



Certificate no.:
TAS00004GK

TYPE APPROVAL CERTIFICATE

This is to certify:

that the Lifting Gear

with type designation(s)
Sheave SE.355.5016.9,5 (ø355/ø80 R9,5)

issued to

Ropeblock B.V.
Oldenzaal, Overijssel, Netherlands

is found to comply with

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

Application:

Sheaves for offshore cranes

Issued at **Høvik** on **2025-01-15**

This Certificate is valid until **2030-01-14**.

for **DNV**

DNV local unit: **Netherlands CMC**

Approval Engineer: **Igor Antonijevic**

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

Sheave SE.355.5016.9,5 (ø355/ø80 R9,5)

Outer diameter: 410 mm
Sheave pitch diameter: 372 mm
Wire rope diameter: 18 mm

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

Reference standards

F.E.M., Rules for the Design of Hoisting Appliances, 3rd Ed. 1998

Application/Limitation

Min. design temperature: -20°C
Design Safety Factor: 1.5

Load Condition	1	2	3	4
Maximum dynamic line pull ¹⁾ [kN]	211	282	71	74
Wrap angle [°]	120	13.5	120	13.5
Fleet angle, in/out [°]	0/2	0/2	0/10	0/10

Maximum dynamic line pull for component groups [kN].

Load case	Wrap angle [°]	Fleet angle in/out ²⁾ [°]	F.E.M. 1.001 component group				
			E1-E4	E5	E6	E7	E8 ³⁾
1	120	0/1	211	182	154	130	127
2	13.5	0/1	282	282	255	216	211
3	120	0/5	71	71	71	61	60
4	13.5	0/5	74	74	74	67	65

¹⁾ The maximum dynamic load shall include effects such as the weight of the hook/block, the weight of the wire rope and the lifting appliance's design dynamic factor. The applied design dynamic factor is 1.3. For dynamic factors exceeding 1.3, the static line pull multiplied by the dynamic factor shall not be greater than the maximum dynamic line pull values given above.

²⁾ half of the maximum fleet angle values are considered for fatigue.

³⁾ E8 is based on P1/B10-P2/B9, P3/B8-P4/B7

The allowable static line pull shall be calculated accounting for the design dynamic factors for the intended application, DNV-ST-0378 sec 4.1.3.

All materials are to be delivered with 3.1 certificates, documenting mechanical properties and chemical composition in accordance with the Type Approval documentation.

The sheave bearings are not covered by this Type Approval. Sheave bearings are to be delivered with manufacturer's CoC, confirming sufficient strength and capacity. Proper lubrication of the bearings is to be guaranteed during operation and use of the sheaves.

Type Approval documentation

Tests to be carried out

1. If a DNV Product Certificate is required, each sheave shall be subjected to overload testing as per DNV-ST-0378 Table 14-1 and 14.2.3.4.
2. NDT as specified in the Type Approval Documentation are to be carried out by certified personnel.
3. Testing shall be witnessed by DNV representative.

Note: sheaves are exempt from impact testing.



Job ID: **262.1-042191-1**
Certificate no.: **TAS00004GK**

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