



# DET NORSKE VERITAS

## TYPE APPROVAL CERTIFICATE

**CERTIFICATE NO. S-4871**  
This Certificate consists of 3 pages

*This is to certify that the*  
**Cargo Securing Devices**

*with type designation(s)*  
**ORSA 274 (13 mm)**

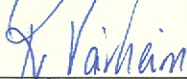
*Manufactured by*  
**ORSA LINK AB**  
ORSA, Sweden

*is found to comply with*  
Det Norske Veritas' Rules for Classification of Ships  
IMO Res. A.581(14) - Guidelines for Securing Arrangements for the Transport of Road  
Vehicles on Ro-Ro ships.

*Application*  
Lashing chain for securing of cargo, including road vehicles on ro-ro ships

|                   |     |
|-------------------|-----|
| MSL, tension (kN) | 100 |
| MSL, shear (kN)   | -   |
| MSL, compr. (kN)  | -   |

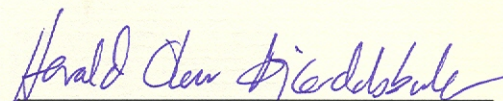
*Place and date*  
Høvik, 2007-02-06  
for DET NORSKE VERITAS AS

  
Roald Vårheim  
Head of Section



*Local Office*  
DNV Stockholm

*This Certificate is valid until*  
2011-06-30

  
Harald Olav Bjørdalsbakke  
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-4871

File No.: 924.10

## Product description

Long link lashing chain supplied in bulk, for securing of cargo, including road vehicles on ro-ro ships.

## Application/Limitation

This Type Approval Certificate replaces Type Approval Certificate S-3516.

Breaking load in tension:

- ORSA (13 mm) = 200 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-13-8.DWG

“Spesifikasjoner på valsetråd”

“Krav til kjemisk analyse”

### Drawing No.:

HLL-13-8

### Rev.:

-

Prototype test report No.CMC-0019/k1 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





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### 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

