DNV·GL

Certificate No:
TAE0000164

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Electric Power Cable

with type designation(s)
RU P18 0,6/1 kV

Issued to
Draka Norsk Kabel - part of the Prysmian Group
DRAMMEN, Norway

is found to comply with
DNV GL rules for classification – Ships and offshore units
DNV GL class programme DNVGL-CP-0399 – Type approval – Electric cables

Application :

General power and lighting, Control.

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

Voltage class (kV)	**0,6/1**
Temp. class (°C)	**90**

This Certificate is valid until **2021-06-29**.

Issued at **Høvik** on **2016-10-06**

for **DNV GL**

DNV GL local station: **Station Oslo Maritime and CAP**

Approval Engineer: **Ivar Bull**

Andreas Kristoffersen
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: **262.1-002558-9**
Certificate No: **TAE0000164**

Product description

Type: RU P18 0,6/1 kV

Construction:

Conductors: Tinned, stranded copper
Core insulation: EPR
Outer sheath: SHF2 mud resistant according to IEC 60092-360 Annex D. NEK TS 606.

No of cores:	Cross sectional area [mm^{2}]
1	25 - 300
2, 3, 4, 5, 7, 12, 19, 24 3G 4G 5G 7G	1,5
2, 3, 3G, 4, 4G, 5, 5G, 7	2,5
2, 3, 4, 3G, 4G, 5G	4, 6
3, 4, 4G	10
2, 3, 4, 3G, 4G, 5G	16
2, 3, 4, 4G	25
2, 3, 4G, 5G	35
3, 5G	50, 70

G = with yellow green core

Application/Limitation

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.

Type Approval documentation

Tests carried out

Standard	Issued	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	2011-08	Electrical installations in ships - Part 353: Power cables for rated voltages 1 kV and 3 kV	
IEC 60092-360	2014-04	Electrical installations in ships - Part 360: Insulating and sheathing materials for shipboard and offshore units, power, control, instrumentation and telecommunication cables.	
IEC 60332-1-2	2004-07	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	
IEC 60332-3-22	2009-02	Tests on electric and optical fibre cables under fire conditions – Part 3-22: Test for vertical flame spread of vertically-mounted bunched wires or cables – Category A	Bunch test Category A
IEC 60754-1	2011-11	Test on gases evolved during combustion of materials from cables – Determination of the amount of halogen acid gas	Low Halogen: <0,5% Halogen
IEC 60754-2	2011-11	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	Halogen free: pH > 4,3 Conductivity <

Standard	Issued	General description	Limitation
		from electric cables by measuring pH and conductivity	10µS
IEC 61034-1/2	2005-04	Measurement of smoke density of cables burning under defined conditions – Test apparatus, procedure and requirements	Low smoke
NEK TS 606 Ed. 4	2009-05	Cables for offshore installations. Halogen-free and/or mud resistant. Technical specification.	

Marking of product

DRAKA NORSK KABEL or DRAKA 01 or Prysmian 01 – RU P18 - size - 0,6/1 kV – IEC 60092-353 – IEC 60332-3-22.

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.

Assessment to be performed at least every second year.

END OF CERTIFICATE