



Certificate No:
TAD00001KG

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Hoisting, Rotation and Pipehandling Equipment

with type designation(s)
Sheave 78", PN 3703632 and 3703633

Issued to

The Crosby Group LLC
Tulsa, OK, USA

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

Application :

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

Issued at **Houston** on **2023-10-03**

This Certificate is valid until **2028-10-02**.

for **DNV**

DNV local unit: **Certification & Inspection Services**

Approval Engineer: **Bo Cui**

Mark Miser
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.



Design codes/standards used as references

[1] API Specification 8C, 5th Edition, April 2012 "Drilling and Production Hoisting Equipment (PSL1 and PSL2)"

Product description

78" Dia. Sheave with 2.000" Wireline

Application/Limitation

<u>Design Parameter</u>	<u>Value</u>	<u>(equivalent)</u>
Minimum Design Temperature	-4°F	(-20°C)
Total Max. Load - 180° Wrap	360 kips	(1601.36 kN)
Max Single Line Pull - 180° Wrap	180 kips	(800.68kN)
Maximum Fleet Angle	2.0°	
API 8C Design Factor	3.0	

Type Approval documentation

Tests carried out

Procedures related to testing, welding, NDE etc. are to be reviewed/approved by DNV's surveyor

Marking of product

For traceability to this Type Approval Certificate the products are as a minimum to be marked as follows:

- Part Number
- Serial Number
- Load Rating
- Sheave Groove Size
- Sheave Outside Diameter
- Type Approval Certificate Number
- Manufacturer's name and trademark

Periodical assessment

For retention of this Type Approval, DNV's surveyor shall perform periodical assessment after 2 years (+/- 90 days) and after 3.5 years (+/- 90 days) in accordance with DNV-CP-0338, Section 4.

End of Certificate