



Certificate no.:
TAS000052T

TYPE APPROVAL CERTIFICATE

This is to certify:

that the Lifting Gear

with type designation(s)
Sheave G5-02663

issued to

GOSAN, S.A.
Ortuella, Vizcaya, Spain

is found to comply with

DNV standard DNV-ST-0378 – Offshore and platform lifting appliances

Application:

Included on second page of this document.

Issued at **Høvik** on **2026-01-15**

This Certificate is valid until **2031-01-14**.

for **DNV**

DNV local unit: **Area NB/CMC Iberia**

Approval Engineer: **Luisa Brites**

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

The sheave is a fully machined, non-welded steel component. It features a rope groove on a Ø250 mm diameter.

Application/Limitation

The sheaves covered by this Type Approval Certificate shall be permanently installed on a lifting appliance as part of the hoisting and/or luffing systems. They shall not be used as sub-components of loose gear.

Equipment designation: sheave G5-02663
Categorization/application: offshore
Design dynamic factor (DAF): 1.3
Maximum static line pull: 2 t (metric)
Maximum wrap angle: 180°
Maximum fleet angle: 2°
Wire rope diameter: 12 mm
F.E.M. 1.001 component group: E4 (B5/P2)
Design temperature: -20 °C

Approval limitations:

1. It is the operator's duty to ensure that the real dynamic coefficient does not exceed the design dynamic factor. The maximum dynamic load shall include the contributions from the hook/block weight, wire rope weight, and the applicable design dynamic factor for the lifting appliance.
2. The bearings of the sheave are not covered by this approval. INA bearings type SL045010-PP, or an equivalent with verified strength and capacity, shall be installed in accordance with Gosan procedures. Proper lubrication of the bearings is to be guaranteed during operation and use of the sheaves.
3. All materials shall be delivered with Type 3.1 certificates documenting mechanical properties and chemical composition in accordance with DNV-ST-0378 Sec. 3 and demonstrating compliance with the Type Approval documentation.

Type Approval documentation

Certification

This Type Approval covers design(s) only, i.e. the Type Approval is not valid for the final product, but may be used as basis for obtaining a product certificate.

If a DNV Product Certificate is required, the following conditions apply:

- the manufacturing survey shall be conducted by a DNV Surveyor.
- each sheave shall undergo overload testing according to DNV-ST-0378 Table 14-1.

Marking of product

Each sheave shall be marked according to DNV-ST-0378, section 14 [14.5].

Periodical assessment

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.

This certificate is only valid if required periodical assessments are carried out with satisfactory results. To check the validity of this certificate, please look it up in <https://approvalfinder.dnv.com>

END OF CERTIFICATE