



CERTIFICATE NUMBER
FOR 1318166

PORT OFFICE
ABS MATERIALS HOUSTON

CERTIFICATE OF FORGING FACILITY AND PROCESS APPROVAL

This is to certify that a representative of ABS did, at the request of

Shandong Iraeta Heavy Ind. Co., Ltd., Jinan, China

attended its facilities as indicated in the ABS Qingdao port office survey report number QD2635289-A dated 03 June 2014, in order to carry out a survey of the facilities and associated quality procedures. The facility is considered capable of manufacturing

Steel Forgings for Marine Applications

in accordance with the ABS Approval letter, ABS Rules, designated standards and ABS approved drawings. The approval is valid subject to adherence to relevant ABS Rules and survey requirements and annual facility endorsement by an ABS representative.

ISSUE DATE 03 Jun 14 EXPIRATION DATE 02 Jun 19

SIGNATURE

**V. BALASUBRAMANIAM
PRINCIPAL ENGINEER
ABS MATERIALS, HOUSTON**



FIRST ANNUAL
ENDORSEMENT

SECOND ANNUAL
ENDORSEMENT

THIRD ANNUAL
ENDORSEMENT

FOURTH ANNUAL
ENDORSEMENT

Project #: 3434645; Task #: T1318166; Office Ref #: MMPS: 7661

NOTE: This certificate evidences compliance with one or more of the Rules, Guides, 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. This Certificate is a representation only that the structure, item of material, equipment, machinery or any other item covered by this Certificate has met one or more of the Rules, Guides, standards or other criteria of ABS as of the date of issue. Parties are advised to review the Rules for the scope and conditions of classification and to review the survey records for a full description of any restrictions or limitation on the vessel's service or surveys. The validity, applicability and interpretation of this Certificate is governed by the Rules and standards of ABS who shall remain the sole judge thereof. Nothing contained in this Certificate or in any notation made in contemplation of this Certificate shall be deemed to relieve any designer, builder, owner, manufacturer, seller, supplier, repairer, operator or other entity of any warranty express or implied.



Shandong Iraeta Heavy Ind. Co., Ltd. (408423)
No. 9001 Jiwang Road,
Zhanggiu, Jinan, China

Reference: T1318166
Project Number: 3434645
Certificate no: FOR 1318166

ATTN: Yan-van Yang

**Initial Steel Forging Facility and Process Approval
ABS Approval of Shandong Iraeta Heavy Ind. Co., Ltd., Jinan, China**

We have the ABS Qingdao plant survey report QD2635289-A dated 03 June 2014, along with your submittals of 11 July 2011 together with enclosures relative to the subject. With regard thereto we advise that Shandong Iraeta Heavy Ind. Co., Ltd. is considered approved to produce machinery forgings to the requirements of *ABS Materials & Welding Rules Part 2-3-7 (2015)* as outlined below, provided the Rules are adhered to in all respects and all production, testing and inspection are to the satisfaction of the attending ABS Surveyor.

Grade	: ABS & Non-ABS Grades – Carbon, C-Mn, Low Alloy & Stainless Steels
Melting Practice	: ABS Approved Sources
Casting Practice	: ABS Approved Sources
Forging Practice	: Drop Forging
Maximum Weight	: 3,305 kg
Maximum Thickness	: 357 mm
Heat treatment facility	: In-house
Product Examples	: Ring, Flange

Weld repair is generally not permitted on forgings, unless specially approved by the ABS Engineering Office.

The approval is valid for five years subject to annual endorsement survey and will expire on 02 June 2019. Please note it is the responsibility of the facility to inform ABS of any changes to the manufacturing parameters and request annual endorsement survey or renewal of approval prior to the five year expiry date. Please find our invoice to cover the costs of the technical review is enclosed.

A copy of the documentation appropriately stamped to indicate our review is being retained. If you need to contact ABS regarding this review please email James Oehrle at joehrle@eagle.org.

Very truly yours

Daniel Cronin
Vice President of Engineering,
ABS Americas

V. Balasubramaniam
Principal Engineer,
ABS Materials Houston