

[1] EC-TYPE EXAMINATION CERTIFICATE
[2] Component Intended for use on/in equipment or protective system
intended for use in Potentially explosive atmospheres
Directive 94/9/EC

- [3] **EC-Type Examination Certificate Number:** Nemko 01ATEX471U
- [4] **Component:** Cable Bushing, Adaptors and Blindplugs
- [5] **Applicant:** Technor asa
[6] **Address:** Dusavikveien 39
P.O. Box 658
4003 STAVANGER
NORWAY
- [7] **This Component and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.**
- [8] **Nemko AS, notified body number 0470 in accordance with Article 9 of Council Directive 94/9/EC of 23 March 1994, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive.**
- The examination and test results are recorded in confidential report no. 200144110**
- [9] **Compliance with the Essential Health and Safety Requirements has been assured by compliance with:**
CENELEC EN 50014: 1997 + A1: 1999 + A2: 1999 and CENELEC EN 50018: 2000
IEC 60079-0: 2000 and IEC 60079-1: 2001
- [10] **The sign "U" placed after the certificate number indicates that this certificate must not be mistaken for a certificate intended for an equipment or protective system. This partial certification may be used as a basis for certification of an equipment or protective system.**
- [11] **This EC-TYPE EXAMINATION CERTIFICATE relates only to the design, examination and tests of the specified equipment or protective system in accordance to the directive 94/9/EC.**
Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.
- [12] **The marking of the component shall include the following:**



II 2 G

EEx d IIC

Oslo 2004-04-30

This certificate replaces version dated 2002-07-11. Technical data is corrected.



Rolf Hoel
Certification Department

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Enterprise number:
NO 974404532

[13] Schedule**[14] EC-TYPE EXAMINATION CERTIFICATE No Nemko 01ATEX471U****[15] Description of Component**

This certificate covers two types of cable bushings (one electrical and one signal), adaptors and blindplugs with different thread sizes.

Type Designation

TNDLD (Standard cable bushings)

TNDLDF (Fibercable)

TNDLDC (cable bushings with flying lead)

TNDLDA (adaptors)

TNDLDB (blindplugs)

Technical data for cable bushings

Rated insulation voltage max.

1000V

Rated conductor cross-section.

Max. 16mm²

Quantity of cables and dimensions can vary in one cable bushing.

Distance between copper wire and/or fibre min. 3mm.

Type and size of threads

Typical M42x1,5

Typical M25x1,5

Other sizes possible

Min and max permissible temperature on the bushing surface

-20°C and 90°C(TNDLD, TNDLDC)

-20°C and 76°C(TNDLDF)

-20C and 120 C (TNDLDA, TNDLDB)

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[16] Report No. 200144110

Composed in total 48 pages and the listed descriptive documents.

Descriptive Documents

Name/Title	Drawing No.	Rev.	Date	Sheets
Cable bushing TNDLD M16, Simrad Material: SS316 or brass	DLD-21-4	A	25.10.01	1
Cable bushing TNDLD Material: SS316 or brass	DLD-25-4	A	25.10.01	1
Hylse for kabel innføring Type: TNDLD	DLD-26-4	B	20.12.01	1
Label for cable bushing type TNDLD	DLD-27-5	A	12.11.01	1
Label for cable bushing type TNDLD M24	DLD-28-5	A	12.11.01	1
Cable bushing with cylindrical joint type TNDLD	DLD-30-4	A	19.11.01	1
Certification drawing TNDLDF cable bushing with fibercable	DLDF-01-4	B	16.11.01	1
Arrangement drawing Alternative solutions	DLD-35-4	A		1

Routine Test

The cable bushing is a component which cannot be taken apart and the assembly conditions have been documented. According to EN 50018, section 16.2 (13.4.4) a routine test with the flameproof enclosure in compliance with section 16.1 is therefore not necessary.

[17] Schedule of Limitations

None

[18] Essential Health and Safety Requirements

See item 9

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SUPPLEMENT 1 TO EC-TYPE EXAMINATION CERTIFICATE

[13] Schedule

[14] EC-TYPE EXAMINATION CERTIFICATE No Nemko 01ATEX471U

[15] Description of Equipment or Protective System
This Certificate is extended to include the following:
Rated conductor cross-section. Max. 240mm²
The modifications are included in the descriptive documents.

Type Designation
TNDLD

[16] Report No.: 200237136
Composed in total 2 pages

Descriptive Documents

Name/Title	Drawing No.	Rev.	Date	Sheets
Cable bushing TNDLD Material : SS316 or brass	DLD-25-4	C	04.09.02	1

Oslo 2002-09-18


Rolf Hoel
Section Manager


Tore Irjall
Project Engineer

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SUPPLEMENT 2 TO EC-TYPE EXAMINATION CERTIFICATE**[13] Schedule****[14] EC-TYPE EXAMINATION CERTIFICATE No Nemko 01ATEX471U****[15] Description of Equipment or Protective System**

This Certificate is extended to include additional variants of cable bushing type TNDLD, with alternative casting materials and design.

Type Designation

TNDLD

Technical data for cable bushings

Min and max permissible temperature on the bushing surface: -40°C and 110°C

[16] Report No.: 12400

Oslo, 2003-12-17



Rolf Hoel
Certification Manager

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SUPPLEMENT 3 TO EC-TYPE EXAMINATION CERTIFICATE

[13] Schedule

[14] EC-TYPE EXAMINATION CERTIFICATE No Nemko 01ATEX471U

[15] Description of Component

This supplement is issued due to adding an alternative bushing type TNDLDE for coax cable. Same type of design and cable jacket as previously certified TNDLD.

Type Designation

TNDLDE (Coax cable)

Technical data for cable bushings

Rated insulation voltage max.

1000V

Rated conductor cross-section.

Max. 16mm²

Quantity of cables and dimensions can vary in one cable bushing.

Distance between copper wire and/or fibre min. 3mm.

Type and size of threads

Typical M42x1,5
Typical M25x1,5
Other sizes possible

Min and max permissible temperature on the bushing surface

-40°C and 110°C (TNDLD, TNDLDC, TNDLDE)
-20°C and 76°C (TNDLDF)
-40C and 120 C (TNDLDA, TNDLDB)

[16] Report No.: 32938

Oslo, 2005-01-18

**Rolf Hoel
Certification Department**

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SUPPLEMENT 4 TO EC-TYPE EXAMINATION CERTIFICATE**TYPE EXAMINATION CERTIFICATE No Nemko 01ATEX471U****Description of the Equipment**

The certificate is extended to include that listed types in the certificate are in accordance with **EN 60079-0:2006 and EN 60079-1:2007**.

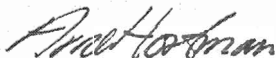
This certificate also cover document updates.

Type Designation and codes

TNDLD, standard cable bushing
TNDLDF, for fibre cable
TNDLDE, for coax cable
TNDLDC, cable bushing with flying lead
TNDLDA, adaptor
TNDLDB, blind plug

Project No. 134641**Descriptive Documents**

Name/Title	Drawing No.	Rev.	Date	Sheets
Arrangement drawing, Alternative solutions	DLD-35-4	D	06.10.09	1
Cable bushing TNDLD M42	DLD-25-4	D	29.06.09	1
Cable bushing TNDLD M16, simrad	DLD-21-4	C	29.06.09	1
Cable bushing with cylindrical joint type TNDLD	DLD-30-4	D	06.10.09	1
TNDLDF Cable bushing with fibercable	DLDF-01-4	E	06.10.09	1
Bushing for cable bushing TNDLD	DLD-26-4	F	06.10.09	1
Label for cable bushing type TNDLD M16	DLD-66-5	B	06.10.09	1
Label for cable bushing type TNDLD M42	DLD-27-5	E	06.10.09	1
Label for cable bushing type TNDLD M24	DLD-28-5	E	06.10.09	1
Label for cable bushing type TNDLD M42	DLD-68-5	B	06.10.09	1
Label for cable bushing type TNDLD M24	DLD-67-5	B	06.10.09	1
Label for cable bushing type TNDLD M16	DLD-44-5	D	06.10.09	1

Oslo, 2009-10-21**p.p. Rolf Hoel
Certification Department**

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