



TYPE APPROVAL CERTIFICATE

Certificate No:
TAE00002RU
Revision No:
1

This is to certify:

That the Termination and Joint for Cable

with type designation(s)

Low Voltage cable joints: EPKJ

Issued to

Ensto Nor AS

OSLO, Norway

is found to comply with

DNV rules for classification – Ships, offshore units, and high speed and light craft

Application :

Low Voltage cable joints 0,6/1 kV.

For plastic cables with or without armour.

Products approved by this certificate are accepted for installation on all vessels classed by DNV.

Issued at **Høvik** on **2024-05-24**

for **DNV**

This Certificate is valid until **2029-06-30**.

DNV local unit: **Oslo Maritime and CAP**

Approval Engineer: **Ivar Bull**

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Frederik Tore Elter
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.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.



Form code: TA 251

Revision: 2022-12

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Product description

Type: Inline joints EPKJ for armoured plastic insulated cable 0,6/1 kV:

Product code	Shortname 2 NOR1
NO1167898	TI skjøt uten skjerm 1X 35-50
NO1167899	TI skjøt uten skjerm 1X 70-95
NO1167900	TI skjøt uten skjerm 1X120-150
NO1167901	TI skjøt uten skjerm 1X185-300
NO1167902	TI skjøt uten skjerm 4 x0.75-2.5
NO1167904	TI skjøt uten skjerm 4 x 4-6
NO1167906	TI skjøt uten skjerm 4 x 10-16
NO1167908	TI skjøt uten skjerm 4 x 25
NO1167910	TI skjøt uten skjerm 4 x 35
NO1167912	TI skjøt uten skjerm 4 x 50
NO1167914	TI skjøt uten skjerm 4 x 70
NO1167962	TI skjøt uten skjerm 4 x 95
NO1167964	TI skjøt uten skjerm 4 x120
NO1167966	TI skjøt uten skjerm 4 x150
NO1167968	TI skjøt uten skjerm 4 x185

Type: : Inline joints EPKJ for un-armoured plastic insulated cable 0,6/1 kV:

Product code	Shortname 2 NOR1
NO1167895	TXOI skjøt med skjerm 1X 70-95
NO1167896	TXOI skjøt med skjerm 1X120-150
NO1167897	TXOI skjøt med skjerm 1X185-240
NO1167924	TXOI skjøt med skjerm 4x0.75-2.5
NO1167925	TXOI skjøt med skjerm 1X35-50
NO1167926	TXOI skjøt med skjerm 4 x 4-6
NO1167928	TXOI skjøt med skjerm 4 x 10-16
NO1167930	TXOI skjøt med skjerm 4 x 25
NO1167932	TXOI skjøt med skjerm 4 x 35
NO1167934	TXOI skjøt med skjerm 4 x 50
NO1167936	TXOI skjøt med skjerm 4 x 70
NO1167938	TXOI skjøt med skjerm 4 x 95
NO1167940	TXOI skjøt med skjerm 4 x120
NO1167942	TXOI skjøt med skjerm 4 x150
NO1167944	TXOI skjøt med skjerm 4 x185

Application/Limitation

Installation to be done in accordance with the installation instructions.

Name & place of manufacturer

DNV Id : 187561

Type Approval documentation

MX-- types:

Data sheets:

Brochure EPP- 0120 11/07

Brochure EPP 0103 5/01 MWTM Heat-shrinkable medium wall insulating tubing.

Brochure EPP 0564 1/0 FCSM Heat-shrinkable flame-retarded heavy-wall tubing.

ENSTO Skipskabelskjøter, verifikasjon mot IEC 60092-352 – Annex D

Product Data MWTM Tubing Product Guide 1 Effective: 03/05/03.

Product Data FCSM Tubing Product Guide 1 Effective: 08/06/02.

Installation instructions:

Montasjebeskrivelse MB 127 - 02/2015 Skjøtesett TI, TI(c) og TI(i) For skjøting av uskjermet skipskabel iht IEC 60092-353.

Montasjebeskrivelse MB 613 - 02/2015 Skjøtesett TXOI, TXOI(i) For skjøting av skjernet skipskabel iht IEC 60092-353.

ESD 5767-INT-6/11

EPP 1892 –INT-4/11

EPP 0017-4/94

EPP 0081-9/93

Test Reports:

PPR 1333 Compliance test of heat shrinkable tubing type MWTM & WCSM dated 14/9-1998.

PPR-1672 Certificate for protection and/or insulation of cables and wires Heat Shrinkable Tubing: FCSM max. 1kV dated 13/12/2002.

PPR 2822. 1kV Heat shrinkable straight joints, including mechanical shear bolt connectors, for the connection of 4-core polymeric insulated cables without armour. Tested at Tyco Electronics Raychem GmbH Ottobrunn, Germany as per EN50393 (CENELEC HD 623 – part 393) DIN EN 50393 (VDE 0278 – part 393) 4 x 2.5 – 4 x 16mm²- 0.6/1(1.2) kV

PPR 2795. 1kV Heat shrinkable straight joints, including mechanical shear bolt connectors, for the connection of 4-core polymeric insulated cables without armour. Tested at KIT in Karlsruhe, Germany as per EN50393 (CENELEC HD 623 – part 393) DIN EN 50393 (VDE 0278 – part 393). 4 x 25 – 4 x 150mm²- 0.6/1(1.2) kV

PPR 2796. 1kV Heat shrinkable straight joints, including mechanical shear bolt connectors, for the connection of 4-core polymeric insulated cables without armour. Tested at KIT in Karlsruhe, Germany as per EN50393 (CENELEC HD 623 – part 393) DIN EN 50393 (VDE 0278 – part 393) 4 x 95 – 4 x 240mm²- 0.6/1(1.2) kV

PPR 2417. Type test for Heat shrinkable straight joints with compression connector. Type EPKJ / SMOE 4 x 1.5mm² Cu stranded round cable construction PVC/PVC 0.6/1(1.2) kV CENELEC DIN EN 50393(VDE 0278-393) :2006-11. Tested at RWE Eurotest GmbH in Dortmund, Germany

PPR 2408. Type test for Heat shrinkable straight joints with mechanical connector type EPKJ / SMOE 4 x 2.5 - 16mm² Cu stranded round cable construction PVC/PVC 4 x 16mm²Cu 0.6/1 (1.2) kV CENELEC DIN EN 50393(VDE 0278-393) :2006-11. Tested at RWE Eurotest GmbH in Dortmund, Germany

PPR 2407. Type test for Heat shrinkable straight joints with mechanical connector type EPKJ / SMOE 4 x 2.5 - 16mm² Cu stranded round cable construction PVC/PVC 4 x 6mm²Cu 0.6/1(1.2) kV CENELEC DIN EN 50393(VDE 0278-393) :2006-11. Tested at RWE Eurotest GmbH in Dortmund, Germany

PPR 2416. Type test for Heat shrinkable straight joints with mechanical connector type EPKJ / SMOE 4 x 150 - 240mm². Cable construction PVC/PVC 4 x 150mm²Cu 0.6/1(1.2) kV Al solid sectorial. CENELEC DIN EN 50393(VDE 0278-393) :2006-11. Tested at RWE Eurotest GmbH in Dortmund, Germany

Renewal Audit report for TAE00003E5 dated 2024-05-08 from DNV Augsburg .

Tests carried out

Tested according to CENELEC HD 623 – Part 393. DIN/EN 50393 (VDE 0278 part 3).

Marking of product

ENSTO NOR – EPKJ – Voltage class – Batch no.

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the Type approval are complied with and that no alterations are made to the product design or choice of materials.

The main elements of the assessment are:

- Inspection on factory samples, selected at random from the production line (where practicable)
- Results from Routine Tests (RT) checked (if not available tests according to RT shall 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 is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE