

# APPROVAL OF MANUFACTURER CERTIFICATE

**This is to certify:**

**That**

**GUIVISA, S.L.**

**Cervantes 47, E-48970, Basauri, Bizkaia, Spain**

is an approved manufacturer of  
**Steel Castings**

in accordance with

**DNVGL-OS-E304 – Offshore mooring steel wire ropes, Edition July 2015**

and the following particulars:

<b>Product</b>	<b>Castings for offshore mooring wire rope sockets</b>
<b>Grade</b>	<b>ASTM A487 – Gr. 10Q, see page 2</b>
<b>Max. weight</b>	<b>310 Kg</b>
<b>Max. thickness</b>	<b>140 mm</b>
<b>Delivery Condition</b>	<b>Normalised, Quenched and Tempered</b>
<b>Remarks</b>	<b>See particulars of approval</b>

Manufacturer approved by this certificate is accepted to deliver according to DNV GL, DNV and GL rules. Materials to be applied to DNV GL classed object shall fulfill the material requirements in the applicable DNV GL class rules.

Issued at **Høvik** on **2019-11-08**

for **DNV GL**

This Certificate is valid until **2022-06-30**.

DNV GL local station: **Area NB/CMC Iberia**

Approval Engineer: **Dechun Lou**

**Hanne Anita Hjerpetjønn**  
**Head of Section**



Job Id: **263.11-010366-1**  
Certificate No: **AMMM00002M9**

### Particulars of the approval

Particular of approvals for castings for offshore mooring wire rope sockets				
Grade <sup>1)</sup>	Delivery conditions <sup>2)</sup>	Max. diameter or thickness (mm)	Max. weight (Kg)	Casting method
ASTM487-10Q	NQT	140	310	Sand casting

Remarks:

<sup>1)</sup> For approved material specification see table S1

<sup>2)</sup> NQT: Normalized, Quenched and Tempered

<sup>3)</sup> Heat treatment is carried out at subcontractor: TRATAMIENTOS TERMICOS YURRE S.L.

Table S1 - Specification for chemical composition															
Grade		C	Si	Mn	P	S	Cr	Ni	Mo	Cu	Al	V	Ti	Nb	N
ASTM487-10Q	Min	.25	.30	.60	-	-	.55	1.40	.20	-	.020	-	-	-	-
	Max	.30	.60	1.0	.020	.015	.90	2.00	.40	.20	.035	.03	.002	.01	.012

Remarks:

The content of Sn, Sb, As and B may be required to be determined. In such cases, the maximum content shall be 0.02 % for Sn, 0.01% for Sb, 0.01% for As and 0.001% for B.