DET NORSKE VERITAS

TYPE APPROVAL CERTIFICATE

CERTIFICATE NO. E-9282
This Certificate consists of 3 pages

This is to certify that the

Data transmission cables and systems

with type designation(s)

P/N S611T-NN-XXY

Manufactured by

Draka Cableteq USA
North Dighton, 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 60332-3-22 (2000-10)
IEC 60754-1 (1994-01)
IEC 60754-2 (1997-04)
IEC 60794-1-1 (2001)
IEC 60794-2
IEC 60794-2-2
IEC 61034-2 (2005-04)

Application
Signalling, Communication and Data Transmission

Place and date
Høvik, 2009-02-06
for DET NORSKE VERITAS AS

for Trond Sjåvåg
Head of Section

Local Office
DNV New York

This Certificate is valid until
2012-12-31

for 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. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

Product description

Type P/N S611T-NN-XXY

Optical fibre:	In accordance with IEC 60793
Tight buffer:	Polyester elastomer
Strength member:	Aramid Yarn
Filler:	Polyolefine – SHF1
Outer Sheath:	Polyolefine – SHF1

Part number	Diameter (mm)
S611T-02R-XXY	6,40±0,25
S611T-04-XXY	7,29±0,25
S611T-06-XXY	8,51±0,25
S611T-08-XXY	9,68±0,25
S611T-10-XXY	10,95±0,25
S611T-12-XXY	12,22±0,25

Part number	Diameter (mm)
S611T-16-XXY	12,88±0,38
S611T-18-XXY	12,88±0,38
S611T-24-XXY	14,66±0,38
S611T-36-XXY	17,02±0,38
S611T-48-XXY	22,93±0,38

Fiber types	Single-mode 9/125	Multimode 50/125	Multimode 62,5/125	Multimode 200/230
XXY designation	010X	50H	62X	200S
Core diameter	8,3 µm	50±2,5 µm	62,5±2,5 µm	200±5,0 µm
Mode field diameter		N/A	N/A	N/A
1310 nm	9,1±0,5 µm			
1550 nm	10,2±0,6 µm			
Cladding diameter	125±1,0 µm	125±2,0 µm	125±2,0 µm	230±10,0 µm
Primary coating diameter	242±7 µm	245±10 µm	245±10 µm	500±30,0 µm
Attenuation				
820 nm				≤ 12 dB/km
850 nm		≤ 3,50 dB/km	≤ 3,50 dB/km	
1300 nm		≤ 1,50 dB/km	≤ 1,00 dB/km	
1310 nm	≤ 0,70 dB/km			
1550 nm	≤ 0,70 dB/km			
Bandwidth				
820 nm	N/A			≥20 MHz·km
850 nm		≥ 500 MHz·km	≥ 200 MHz·km	
1300 nm		≥ 500 MHz·km	≥ 500 MHz·km	
Dispersion		N/A	N/A	N/A
1285-1310 nm	<3,2 ps/nm·km			
1550 nm	<18 ps/nm·km			
Numerical aperture	N/A	0,200±0,015	0,275±0,015	0,37 Nominal

Application/Limitation

Temperature window

Operation:	-20°C to +80°C
Storage:	-40°C to +80°C

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

Test report: J20002366-008 and J20002366-009 dated 2000-06-06. J2001357-200 revised 2004-07-26.
Data sheets

Tests carried out

Tested according to IEC 60794-1-1/1-2, IEC 60794-2, IEC 60332-3 A, IEC 60754-1/-2 and IEC 61034-1/2

Marking of product

Product making: Draka 32 – S611T-NN-XXY

NN – number of fibres
XXY – fibre type

Certificate retention survey

The scope of the retention/renewal survey 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.

Survey to be performed at least every second year.

END OF CERTIFICATE