

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Cable Tray

with type designation(s)
LOE, TOE & OE

Issued to

Øglænd System AS
KLEPPE, Norway

is found to comply with

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

Application :

For installation on board Mobile Offshore Units and Ships.

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

This Certificate is valid until **2021-12-31**.

Issued at **Høvik** on **2017-01-02**

DNV GL local station: **Stavanger**

Approval Engineer: **Nicolay Horn**

for **DNV GL**

Andreas Kristoffersen
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.

Job Id:
Certificate No: **TAE00001KD**

Name and place of manufacturer

Øglænd System AS
KLEPPE, Norway

Oglaend Industries SDN. BHD
Shah Alam, Malaysia

Oglaend Industries (Suzhou) Co., Ltd.
Suzhou, China

Product description

Cable ladder and accessories for ships and offshore platforms. The type approval includes OE Equal Cross, OE Equal Tee and OE Flat Elbow.

Material categories	Oglaend material type	IEC 61537 Classification Ref 6.5.2
Untreated	N/A	0
Pregalvanized steel	PG	3
Hot dip galvanized	HDG (ISO 1461)	6
Stainless steel	SS (AISI 316L)	9D

Type LOE:

Type/width	Weight HDG Kg/m	Weight SS Kg/m	Weight PG Kg/m
LOE-55-200	2,8	2,2	2,1
LOE-55-300	3,0	2,4	2,3
LOE-55-400	3,2	2,6	2,4
LOE-55-500	3,5	2,8	2,6
LOE-55-600	3,8	3,0*	2,8

* LOE-55-600-SS does not fulfil the IEC 61537 requirement on electrical continuity over the length of the cable ladder. The requirement for conductivity over the splice was fulfilled.

Type/width	Weight HDG Kg/m	Weight SS Kg/m
LOE-75-200	3,2	2,5
LOE-75-300	3,5	2,7
LOE-75-400	3,7	2,9
LOE-75-500	3,9	3,2
LOE-75-600	4,2	3,4*

Type/width	Weight HDG Kg/m	Weight SS Kg/m
LOE-100-200	4,2	3,5
LOE-100-300	4,5	3,8
LOE-100-400	4,8	4,1
LOE-100-500	5,0	4,3
LOE-100-600	5,3	4,6

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Type: TOE

Type/width	Weight SS Kg/m
TOE 75-200	3,1
TOE 75-300	3,4
TOE 75-400	3,7
TOE 75-500	3,9
TOE 75-600	4,2

Type/width	Weight HDG Kg/m	Weight SS Kg/m
TOE 100-200	4,4	4,1
TOE 100-300	4,8	4,5
TOE 100-400	5,2	4,8
TOE 100-500	5,6	5,2
TOE 100-600	5,9	5,6

Type: OE

Type/ Netto width	Gross Width mm	Weight SS kg/m	Weight HDG Kg/m
OE 100-150	194	4,1	4,3
OE 100-300	344	4,6	4,8
OE 100-450	494	5,2	5,4
OE 100-600	644	5,7	6,0
OE 100-750	794	6,3	7,4
OE 100-900	944	6,8	8,1

Type/ Netto width	Gross Width mm	Weight SS kg/m	Weight HDG Kg/m
OE 125-150	194	4,6	6,3
OE 125-300	344	5,2	6,9
OE 125-450	494	5,8	7,5
OE 125-600	644	6,3	8,0
OE 125-750	794	6,9	9,4
OE 125-900	944	7,4	10,1

Type/ Netto width	Gross Width mm	Weight SS kg/m	Weight HDG Kg/m
OE 150-150	194	5,2	7,2
OE 150-300	344	5,8	7,7
OE 150-450	494	6,3	8,3
OE 150-600	644	6,9	8,9
OE 150-750	794	7,4	10,3
OE 150-900	944	8,0	11,0

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Type/ Netto width	Gross Width mm	Weight SS kg/m	Weight HDG Kg/m
OE 150-20C-150	200	52	44,5
OE 150-20C-300	350	56,5	49
OE 150-20C-450	500	60,5	53,5
OE 150-20C-600	650	65	58
OE 150-20C-750	800	69,5	68,8
OE 150-20C-900	950	74	74,5

Application/Limitation

The installation is to be mechanical protected in accordance with DNV Rules and especially on weather decks, in cargo hold areas and through cargo holds.

Applying powder coating on Cable Ladders and Trays will affect the ability to conduct current. The ability to conduct current in the steel itself is unchanged, but the coating will work as a barrier.

DNV will still regard the type approval as valid for powder coated cable ladder if the ladders are properly earthed to the structure.

Type Approval documentation

Tests carried out

Loading test, Impact test (-60°C) and Electrical Continuity test according to IEC 61537. Load bending and Continuity test in accordance with NEMA publication VE-1.

Marking of product

Øglænd Systems – Type designation – Width – Material (cover marking).

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 assessment 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.

Assessment to be performed at 2 and 3,5 year.

END OF CERTIFICATE