



<b>Chongqing Marine &amp; Industries Co., Ltd.</b> 26 <sup>th</sup> floor, BEICHENMINGDU, Jian Xinbei Road, Jianbei District, Chongqing China	<b>Via Email</b>
	4 Jul 2016
	File Ref.: T-8-6
	Refer to: JFAN/T1526808
	Oracle ID: 3691706
Class No.: ----	

Attn.: Mr. Michael Chang

Re: **ST Offshore Anchor**  
Model No. HHP 500kg – 30,000 kg Mass  
**Proof load Increase**

Gentlemen,

We have your Application for PDA Renewal dated 23 Feb 2016 together with the enclosures listed below. Having reviewed the enclosures in accordance with the following Rules:

- 2016 ABS Steel Vessel Rules, 1-1-4/7.7, 1-1-Appendix 3 &4, 3-5-1;
- 2016 ABS Mobile Offshore Drilling Unit Rules 1-1-4/9.7, 1-1-Appendix 2 &3, 3-4-1,

We are pleased to advise that we have completed the design assessment phase of the type approval process.

Enclosed is your original copy of the **Certificate of Design Assessment**. Please read the pages attached to the certificate to be sure that you understand the scope and conditions of the validity of the certificate. We recommend that you monitor the ABS Rules and other specifications used in the approval. These Rules and specifications often change on an annual basis, and you must comply with the new Rules and specifications in order for the product to be used on an ABS classed vessel or facility contracted under the new Rules or specifications.

Since the original certificate is multi-colored, we have no objections to unlimited black and white photocopies of the certificate being distributed. As you already know, your details are published on our web site and can also be downloaded there.

One (1) copy of the drawings appropriately stamped to indicate our review is being returned.

We have received your declaration stating that the materials used in the system indicated in the submittal are free from Asbestos.

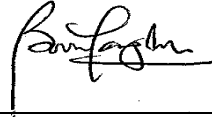
Please find enclosed our invoice to cover the cost of the design assessment phase of the type approval process.

If you should have any comments relative to the scope and conditions of the assessment of your product, or if we can be of any further assistance, please do not hesitate to contact us. We do appreciate your continued confidence in the services that ABS provides.

**PACIFIC DIVISION**

438B ALEXANDRA ROAD, #06-05, BLK B ALEXANDRA TECHNOPARK, SINGAPORE 119968  
TEL: 65-6276-8700 FAX: 65-6272 2195 (SED) 65-6276 8130 (ESD) EMAIL: ABSSingapore@eagle.org  
WEB: www.eagle.org

Yours very truly,  
**K.M. Wong**  
Senior Vice President of Engineering  
ABS Pacific Division



By: \_\_\_\_\_  
**P J Boon**  
Senior Principal Engineer  
Offshore Engineering Department

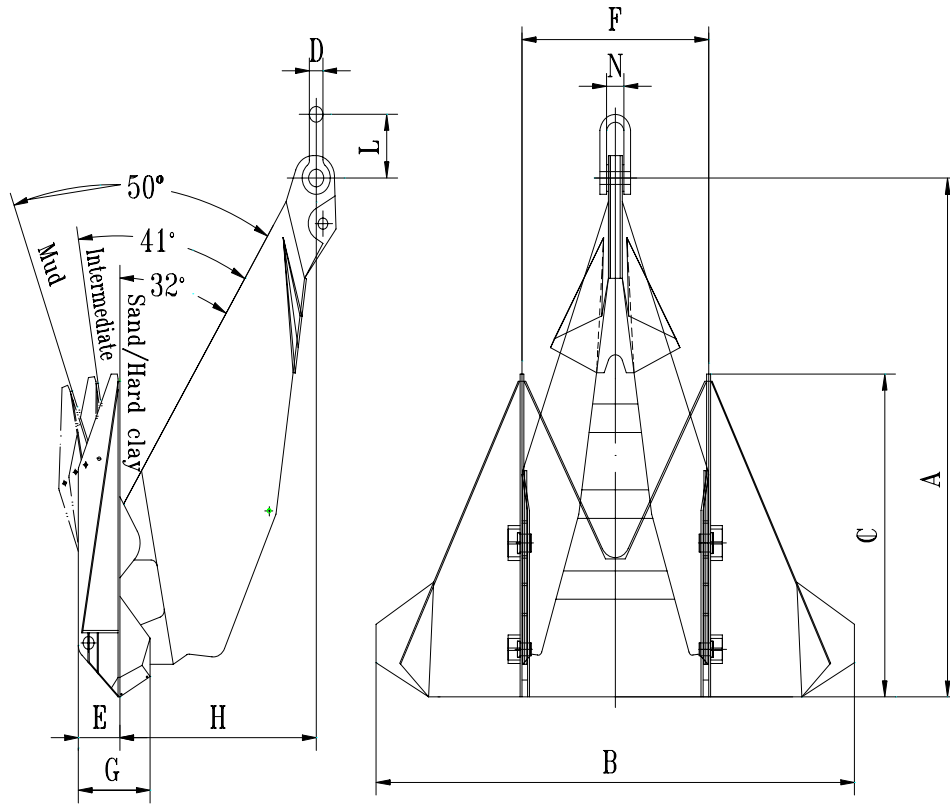
C.c. ABS Surveyor (via O2E)

Enclosures:

Drawing No.	Rev.	Description
ST-500-30000	1	Finite Element Strength Analysis of ST Offshore Anchor
---	1	Revised Dimensions Specification

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**ST Offshore Anchor**


All dims. in mm

NOMINAL WEIGHT kg	A	B	C	D	E	F	G	H	L	N
500	2042	2183	1237	48	187	854	320	997	215	64
1000	2572	2750	1558	59	236	1076	404	1256	271	87
1500	2945	3148	1784	68	270	1232	462	1438	310	100
2000	3241	3465	1963	74	297	1356	508	1583	340	108
3000	3710	3967	2248	90	340	1553	581	1812	385	125
4000	4084	4366	2475	100	374	1709	640	1995	415	132
5000	4400	4703	2666	110	403	1841	690	2149	480	148
6000	4676	4998	2833	110	428	1956	733	2284	500	158
7000	4924	5262	2982	115	451	2059	772	2404	540	165
7500	5038	5384	3051	124	461	2107	790	2460	580	170
8000	5148	5501	3119	130	471	2154	808	2515	600	172
9000	5354	5721	3224	135	490	2240	840	2616	620	182
10000	5545	5925	3360	140	508	2320	870	2710	640	188
11000	5724	6116	3468	145	524	2395	898	2797	660	192
12000	5892	6296	3570	150	539	2465	924	2879	680	198
13500	6128	6548	3713	155	561	2564	961	2994	700	200
15000	6347	6782	3846	160	581	2656	995	3101	730	210
18000	6745	7207	4087	175	618	2823	1054	3295	790	225
20000	6986	7465	4233	180	640	2924	1092	3413	800	235
22000	7212	7706	4369	190	660	3018	1127	3523	850	242
25000	7526	8041	4559	195	689	3149	1176	3677	860	250
30000	7998	8545	4844	210	733	3345	1249	3907	940	265



CERTIFICATE NUMBER  
16-SG1526808-PDA

DATE  
04 Jul 2016

ABS TECHNICAL OFFICE  
Singapore OED

## CERTIFICATE OF DESIGN ASSESSMENT

This is to certify that a representative of this Bureau did, at the request of  
**CHONGQING MARINE & INDUSTRIES CO., LTD.**

assess design plans and data for the below listed product. This assessment is a representation by the Bureau as to the degree of compliance the design exhibits with applicable sections of the Rules. This assessment does not waive unit certification or classification procedures required by ABS Rules for products to be installed in ABS classed vessels or facilities. This certificate, by itself, does not reflect that the product is Type Approved. The scope and limitations of this assessment are detailed on the pages attached to this certificate.

Product: **Anchor, High Holding Power**

Model: **ST Offshore Anchor HHP 500kg - 30000kg Mass**

This Product Design Assessment (PDA) Certificate 16-SG1526808-PDA, dated 04/Jul/2016 remains valid until 03/Jul/2021 or until the Rules or specifications used in the assessment are revised (whichever occurs first).

This PDA is intended for a product to be installed on an ABS classed vessel, MODU or facility which is in existence or under contract for construction on the date of the ABS Rules or specifications used to evaluate the Product.

Use of the Product on an ABS classed vessel, MODU or facility which is contracted after the validity date of the ABS Rules and specifications used to evaluate the Product, will require re-evaluation of the PDA.

Use of the Product for non ABS classed vessels, MODUs or facilities is to be to an agreement between the manufacturer and intended client.

AMERICAN BUREAU OF SHIPPING

  
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Jing Fan  
Engineer/Consultant

NOTE: This certificate evidences compliance with one or more of the Rules, codes, standards or other criteria of ABS or a statutory, industrial or manufacturer's standards. It is issued solely for the use of ABS, its committees, its clients or other authorized entities. Any significant changes to the aforementioned product without approval from ABS will result in this certificate becoming null and void. This certificate is governed by the terms and conditions as contained in ABS Rules 1-1-A/5.9 Terms and Conditions of the Request for Product Type Approval and Agreement (2010).