DNV·GL

EUROPEAN UNION RECOGNISED ORGANISATION (EU RO) MUTUAL RECOGNITION TYPE APPROVAL CERTIFICATE

Certificate No:
MRE000000N

In accordance with Article 10.1 of EU Regulation 391/2009

This Certificate is issued to
Øglænd System AS
KLEPPE, Norway

for
Cable Trays and Ducts (Metallic)

with type designation(s)
Cable ladder

The product is found to comply with
EU RO Mutual Recognition Technical Requirements for Cable Trays and Ducts (Metallic)

Intended service
Cable trays and ducts intended to be used in ship's cabling systems necessary for the applications mentioned in 1.b in the TA program.

This is to certify:

that the Product referred to herein has been inspected for the Manufacturer, pursuant to the relevant requirements of the European Union Recognised Organisation Mutual Recognition procedure, required by Article 10.1 of EU Regulation 391/2009, and has been found in accordance with those requirements.

This Certificate is valid until **2024-10-17**.

Issued at **Høvik** on **2019-11-19**

DNV GL local station: **Stavanger**

for **DNV GL**

Approval Engineer: **Ivar Bull**

Trond Sjåvåg
Head of Section

When a product is presented with this EU RO MR Type Approval Certificate for given application, its acceptability with regards to the limitations stated in the certificate conditions defined in 1b, 1c and 1d of the applied Technical Requirement will be evaluated by the EU RO in charge of classing the ship or being in charge of the unit/system certification.
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.

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Cable ladder and accessories for ships and offshore platforms

Material categories	Oglaend material type	IEC 61537 Classification Ref 6.5.2
Untreated	N/A	0
Primed steel	PR	0
Hot dip galvanized	HDG (ISO 1461)	6
Stainless steel	SS (AISI 316L)	9D
Aluminum[1)]	AL	n/a

1) RZE-R AL produced in Norway only.

Type: RZE-P:

Type/Width	Side piece mm	Z-Rungs mm	Weight HDG kg/m	Weight PR/SS Kg/m
RZE-P- 100	40 x 5	70 x 22 x 1,5	3,2	3,0
RZE-P- 150	40 x 5	70 x 22 x 1,5	3,4	3,2
RZE-P -200	40 x 5	70 x 22 x 1,5	3,6	3,4
RZE-P -250	40 x 5	70 x 22 x 1,5	3,9	3,6
RZE-P -300	40 x 5	70 x 22 x 1,5	4,1	3,8
RZE-P -350	40 x 5	70 x 22 x 1,5	4,3	4,0
RZE-P -400	40 x 5	70 x 22 x 1,5	4,5	4,2
RZE-P -450	40 x 5	70 x 22 x 1,5	4,7	4,4
RZE-P -500	40 x 5	70 x 22 x 1,5	5,0	4,6
RZE-P -600	40 x 5	70 x 22 x 1,5	5,4	5,0
RZE-P -650	40 x 5	70 x 22 x 1,5	5,6	5,2
RZE-P -750	40 x 5	70 x 22 x 1,5	6,0	5,7
RZE-P -900	40 x 5	70 x 22 x 1,5	6,7	6,3

Type: RZE-R:

Type/Width	Side piece mm	Z-Rungs mm	Weight HDG kg/m	Weight PR kg/m
RZE-R-100	40 x 4	70 x 22 x 1,5	2,7	2,5
RZE-R-150	40 x 4	70 x 22 x 1,5	2,9	2,7
RZE-R-200	40 x 4	70 x 22 x 1,5	3,1	2,9
RZE-R-300	40 x 4	70 x 22 x 1,5	3,4	3,2
RZE-R-350	40 x 4	70 x 22 x 1,5	3,6	3,4
RZE-R-400	40 x 4	70 x 22 x 1,5	3,8	3,5
RZE-R-450	40 x 4	70 x 22 x 1,5	4,0	3,7
RZE-R-500	40 x 4	70 x 22 x 1,5	4,1	3,9
RZE-R-600	40 x 4	70 x 22 x 1,5	4,5	4,2

Type: RZE-R AL: (Not suitable for IEC 60331 fire resistant cables)

Type/Width	Side piece mm	Z-Rungs mm	Weight AL kg/m
RZE-R-100	40 x 5	77,6 x 22,5 x 2	3,3
RZE-R-150	40 x 5	77,6 x 22,5 x 2	3,5
RZE-R-200	40 x 5	77,6 x 22,5 x 2	3,8
RZE-R-300	40 x 5	77,6 x 22,5 x 2	4,2
RZE-R-400	40 x 5	77,6 x 22,5 x 2	4,6

Type/Width	Side piece mm	Z-Rungs mm	Weight AL kg/m
RZE-R-500	40 x 5	77,6 x 22,5 x 2	5,1
RZE-R-600	40 x 5	77,6 x 22,5 x 2	5,5

Recommended support span not exceeding 2m

Type: RHF:

Type/Width	Side piece mm	H-Rungs mm	Weight HDG Kg/m	Wight PR/SS kg/m
RHF-100	30 x 5	50 x 3	3,0	2,8
RHF-150	30 x 5	50 x 3	3,2	3,0
RHF-200	30 x 5	50 x 3	3,4	3,2
RHF-250	30 x 5	50 x 4	4,0	3,8
RHF-300	30 x 5	50 x 4	4,3	4,0
RHF-350	30 x 5	50 x 4	4,6	4,3
RHF-400	30 x 5	50 x 4	4,9	4,6
RHF-450	30 x 5	50 x 4	5,2	4,9
RHF-500	30 x 5	50 x 4	5,5	5,2
RHF-600	30 x 5	50 x 4	6,1	5,7

Manufactured by

Øglænd System AS
KLEPPE, Norway

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

Oglaend Industries SDN. BHD
Shah Alam, Malaysia

Application/Limitation

The cable ladder systems have to be installed in accordance with the producer's loading table for the mentioned type.

The installation is to be mechanical protected in accordance with DNV GL 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.

Fire resistant cables shall be installed on cable trays/ladders made of steel.

Special application limitations for aluminum cable trays:
Cable trays made of aluminum shall be installed with steel supports when installed on steel structure. Spacing between supports shall generally not exceed 2m and support the complete width of the cable tray/ladder. Supports shall have fixing points for steel cable ties enclosing complete ladder/tray and cables. In event of a fire the cable trays and the cable affixed shall be prevented from falling and causing an injury to personnel and/or an obstruction to any escape route.

*) The material selection of Cable Ladders and supporting system/methods must be taken into consideration together with the structure material with regards to galvanic separation.

Cables ties in coated stainless steel are suitable with aluminum cable trays/ladder

Type Approval documentation

Marking of product
Øglænd System – Type designation – Width – Material (cover marking).

Other Conditions
Loading test, Impact test (-60°C) and Electrical Continuity test according to IEC 61537.
Applicable tests according to EU RO Mutual Recognition Technical Requirements for CABLE TRAYS & DUCTS (METALLIC) Version 0.2 dated 1 April 2016.
For information on collaborating parties in EU RO Mutual recognition, please see www.euromr.org

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

The main elements of the assessment are:
- Ensure that type approved documentation is available
- Inspection of factory samples, selected at random from the production line (where practicable)
- Review of production and inspection routines, including test records from product sample tests and control routines
- Ensuring that design and materials used comply with type approved documents
- Ensuring traceability between manufacturer's product type marking and the type approval certificate

Periodical assessment is to be performed annually and at renewal of this certificate.

END OF CERTIFICATE