Certificate No:
TAD00001J3

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Lifting equipment

with type designation(s)
2 & 4 Way Lifting sling sets

Issued to
Varco BJ. B.V.
Etten-Leur, Noord-Brabant, Netherlands

is found to comply with
DNV-OS-E101 – Drilling facilities, Edition July 2021

Application :

Lifting sling assemblies, with spreader bars approved for lifting of drilling equipment.

Issued at **Høvik** on **2023-04-25**
This Certificate is valid until **2028-04-24**.
DNV local unit: **Netherlands CMC**

Approval Engineer: **Ola Emil Ruud**

for **DNV**

Per Esvall
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.

Reference Standards

DNV-ST-0378 Standard for offshore and platform lifting appliances, Oct. 2021

Product description

4 Way sling sets as shown in GA drawings;

18059925-ASM Rev.02 Lifting sling with 4 latching hooks
10827730-GAD Rev.07 4-Way Lifting sling

Application/Limitation

1) Lifting sling with 4 latching hooks;

   SWL= 2,54 metric Tonnes
   Max. side pull: 1,0 metric Tonnes
   Max. lower leg angle: 45° to the vertical
   Design temp.: -20° C to 45° C

2) 4- Way Lifting sling;

   SWL= 8,0 metric Tonnes
   Max. side pull: 1,0 metric Tonnes
   Max. upper leg angle: 11° to the vertical
   Design temp.: -20° C to 45° C

Minimum safety factor for the sling sets: 5

Type Approval documentation

Drawing No.	Rev	Title
PMS-03	02	Material Specification for steel plates used for major load bearing components in DNV certified lifting appliances
17490884-DAS	01	Eye self locking hook
10835097-DAS	-	Cable Lifting Sling
10835058-DAS	-	HA Quad Assemblies
10827730-GAD	07	DD: 4-Way Lifting Sling PS495
16985138-ASM	05	4-Way Lifting Sling PS495 w. Recessed Lock Hooks
EREL-0926	-	Engineering Report EREL-0926
50001111-C	F	Hook casting
50001111-M	A	Hook machining
50001111-1	C	Hook Assembly
17856855-DAS	-	3/8” (10mm) Grade 80 chain for overhead hoisting
17489665-DAS	01	Van Beest Excel Omega Link Grade 8
50001118	d	Leg assembly for lifting sling
17790848-GEN	01	Wire rope 6x19 Steel Core Construction IWRC or WSC
10698874-DAD	-	Green Pin Wide Mouth Shackles
200982	f	Lifting Sling spreader bar
979459	-	Green Pin Polar Shackles
17782009-DAS	01	Plain swivel
979435-DAS	C	Wire rope end fitting
18059925-ASM	02	4-Way Lifting Sling with latching hooks and curved spreader bar
EREL-0913	-	Engineering Report EREL-0913

Tests carried out

1. Lifting sling with 4 latching hooks: Overload test carried out 2023-04-04, witnessed by DNV Rotterdam.
2. 4- Way Lifting sling: Overload test carried out 2022-12-09, witnessed by DNV Rotterdam.

Comments

1. All materials are to be delivered with 3.1 certificates, documenting mechanical properties and chemical composition in accordance with the DNV-ST-0378 Sec. 3
2. Welds and NDT to be carried out by certified personnel and in accordance to DNV-ST-0378 Sec.3
3. It is the responsibility of the holder of the certificate to ensure that both design and production of every sling set part complies with the above-mentioned standards.
4. All loose gear; Wires, shackles, hooks, links and chains shall be delivered in accordance with recognised Standards, and are to be delivered with pertinent ILO certificates.
5. The latching hooks (dwg.50001111- A/C/F) holds separate approval (Cert. TAD00000W6)

Marking of product

Each sling set is to be marked according to DNV-ST-0378 Sec.14.5 ;

- SWL
- Component traceability
- Manufacturer’s Name or Mark

Certificate Retention Survey

For retention of the Type Approval, a DNV surveyor shall perform periodical assessment after two years (+/- 90 days) and after 3.5 years (+/- 90 days) to verify that the conditions for the approval are complied with. Reference is made to DNV-CP-0338.

END OF CERTIFICATE