

TYPE APPROVAL CERTIFICATE

This is to certify:**That the DZ-7 HHP Anchor**with type designation(s)
LZ11-042-360-36000

Issued to

Chongqing Xinye Marine Casting Co.,Ltd.
CHONGQING CHONGQING, Chinais found to comply with
DNVGL-OS-E301 – Position mooring, Edition July 2015
DNV GL rules for classification – Ships**Application :****to be used for ship's mooring (DNVGL-RU-SHIP-Pt3Ch11), or offshore temporary and mobile mooring (DNVGL-OS-E301), for weights ranging from 360 kg to 36,000 kg, with 25% weight reduction compared to ordinary stockless anchor.**This Certificate is valid until **2021-11-20**.Issued at **Høvik** on **2016-11-21**DNV GL local station: **Wuhan**Approval Engineer: **Pierre-Eric Moulia**for **DNV GL**

Inger-Helene Hals
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.

Product description

« High Holding Power » Drag Embedment Type Anchor.

The sizes covered by this type approval are from 360 Kg to 36000 Kg.

The anchors are to be used for:

- Temporary or Mobile Mooring as defined in Offshore Standard DNVGL-OS-E301 'Position Mooring' July 2015.
- Ship's mooring as defined in DNVGL-RU-SHIP-Pt3Ch11 Edition October 2015, amended January 2016.

Shackle (including pin) material is K2 for ship's and R3 for offshore.

Application/Limitation

The materials shall be manufactured and tested according to applicable parts of DNVGL-OS-B101, at works which have been approved by DNVGL, and delivered with EN 10.204 3.2 type material certificates. (ref DNVGL-RU-SHIP-Pt2Ch2 for ship's).

The chain size/grade (or MBL) of the anchor line shall not be greater than the one listed in below table:

anchor size [kg]	ship's mooring		offshore temporary mooring		offshore mobile mooring		
	proof load [kN]	K2 chain size [mm]	proof load [kN]	R3 chain size [mm]	proof load [kN]	R3 chain size [mm]	MBL [kN]
360	112,6	22	112,6	20,5	198	20,5	397
1000	251,8	34	251,8	30	417	30	835
2000	433,6	48	433,6	42	799	42	1599
3000	576,0	56	576,0	50	1115	50	2230
3600	644,2	62	644,2	54	1290	54	2580
5000	776,0	73	776,0	64	1776	64	3551
7000	968,7	87	968,7	78	2562	78	5123
8000	1048	92	1048	81	2745	81	5490
10000	1172	102	1172	90	3324	90	6647
12000	1297	111	1297	97	3802	97	7604
14000	1447	120	1447	107	4524	107	9048
16000	1584	127	1584	114	5054	114	10109
18000	1717	137	1717	122	5682	122	11365
20000	1830	147	1830	132	6497	132	12993
22000	1953	-	1953	137	6914	137	13829
25000	2126	-	2126	147	7768	147	15536
27000	2246	-	2246	152	8202	152	16405
30000	2406	-	2406	157	8641	157	17282
33000	2565	-	2565	162	9083	162	18166
36000	2725	-	2725	162	9083	162	18166

Job Id:
Certificate No: **TAS00000SH**

Individual Product Certificate is to be issued for each size/delivery.

Type Approval documentation

Tests carried out

Each delivered anchor shall be proof load tested. Ref DNVGL-OS-E301 Ch.3 Sec.2 § 3.4.3 for offshore, or DNVGL-RU-SHIP-Pt3Ch11 for ship's.

If anchor shackles are proof load and break load tested separately (by shackle manufacturer) in a non-representative way, then anchor shackle calculation shall be submitted.

Fabrication of anchors shall be in accordance with DNVGL-OS-C401 for offshore, or DNVGL-RU-SHIP-Pt2Ch4 for ship's.

Marking of product

The anchors shall be marked according to DNVGL-OS-E301 July 2015, Ch3 Sec 2 §3.3.1

- Mass of anchor
- Certificate no.
- Date of proof load test
- DNVGLs stamp

Ref DNVGL-RU-SHIP-Pt3Ch11 §4.7.1 for ship's.

Periodical assessment

For retention of the Type Approval, DNVGL surveyor shall perform a survey every 2 ½ year and before the expiry date of this Certificate to verify that the conditions of the type approval are complied with.