



**CERTIFICATE OF APPROVAL OF MANUFACTURERS OF
MATERIALS**

No. FAB125720XP

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>	Carbon, Carbon - manganese and low alloy steel Ingots and steel forgings
<i>Type</i>	Steel Forgings including forgings for crankshafts - max. weight of Ingot Casting 125000 kg
<i>Manufacturer</i>	CELSA 'HUTA OSTROWIEC' SP.Z O.O.
<i>Place of manufacture</i>	UL. SAMSONOWICZA 2 27-400 Ostrowiec POLAND
<i>Reference standards</i>	RINA Rules for the approval of manufacturers of materials

Issued in **RINA Poland Marine** on **December 18, 2020**. This Certificate is valid until **November 1, 2025**



RINA Kinga Zielinska
Marine Surveyor
RINA Services S.p.A.

RINA Services S.p.A.
Kinga Zielinska

This certificate consists of this page and 1 enclosure



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Steel Forgings including forgings for crankshafts - max. weight of Ingot Casting 125000 kg

APPROVAL CONDITIONS

Steel making: electric arc furnace

Steel types: carbon, carbon - manganese and alloy steel

Forging process: open die and closed die forging; crankshaft are manufactures by TR (Tadeusz Rut) process

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 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.

RINA Poland Marine

December 18, 2020