




**CERTIFICATE OF APPROVAL OF MANUFACTURERS OF
MATERIALS
No. FAB131011TS**


This is to certify that the manufacture of the product identified below is in compliance with the applicable requirements of the RINA Rules for the Approval of Manufacturers of Materials.

| | |
|-----------------------------|--|
| <i>Description</i> | Steel forgings |
| <i>Type</i> | Steel forgings intended for semi built crakshafts . Max weight 190.000 kg |
| <i>Manufacturer</i> | VITKOVICE HEAVY MACHINERY A .S. |
| <i>Place of manufacture</i> | RUSKA 2887/101 706 02 OSTRAVA - VITKOVICE CZECH REPUBLIC |
| <i>Reference standards</i> | RINA Rules for the approval of manufacturers of materials |

Issued in **TRIESTE** on **January 2, 2012**. This Certificate is valid until **December 19, 2016**





RINA  **RINA**
M. Rinaldi

This certificate consists of this page and 1 enclosure



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APPROVAL CONDITIONS

- **Steelmaking**: electric arc furnace.
- **Steel types**: carbon, carbon-manganese and alloy steels
- **Forging process** : open die and closed die forging.
- **Heat treatment**: normalizing normalizing and tempering quenching and tempering
- **Survey conditions**: all forgings to be used for construction of ships classed with RINA shall meet the requirements of the RINA Rules and shall be tested accordingly.

General conditions for the approval

-The approval is granted on condition that the RINA Rules for the approval , manufacture , testing and certification of materials are complied with in all respects .

-RINA is to be notified of any change of materials , manufacturing process , quality control routines that may affect the validity of this certificate .

TRIESTE January 2, 2012

