



Marine & Offshore

Certificate number: 54526/A0 BV

File number: MAT 72524-2018

Product code: 8153I

*This certificate is not valid when presented without the full attached schedule composed of 7 sections*

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## APPROVAL CERTIFICATE for MATERIALS

*This certificate is issued to*

**Echjay Forgings Pvt. Ltd.,**  
Khopoli - Raigad - INDIA

*for the type of product*

**STEEL FORGINGS**

Stainless steel forgings with maximum weight 200Kg.

**Requirements:**

Bureau Veritas Rules on Materials and Welding for the Classification of Marine Units

*This certificate is issued to attest that Bureau Veritas Marine & Offshore did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.*

**This certificate will expire on: 13 Dec 2023**

**For Bureau Veritas Marine & Offshore,**

At BV MUMBAI (BOMBAY), on 13 Dec 2018,

Rajan VARDHAN



This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with Bureau Veritas Marine & Offshore. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. This certificate is issued within the scope of the General Conditions of Bureau Veritas Marine & Offshore available on the internet site [www.veristar.com](http://www.veristar.com). Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against Bureau Veritas Marine & Offshore for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

## **THE SCHEDULE OF APPROVAL**

### **1. PRODUCT DESCRIPTION :**

Austenitic and Austenitic-ferritic stainless steel forgings with maximum weight 200Kg.  
Typical forgings are flanges.

No steelmaking. Forgings are made by closed die forging, open die forging or ring rolling.  
Forgings are Solution Annealing or Direct Quench after hot working.

### **2. DOCUMENTS AND DRAWINGS :**

As per documents issued by Echjay Forgings Pvt. Ltd:

- "General information about company and manufacturing data Rev. No. 00" dated 23 August 2018.
- "Specific information about manufacturing process Rev.00" dated 26 August 2018.
- "Reduction ratio" submitted October 2018.
- "Procedure for heat treatment (solution annealing after hot working)" - Doc No. P-HT-04 Rev.01 dated 01 October 2018.

### **3. TEST REPORTS :**

3.1 - Typical tested grades:

- 1.4307/ F304/F304L; 1.4404/F316/F316L, 1.4571/F316Ti; 1.4541/F321 according to EN 10222-5.
- F51/F60; F347/F347H; F317L according to ASTM A182.

3.2 - As per documents issued by Echjay Forgings Pvt. Ltd:

- "Test reports for grades: F304L; F316L; F316Ti; F317L; F321; F316Ti; F347H; F51/F60" dated 24 September and 05 October 2018.
- Dye penetrant test reports and Ultrasonic test report dated 10 September 2018.

### **4. APPLICATION / LIMITATION :**

As per Bureau Veritas Rules for Classification.

Chemical composition, tensile properties and Charpy-V notch test requirements are to be as per Bureau Veritas Rules NR216 and/or alternative specification mentioned on reviewed documents and drawings, as applicable.

### **5. PRODUCTION SURVEY REQUIREMENTS :**

- 5.1 - The steel forgings are to be supplied by Echjay Forgings Pvt. Ltd. in compliance with the type and the requirements described in this certificate.
- 5.2 - This type of product is within the category IBV of Bureau Veritas Rule Note NR320.
- 5.3 - BV product certificate is required.

### **6. MARKING OF PRODUCT :**

As per Bureau Veritas Rules for Classification.

### **7. OTHERS :**

Nil.

\*\*\* END OF CERTIFICATE \*\*\*