DNV·GL

Certificate No:
TAE00000K0

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Electric Power Cable

with type designation(s)
Topside drilling loop - Power DRWG 77423/D

Issued to
Miltronic AS
DRAMMEN, Norway

is found to comply with
DNV GL rules for classification – Ships and offshore units

Application :

Topside drilling loop - Power

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 **2020-12-16**.

Issued at **Høvik** on **2015-12-17**

for **DNV GL**

DNV GL local station: **Marseille**

Approval Engineer: **Ivar Bull**

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.

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Name & place of manufacturer

LAPP Muller SAS
Grimaud, 83310
France

Product description

Power loop cable designed for dynamic operation in top drives.

Construction:

Conductor:	6x 185mm2 + 1x190 Plain copper Class 6
Core insulation:	XLPE
Fillers	In interstices
Metal covering:	Copper wire braid
Inner sheath:	Polyurethane
Strength members	Aramid fibre braid
Outer sheath:	Polyurethane. Mud resistant as per NEK 606.

Application/Limitation

Ampacity 581A @45C ambient temperature
Ampacity 505A @55C ambient temperature
Minimum static bending radius: 680mm
Minimum dynamic bending radius: 1270 mm

Type Approval documentation

Tests carried out

Type tests:
Ampacity test
Loop tested 111.000 dynamic cycles /63 weeks in outdoor test rig in Southern Norway.
Surface resistivity maximum 1 GOhm as per IEC 60079-0 items 26.13 and 7.4.2.
Flame retardant test IEC 60332-3-22
Abrasion resistance test.
MUD resistant test NEK606.
Mechanical properties of new, heat aged and dynamic tested insulation + sheath
Tensile test

Routine tests:
Electrical Routine tests before and after dynamic test

- Conductor resistance
- Braid resistance test
- Insulation resistance
- HV test 5 minutes @3,5kV

Marking of product

MILTRONIC - Power Loop Cable – DRWG 77423/D – 3x185mm2 + 190mm2 Earth 0,6/1kV – 581 A @conductor 90ºC/Ambient 45 ºC – IEC 60332-3-22 - Year

Periodical assessment

The scope of the Periodical assessment 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.

Periodical assessment to be performed at least every second year.

END OF CERTIFICATE