26**.DNV GL local station: **Augsburg**Approval Engineer: **Carsten Hunsalz**for **DNV GL**

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**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.



## Product description

Type: MULTIFLEX 512-C-PUR  
 Conductor: High flexible bare copper, class 6  
 Insulation: Polypropylene PP  
 Inner sheath: TPE-O  
 Screening: Braiding of tinned copper wire  
 Outer sheath: TMPU

Number of cores x conductor cross-section	Overall diameter nom.	Number of cores x conductor cross-section	Overall diameter nom.	Number of cores x conductor cross-section	Overall diameter nom.
2 x 0.5	8.3	5 x 1	11.7	2 x 2.5	11.9
3 x 0.5	8.5	7 x 1	13.4	3 x 2.5	12.6
4 x 0.5	9.0	12 x 1	16.0	4 x 2.5	13.6
5 x 0.5	9.7	18 x 1	18.5	5 x 2.5	14.7
7 x 0.5	11.1	20 x 1	19.4	7 x 2.5	17.4
12 x 0.5	12.7	25 x 1	21.7	12 x 2.5	20.9
18 x 0.5	14.7	30 x 1	22.5	18 x 2.5	24.2
20 x 0.5	15.4	36 x 1	24.3	20 x 2.5	25.6
25 x 0.5	17.0	41 x 1	26.1	25 x 2.5	29.1
30 x 0.5	17.9	50 x 1	28.4		
36 x 0.5	19.2	65 x 1	32.2	4 x 4	16.8
				5 x 4	18.4
2 x 0.75	8.8	2 x 1.5	10.2	7 x 4	21.6
3 x 0.75	9.3	3 x 1.5	11.0		
4 x 0.75	9.7	4 x 1.5	11.6	4 x 6	18.1
5 x 0.75	10.5	5 x 1.5	12.6	5 x 6	19.6
7 x 0.75	11.9	7 x 1.5	14.5	7 x 6	23.2
12 x 0.75	14.2	12 x 1.5	17.4		
18 x 0.75	16.3	18 x 1.5	19.9	4 x 10	22.5
20 x 0.75	16.9	25 x 1.5	23.7	5 x 10	24.7
25 x 0.75	19.8	30 x 1.5	24.5	7 x 10	29.3
30 x 0.75	19.8	36 x 1.5	26.4		
36 x 0.75	21.2	42 x 1.5	28.4	4 x 16	25.7
		50 x 1.5	31.2	5 x 16	28.2
2 x 1	9.7	61 x 1.5	34.2	7 x 16	33.6
3 x 1	10.0				
4 x 1	10.8				

## Application/Limitation

General power and lighting. Control. Mud resistant outer sheath.

The cables can also be used for flexing and drag chain applications according to manufacturer`s instruction.

## Type Approval documentation

### Tests carried out

Standard	Release	General description	Limitation
UL Style		10492	
UL Style		20939	
IEC 60228	2004-11	Conductors of insulated cables	
EN 50290-2-25	2013-11	Communication cables - Part 2-25: Common design rules and construction - Polypropylene insulation compounds	
EN 50363-10-2	2005-11	Insulating, sheathing and covering materials for low voltage energy cables -- Part 10-2: Miscellaneous sheathing compounds - Thermoplastic polyurethane	
IEC 60332-1-2	2015-07	Tests on electric and optical fibre cables under fire conditions - Part 1-2: Test for vertical flame propagation for a single insulated wire or cable -Procedure for 1 kW pre-mixed flame	
NEK TS 606	2016	Cables for offshore installations. Halogen-free and/or mud resistant. Technical specification.	Mud resistance test for sheath: IRM 902 and IRM 903 100°C 7d. Calcium Bromide 70°C 56d. EDC 95-11 70°C 56d.

### Marking of product

Example:

HELUKABEL MULTIFLEX 512-C-PUR 3 G 2,5 QMM E170315 cRUus AWM STYLE 20939 AWM I/II A/B 80°C 600V FT1 / DNV GL TAE00003R7 / part no. PO-code. CE meter marking

### 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.



Job Id: **262.1-021835-1**  
Certificate No: **TAE00003R7**

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