



DET NORSKE VERITAS

TYPE APPROVAL CERTIFICATE

CERTIFICATE NO. E-8261

This Certificate consists of 9 pages

This is to certify that the

High Voltage Cable

with type designation(s)

**BOSTRIG MHV-5BS 1,8/3 kV, BOSTRIG MHV-8BS 3,6/6 kV,
BOSTRIG MHV-8aBS 6/10 kV, BOSTRIG MHV-15BS 8,7/15
kV, BOSTRIG MHV-15aBS 12/20 kV**

Holder of certificate

Draka Marine, Oil & Gas International

Houston, TX 77032, 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

IEC 60092-354 (2003-06)

IEC 60502

IEC 60332-3-22 (2000-10)

Application

| Type | Voltage (kV) | Temp. class (°C) |
|----------------------------|--------------|------------------|
| BOSTRIG MHV-5BS 1,8/3 kV | 1,8/3 | 90 |
| BOSTRIG MHV-8BS 3,6/6 kV | 3,6/6 | 90 |
| BOSTRIG MHV-8aBS 6/10 kV | 6/10 | 90 |
| BOSTRIG MHV-15BS 8,7/15 kV | 8,7/15 | 90 |
| BOSTRIG MHV-15aBS 12/20 kV | 12/20 | 90 |

Place and date

Høvik, 2007-02-15

for DET NORSKE VERITAS AS

Frode Berntsen
Head of Section



Local Office
DNV New York

This Certificate is valid until

2010-12-31

Erik Hoffmann
Surveyor

Notice: This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid.

If any person suffers loss or damage which is proved to have been caused by any negligent act or omission of Det Norske Veritas, then Det Norske Veritas shall pay compensation to such person for his proved direct loss or damage. However, the compensation shall not exceed an amount equal to ten times the fee charged for the service in question, provided that the maximum compensation shall never exceed USD 2 million. In this provision "Det Norske Veritas" shall mean the Foundation Det Norske Veritas as well as all its subsidiaries, directors, officers, employees, agents and any other acting on behalf of Det Norske Veritas.



Name and place of manufacturer

Draka Cableteq USA
North Dighton
MA 02764
USA

Product description

BOSTRIG MHV-5BS 1,8/3 kV
BOSTRIG MHV-8BS 3,6/6 kV
BOSTRIG MHV-8aBS 6/10 kV
BOSTRIG MHV-15BS 8,7/15 kV
BOSTRIG MHV-15aBS 12/20 kV

Construction:

Conductors: Tinned, rope stranded copper
Core insulation: EPR
Screening: Tinned copper wire braid
Inner sheath: SE1
Metal covering: Bronze wire braid
Outer sheath: SE1

BOSTRIG MHV-5BS 1,8/3 kV

| mm ² | AWG/MCM | BIW Cable Type Designation | IEEE Cable Type Designation | Overall Diameter mm | Overall Diameter Inches |
|-----------------|---------|----------------------------|-----------------------------|---------------------|-------------------------|
| 1 x 7,57 | 8 | MHV-5BS-8 | SENBS5KV-8 | 22,35 | 0,880 |
| 1 x 12,5 | 6 | MHV-5BS-6 | SENBS5KV-6 | 23,88 | 0,940 |
| 1 x 18,6 | 5 | MHV-5BS-5 | SENBS5KV-5 | 24,64 | 0,970 |
| 1 x 21,5 | 4 | MHV-5BS-4 | SENBS5KV-4 | 25,65 | 1,010 |
| 1 x 30,7 | 2 | MHV-5BS-2 | SENBS5KV-2 | 27,43 | 1,080 |
| 1 x 46,0 | 1 | MHV-5BS-1 | SENBS5KV-1 | 29,72 | 1,170 |
| 1 x 56,3 | 1/0 | MHV-5BS-1/0 | SENBS5KV-1/0 | 30,99 | 1,220 |
| 1 x 66,5 | 2/0 | MHV-5BS-2/0 | SENBS5KV-2/0 | 31,50 | 1,240 |
| 1 x 92,1 | 3/0 | MHV-5BS-3/0 | SENBS5KV-3/0 | 34,29 | 1,350 |
| 1 x 112,6 | 4/0 | MHV-5BS-4/0 | SENBS5KV-4/0 | 35,31 | 1,390 |
| 1 x 133,0 | 262 | MHV-5BS-262 | SENBS5KV-262 | 36,58 | 1,440 |
| 1 x 158,6 | 313 | MHV-5BS-313 | SENBS5KV-313 | 38,86 | 1,530 |
| 1 x 189,3 | 373 | MHV-5BS-373 | SENBS5KV-373 | 40,64 | 1,600 |
| 1 x 225,1 | 444 | MHV-5BS-444 | SENBS5KV-444 | 42,93 | 1,690 |
| 1 x 271,2 | 535 | MHV-5BS-535 | SENBS5KV-535 | 46,74 | 1,840 |
| 1 x 327,5 | 646 | MHV-5BS-646 | SENBS5KV-646 | 49,78 | 1,960 |
| 1 x 393,8 | 777 | MHV-5BS-777 | SENBS5KV-777 | 53,09 | 2,090 |
| 1 x 562,8 | 1111 | MHV-5BS-1111 | SENBS5KV-1111 | 59,44 | 2,340 |



| mm ² | AWG/MCM | BIW Cable Type Designation | IEEE Cable Type Designation | Overall Diameter mm | Overall Diameter Inches |
|-----------------|---------|----------------------------|-----------------------------|---------------------|-------------------------|
| 3 x 7,57 | 8 | MHV3-5BS-8 | TENBS5KV-8 | 38,61 | 1,520 |
| 3 x 12,5 | 6 | MHV3-5BS-6 | TENBS5KV-6 | 41,91 | 1,650 |
| 3 x 18,6 | 5 | MHV3-5BS-5 | TENBS5KV-5 | 45,72 | 1,800 |
| 3 x 21,5 | 4 | MHV3-5BS-4 | TENBS5KV-4 | 47,50 | 1,870 |
| 3 x 30,7 | 2 | MHV3-5BS-2 | TENBS5KV-2 | 51,56 | 2,030 |
| 3 x 46,0 | 1 | MHV3-5BS-1 | TENBS5KV-1 | 54,86 | 2,160 |
| 3 x 56,3 | 1/0 | MHV3-5BS-1/0 | TENBS5KV-1/0 | 57,91 | 2,280 |
| 3 x 66,5 | 2/0 | MHV3-5BS-2/0 | TENBS5KV-2/0 | 58,93 | 2,320 |
| 3 x 92,1 | 3/0 | MHV3-5BS-3/0 | TENBS5KV-3/0 | 65,02 | 2,560 |
| 3 x 112,6 | 4/0 | MHV3-5BS-4/0 | TENBS5KV-4/0 | 68,07 | 2,680 |
| 3 x 133,0 | 262 | MHV3-5BS-262 | TENBS5KV-262 | 72,64 | 2,860 |
| 3 x 158,6 | 313 | MHV3-5BS-313 | TENBS5KV-313 | 77,72 | 3,060 |
| 3 x 189,3 | 373 | MHV3-5BS-373 | TENBS5KV-373 | 81,79 | 3,220 |
| 3 x 225,1 | 444 | MHV3-5BS-444 | TENBS5KV-444 | 85,85 | 3,380 |
| 3 x 271,2 | 535 | MHV3-5BS-535 | TENBS5KV-535 | 91,19 | 3,590 |
| 3 x 327,5 | 646 | MHV3-5BS-646 | TENBS5KV-646 | 98,04 | 3,860 |
| 3 x 393,8 | 777 | MHV3-5BS-777 | TENBS5KV-777 | 103,38 | 4,070 |
| 3 x 562,8 | 1111 | MHV3-5BS-1111 | TENBS5KV-1111 | 118,36 | 4,660 |
| 4 x 7,57 | 8 | MHV4-5BS-8 | FENBS5KV-8 | 42,42 | 1,670 |
| 4 x 12,5 | 6 | MHV4-5BS-6 | FENBS5KV-6 | 47,75 | 1,880 |
| 4 x 18,6 | 5 | MHV4-5BS-5 | FENBS5KV-5 | 50,29 | 1,980 |
| 4 x 21,5 | 4 | MHV4-5BS-4 | FENBS5KV-4 | 52,83 | 2,080 |
| 4 x 30,7 | 2 | MHV4-5BS-2 | FENBS5KV-2 | 56,39 | 2,220 |
| 4 x 46,0 | 1 | MHV4-5BS-1 | FENBS5KV-1 | 60,20 | 2,370 |
| 4 x 56,3 | 1/0 | MHV4-5BS-1/0 | FENBS5KV-1/0 | 63,75 | 2,510 |
| 4 x 66,5 | 2/0 | MHV4-5BS-2/0 | FENBS5KV-2/0 | 64,77 | 2,550 |
| 4 x 92,1 | 3/0 | MHV4-5BS-3/0 | FENBS5KV-3/0 | 73,91 | 2,910 |
| 4 x 112,6 | 4/0 | MHV4-5BS-4/0 | FENBS5KV-4/0 | 77,22 | 3,040 |
| 4 x 133,0 | 262 | MHV4-5BS-262 | FENBS5KV-262 | 80,77 | 3,180 |
| 4 x 158,6 | 313 | MHV4-5BS-313 | FENBS5KV-313 | 86,36 | 3,400 |
| 4 x 189,3 | 373 | MHV4-5BS-373 | FENBS5KV-373 | 91,19 | 3,590 |
| 4 x 225,1 | 444 | MHV4-5BS-444 | FENBS5KV-444 | 95,50 | 3,760 |
| 4 x 271,2 | 535 | MHV4-5BS-535 | FENBS5KV-535 | 101,60 | 4,000 |
| 4 x 327,5 | 646 | MHV4-5BS-646 | FENBS5KV-646 | 109,22 | 4,300 |
| 4 x 393,8 | 777 | MHV4-5BS-777 | FENBS5KV-777 | 115,32 | 4,540 |
| 4 x 562,8 | 1111 | MHV4-5BS-1111 | FENBS5KV-1111 | 132,33 | 5,210 |

BOSTRIG MHV-8BS 3,6/6 kV

| mm ² | AWG/MCM | BIW Cable Type Designation | Overall Diameter mm | Overall Diameter Inches |
|-----------------|---------|----------------------------|---------------------|-------------------------|
| | | | | |



| mm ² | AWG/MCM | BIW Cable Type Designation | Overall Diameter | Overall Diameter |
|-----------------|---------|----------------------------|------------------|------------------|
| | | | mm | Inches |
| 1 x 12,5 | 6 | MHV-8BS-6 | 25,15 | 0,990 |
| 1 x 18,6 | 5 | MHV-8BS-5 | 26,16 | 1,030 |
| 1 x 21,5 | 4 | MHV-8BS-4 | 26,92 | 1,060 |
| 1 x 30,7 | 2 | MHV-8BS-2 | 29,46 | 1,160 |
| 1 x 46,0 | 1 | MHV-8BS-1 | 30,99 | 1,220 |
| 1 x 56,3 | 1/0 | MHV-8BS-1/0 | 32,26 | 1,270 |
| 1 x 66,5 | 2/0 | MHV-8BS-2/0 | 32,77 | 1,290 |
| 1 x 92,1 | 3/0 | MHV-8BS-3/0 | 35,31 | 1,390 |
| 1 x 112,6 | 4/0 | MHV-8BS-4/0 | 36,58 | 1,440 |
| 1 x 133,0 | 262 | MHV-8BS-262 | 37,85 | 1,490 |
| 1 x 158,6 | 313 | MHV-8BS-313 | 40,13 | 1,580 |
| 1 x 189,3 | 373 | MHV-8BS-373 | 41,91 | 1,650 |
| 1 x 225,1 | 444 | MHV-8BS-444 | 45,21 | 1,780 |
| 1 x 271,2 | 535 | MHV-8BS-535 | 47,75 | 1,880 |
| 1 x 327,5 | 646 | MHV-8BS-646 | 51,56 | 2,030 |
| 1 x 393,8 | 777 | MHV-8BS-777 | 54,10 | 2,130 |
| 1 x 562,8 | 1111 | MHV-8BS-1111 | 60,20 | 2,370 |
| 3 x 12,5 | 6 | MHV3-8BS-6 | 46,74 | 1,840 |
| 3 x 18,6 | 5 | MHV3-8BS-5 | 48,77 | 1,920 |
| 3 x 21,5 | 4 | MHV3-8BS-4 | 50,55 | 1,990 |
| 3 x 30,7 | 2 | MHV3-8BS-2 | 54,36 | 2,140 |
| 3 x 46,0 | 1 | MHV3-8BS-1 | 57,91 | 2,280 |
| 3 x 56,3 | 1/0 | MHV3-8BS-1/0 | 60,96 | 2,400 |
| 3 x 66,5 | 2/0 | MHV3-8BS-2/0 | 61,72 | 2,430 |
| 3 x 92,1 | 3/0 | MHV3-8BS-3/0 | 67,82 | 2,670 |
| 3 x 112,6 | 4/0 | MHV3-8BS-4/0 | 72,39 | 2,850 |
| 3 x 133,0 | 262 | MHV3-8BS-262 | 75,44 | 2,970 |
| 3 x 158,6 | 313 | MHV3-8BS-313 | 80,52 | 3,170 |
| 3 x 189,3 | 373 | MHV3-8BS-373 | 84,33 | 3,320 |
| 3 x 225,1 | 444 | MHV3-8BS-444 | 88,39 | 3,480 |
| 3 x 271,2 | 535 | MHV3-8BS-535 | 93,98 | 3,700 |
| 3 x 327,5 | 646 | MHV3-8BS-646 | 100,08 | 3,940 |
| 3 x 393,8 | 777 | MHV3-8BS-777 | 105,16 | 4,140 |
| 3 x 562,8 | 1111 | MHV3-8BS-1111 | 120,40 | 4,740 |
| 4 x 12,5 | 6 | MHV4-8BS-6 | 52,32 | 2,060 |
| 4 x 18,6 | 5 | MHV4-8BS-5 | 54,61 | 2,150 |
| 4 x 21,5 | 4 | MHV4-8BS-4 | 56,39 | 2,220 |
| 4 x 30,7 | 2 | MHV4-8BS-2 | 59,94 | 2,360 |
| 4 x 46,0 | 1 | MHV4-8BS-1 | 64,26 | 2,530 |
| 4 x 56,3 | 1/0 | MHV4-8BS-1/0 | 67,56 | 2,660 |
| 4 x 66,5 | 2/0 | MHV4-8BS-2/0 | 68,58 | 2,700 |
| 4 x 92,1 | 3/0 | MHV4-8BS-3/0 | 77,22 | 3,040 |

