



**CERTIFICATE OF APPROVAL OF MANUFACTURERS OF  
MATERIALS**  
No. FAB001417XY/002

**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>	<b>Steel forgings</b>
<i>Type</i>	<b>Carbon, Carbon-Manganese and Alloyed steels</b>
<i>Manufacturer</i>	<b>PJSC "ENERGOMASHSPECSTAL"</b>
<i>Place of manufacture</i>	<b>84306, KRAMATORSK DONETSK REGION UKRAINE</b>
<i>Reference standards</i>	<b>RINA Rules for the approval of manufacturers of materials</b>

Issued in **ODESSA** on **July 10, 2017**. This Certificate is valid until **April 18, 2022**



  
RINA Services S.p.A.  
**Marius Fugaru**

This certificate consists of this page and 1 enclosure

**CERTIFICATE OF APPROVAL OF MANUFACTURERS OF MATERIALS**

No. FAB001417XY/002

Enclosure - Page 1 of 1

**Carbon, Carbon-Manganese and Alloyed steels**

**APPROVAL CONDITIONS**

- **Steelmaking:** Electric arc furnace.
- **Forging process:** Open die - Hydraulic press.
- **Steel type:** Carbon, Carbon-Manganese and Alloyed steels. - Maximum weight: 90t.
- **Heat treatment:** Normalizing and tempering, Quenched and tempering.
- **Machining:** Preliminary machining.
- **Application examples:** Shafts, rotors, rims.

**Survey conditions**

All forgings to be used for construction of ships and machinery 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.

**ODESSA July 10, 2017**