



DET NORSKE VERITAS

TYPE APPROVAL CERTIFICATE

CERTIFICATE NO. S-4870
This Certificate consists of 3 pages

This is to certify that the
Cargo Securing Devices

with type designation(s)
ORSA 274 (9 mm);
ORSA 274 (11 mm)

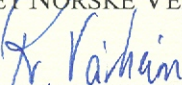
Manufactured by
ORSA LINK AB
ORSA, Sweden

is found to comply with
Det Norske Veritas' Rules for Classification of Ships

Application
Lashing chain for securing of cargo on ships

Type	MSL, tension (kN)	MSL, shear (kN)	MSL, compr. (kN)
ORSA 274 (9 mm)	50	-	-
ORSA 274 (11 mm)	75	-	-

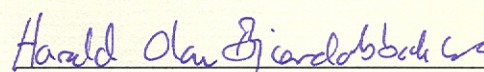
Place and date
Høyik, 2007-02-06
for DET NORSKE VERITAS AS


Roald Vårheim
Head of Section



Local Office
DNV Stockholm

This Certificate is valid until
2011-06-30


Harald Olav Bjordalsbakke
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.

If any person suffers loss or damage which is proved to have been caused by any negligent act or omission of Det Norske Veritas, then Det Norske Veritas shall pay compensation to such person for his proved direct loss or damage. However, the compensation shall not exceed an amount equal to ten times the fee charged for the service in question, provided that the maximum compensation shall never exceed USD 2 million. In this provision "Det Norske Veritas" shall mean the Foundation Det Norske Veritas as well as all its subsidiaries, directors, officers, employees, agents and any other acting on behalf of Det Norske Veritas.



Cert. No.: S-4870

File No.: 924.10

Product description

Long link lashing chain supplied in bulk, for securing of cargo.

Application/Limitation

This Type Approval Certificate replaces Type Approval Certificate S-3515.

Breaking load in tension:

- ORSA (9 mm) = 100 kN
- ORSA (11 mm) = 150 kN

Tests to be carried out:

- Production testing: Each length shall be proof tested to 1.1 x MSL, ref. DNV Rules Pt.5 Ch.2 Sec.6 E301.
- During production, one breaking test to be performed for each continuous length of chain manufactured, at least one test for every 1000m of chain, ref. DNV Rules Pt.5 Ch.2 Sec.6 E302.
- Material tests are to include impact testing at 0° C, with the impact energy requirements according to DNV Rules Pt.5 Ch.2 Sec.6 D200 and D403.

Products manufactured according to this TA shall be inspected by a DNV surveyor, and in addition the DNV surveyor shall witness the production testing and issue DNV product certificates for each batch. Alternatively based on a Manufacturing Survey Arrangement with DNV, the certificates may be issued by the manufacturer.

Materials shall be according to specification ORSA 274 or equivalent, and to be delivered with works material certificates.

Type Approval documentation

Approved drawings:

HLL-9-8.DWG

HLL-11-8.DWG

“Spesifikasjoner på valsetråd”

“Krav til kjemisk analyse”

Drawing No.:

HLL-9-8

HLL-11-8

Rev.:

-

-

Prototype test report No.CMC-0019/kl 6 from DNV Sandviken March 1998, and test report No. SKM-06-4384-1 from DNV Stockholm, dated 2006-11-06.

Tests carried out

Prototype tested according to the Rules





Cert. No.: S-4870
File No.: 924.10

Marking of product

Each item to be marked by manufacturer for traceability.

Certificate retention survey

As required by the local DNV office, but intervals not to exceed 4 years.

END OF CERTIFICATE

