

Certificate No:  
**E-11180**  
 File No:  
**827.10**  
 Job Id:  
**262.1-004504-3**

# TYPE APPROVAL CERTIFICATE

## This is to certify:

### That the Electric Power Cable

with type designation(s)

**MOR Polyrad XT-125, Type P, TP..PCPBS, TP(I/S)..PCPBS, TT(I/S)..PCPBS 0,6/1 kV, MOR Polyrad XT-125, Type P, TP(OS)..PCPBS, TP(I/S-OS)..PCPBS, TT(I/S-OS)..PCPBS 0,6/1 kV**

Issued to

**General Cable**  
**WILLIMANTIC CT, 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**  
**IEEE 1580 (2010)**  
**IEEE 45 1998**  
**IEC 60332-3-22 (2009-02)**

## Application :

### Control.

**Mud resistant according to NEK606.**

Type	Voltage class (kV)	Temp. class (°C)
<b>MOR Polyrad XT-125, Type P, TP..PCPBS, TP(I/S)..PCPBS, TT(I/S)..PCPBS 0,6/1 kV</b>	<b>0,6/1</b>	<b>95</b>
<b>MOR Polyrad XT-125, Type P, TP(OS)..PCPBS, TP(I/S-OS)..PCPBS, TT(I/S-OS)..PCPBS 0,6/1 kV</b>	<b>0,6/1</b>	<b>95</b>

This Certificate is valid until **2015-06-30**.

Issued at **Høvik** on **2014-08-26**

DNV GL local station: **New York**

Approval Engineer: **Ivar Bull**

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. If any person suffers loss or damage which is proven to have been caused by any negligent act or omission of the Society, then the Society shall pay compensation to such person for his proven direct loss or damage. However, the compensation shall not exceed an amount equal to ten times the fee charged for the service in question. The maximum compensation shall never exceed USD 2 million. In this provision the "Society" shall mean DNV GL AS as well as all its direct and indirect owners, affiliates, subsidiaries, directors, officers, employees, agents and any other person or entity acting on behalf of DNV GL AS.

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## Product description

MOR POLYRAD XT-125, Type P, TP..PCPBS, TP(I/S)..PCPBS, TT(I/S)..PCPBS 0,6/1 kV  
 MOR POLYRAD XT-125, Type P, TP(OS)..PCPBS, TP(I/S-OS)..PCPBS, TT(I/S\_OS)..PCPBS 0,6/1 kV

Conductors:	Tinned stranded copper
Insulation:	XLPO (Cross-linked Polyethylene) (Type P)
Filler:	Flame Retardant, Non-hygroscopic Polypropylene (as needed)
Screen:	Aluminium/Mylar tape w/ tinned copper drain wire or a tinned Copper wire braid. (I/S and O/S only)
Inner Sheath:	Chlorosulfonated Polyethylene (Type CP)
Metal covering:	Bronze wire braid
Outer Sheath:	Chlorosulfonated Polyethylene (Type CP)

### TP..PCPBS TP(OS)..PCPBS

Number of cores x conductor cross- section		Overall diameter	
mm <sup>2</sup>	AWG/ MCM	mm	inches
1 x 2 x 0,62	20	13,06	0,514
2 x 2 x 0,62	20	16,16	0,636
4 x 2 x 0,62	20	17,87	0,704
7 x 2 x 0,62	20	20,31	0,800
10 x 2 x 0,62	20	25,47	1,003
1 x 2 x 0,96	18	13,56	0,534
2 x 2 x 0,96	18	16,98	0,668
4 x 2 x 0,96	18	18,85	0,742
7 x 2 x 0,96	18	22,55	0,888
10 x 2 x 0,96	18	28,11	1,107
1 x 2 x 1,22	16	13,92	0,548
2 x 2 x 1,22	16	17,55	0,691

Number of cores x conductor cross- section		Overall diameter	
mm <sup>2</sup>	AWG/ MCM	mm	inches
3 x 2 x 1,22	16	18,27	0,719
4 x 2 x 1,22	16	19,54	0,769
5 x 2 x 1,22	16	22,01	0,866
7 x 2 x 1,22	16	23,40	0,921
8 x 2 x 1,22	16	24,91	0,981
10 x 2 x 1,22	16	29,25	1,152
12 x 2 x 1,22	16	30,01	1,181
14 x 2 x 1,22	16	31,25	1,230
24 x 2 x 1,22	16	38,92	1,532

### TP(I/S)..PCPBS TP(I/S-OS)..PCPBS

Number of cores x conductor cross- section		Overall diameter	
mm <sup>2</sup>	AWG/ MCM	mm	inches
1 x 2 x 0,62	20	13,08	0,515
2 x 2 x 0,62	20	17,40	0,685
3 x 2 x 0,62	20	18,67	0,735
4 x 2 x 0,62	20	19,43	0,765
7 x 2 x 0,62	20	23,24	0,915
10 x 2 x 0,62	20	28,83	1,135
19 x 2 x 0,62	20	33,53	1,320
25 x 2 x 0,62	20	38,86	1,530
1 x 2 x 0,96	18	13,46	0,530
2 x 2 x 0,96	18	18,29	0,720
3 x 2 x 0,96	18	19,30	0,760
4 x 2 x 0,96	18	21,59	0,850
5 x 2 x 0,96	18	22,99	0,905
6 x 2 x 0,96	18	24,64	0,970
7 x 2 x 0,96	18	24,64	0,970

Number of cores x conductor cross- section		Overall diameter	
mm <sup>2</sup>	AWG/ MCM	mm	inches
8 x 2 x 0,96	18	25,91	1,020
10 x 2 x 0,96	18	30,48	1,200
12 x 2 x 0,96	18	30,86	1,215
14 x 2 x 0,96	18	33,15	1,305
16 x 2 x 0,96	18	34,54	1,360
20 x 2 x 0,96	18	37,85	1,490
24 x 2 x 0,96	18	41,66	1,640
1 x 2 x 1,22	16	13,72	0,540
2 x 2 x 1,22	16	18,80	0,740
3 x 2 x 1,22	16	19,68	0,775
4 x 2 x 1,22	16	21,97	0,865
5 x 2 x 1,22	16	23,75	0,935
6 x 2 x 1,22	16	25,27	0,995
7 x 2 x 1,22	16	26,31	1,036
8 x 2 x 1,22	16	28,07	1,105

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Number of cores x conductor cross- section		Overall diameter	
mm <sup>2</sup>	AWG/ MCM	mm	inches
10 x 2 x 1,22	16	31,75	1,250
12 x 2 x 1,22	16	32,64	1,285
14 x 2 x 1,22	16	34,04	1,340
15 x 2 x 1,22	16	34,92	1,375
16 x 2 x 1,22	16	35,94	1,415
20 x 2 x 1,22	16	39,37	1,550
22 x 2 x 1,22	16	41,02	1,615
24 x 2 x 1,22	16	44,58	1,755
1 x 2 x 1,94	14	14,60	0,575
2 x 2 x 1,94	14	20,32	0,800
3 x 2 x 1,94	14	21,97	0,865

Number of cores x conductor cross- section		Overall diameter	
mm <sup>2</sup>	AWG/ MCM	mm	inches
4 x 2 x 1,94	14	24,13	0,950
5 x 2 x 1,94	14	26,03	1,025
6 x 2 x 1,94	14	28,32	1,115
7 x 2 x 1,94	14	28,32	1,115
12 x 2 x 1,94	14	36,19	1,425
20 x 2 x 1,94	14	39,24	1,545
30 x 2 x 1,94	14	53,85	2,120
1 x 2 x 3,08	12	15,62	0,615
10 x 2 x 3,08	12	38,73	1,525
12 x 2 x 3,08	12	39,75	1,565
1 x 2 x 5,52	10	17,14	0,675

TT(I/S)..PCPBS TT(I/S-OS)..PCPBS

Number of cores x conductor cross- section		Overall diameter	
mm <sup>2</sup>	AWG/ MCM	mm	inches
1 x 3 x 0,96	18	13,84	0,545
2 x 3 x 0,96	18	18,29	0,720
3 x 3 x 0,96	18	20,45	0,805
4 x 3 x 0,96	18	22,86	0,900
5 x 3 x 0,96	18	24,51	0,965
6 x 3 x 0,96	18	26,29	1,035
7 x 3 x 0,96	18	26,29	1,035
1 x 3 x 1,22	16	14,22	0,560
2 x 3 x 1,22	16	19,30	0,760

Number of cores x conductor cross- section		Overall diameter	
mm <sup>2</sup>	AWG/ MCM	mm	inches
3 x 3 x 1,22	16	21,21	0,835
4 x 3 x 1,22	16	23,75	0,935
5 x 3 x 1,22	16	25,53	1,005
6 x 3 x 1,22	16	29,72	1,170
7 x 3 x 1,22	16	29,72	1,170
8 x 3 x 1,22	16	32,26	1,270
12 x 3 x 1,22	16	37,46	1,475
16 x 3 x 1,22	16	40,89	1,610

### Application/Limitation

The requirements of SOLAS Amendments 1981 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

Type tests according to IEEE 45, IEC 60092-3 and IEC 60332-3 cat.A

### Marking of product


POLYRAD XT-125, Type P TP..PCPBS or TP(I/S)..PCPBS or TT(I/S)..PCPBS or TP(OS)..PCPBS or TP(I/S-OS)..PCPBS or TT(I/S-OS)..PCPBS size, 0,6/1 kV – IEC 60332-3-22 – Lot No

### 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



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- Ensuring traceability between manufacturer's product type marking and Type Approval Certificate.

Survey to be performed at least every second year.

END OF CERTIFICATE