



Certificate no.:
TAS00004FY

TYPE APPROVAL CERTIFICATE

This is to certify:

that the **Chain, shackles, swivels, sockets**

with type designation(s)
Super Wide Body Shackle, nine models from 300t WLL to 2000t WLL

issued to
Crosby Germany GmbH
Düsseldorf, Nordrhein-Westfalen, Germany

is found to comply with
DNV standard DNV-ST-0378 – Offshore and platform lifting appliances
DNV standard DNV-ST-0377 – Standard for shipboard lifting appliances

Application:

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

Issued at **Høvik** on **2024-10-21**

This Certificate is valid until **2029-10-20**.

DNV local unit: **Essen**

for **DNV**

Approval Engineer: **Andreas Sigvardsson**

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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 USD 300 000.

Product description

Super Wide Body Shackle, nine models: 300 tonne WLL, 400 tonne WLL, 500 tonne WLL, 600 tonne WLL, 800 tonne WLL, 1000 tonne WLL, 1250 tonne WLL, 1550 tonne WLL and 2000 tonne WLL.

Application/Limitation

Parameter	Value	(alternative)
WLL*, 800 tonne shackle:	800 tonne	7.845 MN
WLL*, 600 tonne shackle:	600 tonne	5.884 MN
WLL*, 500 tonne shackle:	500 tonne	4.903 MN
WLL*, 400 tonne shackle:	400 tonne	3.923 MN
WLL*, 300 tonne shackle:	300 tonne	2.942 MN
WLL*, 1000 tonne shackle:	1000 tonne	9.807 MN
WLL*, 1250 tonne shackle:	1250 tonne	12.258 MN
WLL*, 1550 tonne shackle:	1550 tonne	15.2 MN
WLL*, 2000 tonne shackle:	2000 tonne	19.613 MN
<i>WLL reduction due to side load</i>		
Angle 0-10 deg	0%	
Angle 11-20 deg	25%	
Angle 21-30 deg	50%	
Angle 31-45 deg	60%	
Angle > 45 deg	Not allowed	
<i>WLL reduction due to side load for Easy Loc collar** ***</i>		
Angle 0° - 15°	0%	
Angle 15° - 30°	20%	
Angle 30° - 45°	40%	
Angle 45° - 60°	55%	
Min. design temperature:	-40°C	
Max. design temperature	+200°C	

* WLL includes dynamic loads

** Easy Loc not applicable for the 800t shackle

*** Please note that the shackle limitations are dimensioning

Type Approval documentation

800 tonne shackle:

600 tonne shackle:

500 tonne shackle:

400 tonne shackle:

300t shackle

1000t shackle

1250t shackle

1550t shackle

2000t shackle

Easy Loc:

Materials

Testing to be carried out on each individual product

- The shackles are to be load tested in accordance with Table 14-2 in DNV-ST-0378. The test load is to be minimum $1.22 \times WLL + 20$ tonne.
- Charpy testing is to be performed in accordance with Table 3-2 in DNV-ST-0378.

Other comments

- This certificate replaces TAS00003XN revision 2.
- For side loads angles more than 5 degrees Crosby should be consulted regarding appropriate WLL de-rating.

Marking of product

Each shackle shall be marked as described in section 14.5.1.2 in DNV-ST-0378.

Periodical assessment

For retention of the Type Approval Certificate, DNV's representative shall carry out biennial Product Audits.

END OF CERTIFICATE