Certificate no.:
TAD00001RK

TYPE APPROVAL CERTIFICATE

This is to certify:

that the Hoisting, Rotation and Pipehandling Equipment

with type designation(s)
60" sheave, 10" shaft, 1 1/2" wireline

issued to
GOSAN, S.A.
Ortuella, Vizcaya, **Spain**

is found to comply with

DNV-OS-E101 – Drilling facilities, Edition July 2024
API Spec 8C/ISO 13535, Specification for Drilling and Production Hoisting Equipment (PSL2), 4th Edition

Application:

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

Issued at **Høvik** on **2025-03-20**
This Certificate is valid until **2030-03-19**.
DNV local unit: **Area NB/CMC Iberia**

for **DNV**

Approval Engineer: **Thomas Henrik Tranesen**

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
60” sheave for drilling hoisting system

Application/Limitation

in design temperature	-20°C
Max line pull	112500 lbs / 51.03mT
Max sheave load	225001 lbs / 102.06mT
Max fleet angle	2.5°
Wrap angle	180°
Design safety factor	2.25
Product specification level	PSL 2
Wire diameter	38mm / 1 ½”
Sheave outer diameter	1524mm / 60”
Sheave rim bottom diameter	1419.2mm

Type Approval documentation

Tests carried out
- Charpy impact testing of the materials shall be carried out in accordance with API Spec.8C §6.3, at or below minimum design temperature. The most stringent rule principle applies.
- Aluminium content in rim material shall be min 0.020%.
- The rim material shall be normalized before cold forming.
- NDE/NDT examination shall be carried out in accordance with DNV-OS-E101 Ch.2 Sec.8 §3 and
- API Spec.8C §8.4.9.
- Qualification of welding procedures and qualification of welders shall be in accordance with DNV-OS-E101 Ch.2 Sec.8 §2 and API Spec.8C §7.2.
- Materials shall meet elongation requirements in accordance with API Spec.8C §6.3.7 and chemical content in accordance with §6.6.
- Dimensional control shall be carried out in accordance with API Spec.8C §8.5.

Marking of product
Marking shall be in accordance with DNV-OS-E101 Ch.2 Sec.8 §2.2 and API Spec.8C §9.2.6.

Periodical assessment
For retention of the Type Approval Certificate, DNV surveyor shall perform a survey every second year and before expiry date of this certificate. This is in order to verify the condition for the Type Approval are complied, ref. DNV-CP-0338.
Each product is to be surveyed during fabrication in accordance with the requirements for the equipment Category I as defined in DNV-OS-E101, followed by issuance of Product Certificate. If the intended installation is DNV classed, then this automatically means DNV Product Certificate.
Fabrication records are to be maintained in accordance with DNV-OS-E101 Ch.2 Sec.3 §2.

Manufactured by:
Gosan S.A.
Polígono Industrial Granada,
C-1 48530 Ortuella
Vizcaya Spain
END OF CERTIFICATE