

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Cargo Securing Devices

with type designation(s)
Fully automatic twistlock ACV-1

Issued to
MacGregor Finland Oy
Kaarina, Finland

is found to comply with
DNV class programme DNV-CP-0068 – General – Certification of container securing devices

Application :

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

SWL, tension (kN)	250
SWL, shear (kN)	210
SWL, compr. (kN)	1000
Vertical clearance at 250 kN max. 12 mm	

Issued at **Hamburg** on **2023-05-17**

for **DNV**

This Certificate is valid until **2028-05-16**.

DNV local unit: **Finland CMC**

Approval Engineer: **Mark-Oliver Wobig**

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Andree Orth
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.



Product description

Fully Automatic twistlock ACV-1

Application/Limitation

Load	Tension [kN]	Shear [kN]	Compression [kN]
Test Load	375	315	1250
Breaking Load	500	420	2000

Tests to be carried out:

- Production testing: At least 2% of the items delivered are to be selected and subjected to the test load.
- Material tests are to be included energy testing at -20°C, with the impact energy requirements acc. to DNV CP-0068. The material shall be according to the approved drawings. Material certificates shall be 3.1 acc. to ISO 10474:2013.

Type Approval documentation

Drawing No.	Rev.	Title
T108666	B	Twistlock ACV-1 fully automatic twistlock
T108667	B	Twistlock housing for ACV-1
T108610	C	Twistlock locking device part 1 for ACV-1
T108611	B	Twistlock locking device part 2 for ACV-1
T108612	B	Twistlock handle for ACV-1
T108613	B	Container lock spring for ACV-1

Drawing approval DNV-Ref. No.: 262.1-039519-1, dated 2023-05-11

Test report No.: Twistlock ACV-1-H, T108666, dated 2023-05-08

Tests carried out

The prototype test was carried out in Dalian, P.R. China, dated 2023-05-08 in accordance with the DNV CP-0068. The function test was carried out in Valluhn, co. Drehtainer, Germany, dated 2023-03-23 in acc. with the DNV CP-0068.

Marking of product

Each item shall be marked by manufacturer for traceability.

Periodical Assessment

For retention of the Type Approval, a DNV surveyor shall perform a survey after 2 and 3.5 years, to verify that the Type Approval is complied with.