



**CERTIFICATE OF APPROVAL OF MANUFACTURERS OF
MATERIALS
No. 2021 XP 991**

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>	Forgings for hull structures and equipment Forgings for shafting and machinery Forgings for gearing Steel type - Carbon, Carbon-manganese and Alloy steel Forging method - Open die forging, ring rolling
<i>Manufacturer</i>	HAMOR ZRT
<i>Place of manufacture</i>	17 KISS ERNO STREET H-3531 Miskolc HUNGARY
<i>Reference standards</i>	RINA Rules for the approval of manufacturers of materials
<i>Reference documents</i>	-

Issued in **GDANSK** on **September 16, 2021**. This Certificate is valid until **September 16, 2024**


RINA
Principal Marine Surveyor
Head of Poland Marine
Jurisdiction: Poland,
Slovakia, Czech Republic

RINA Services S.p.A.
Adam Konrad Lobodzinski

This certificate consists of this page and 1 enclosure



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No. 2021 XP 991

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Forgings for hull structures and equipment

Forgings for shafting and machinery

Forgings for gearing

made of carbon, carbon-manganese and alloy steel

Particulars of the approval

Forgings for hull structures and equipment

Steel type	Grade 3)	Forging method ¹⁾	Max. weight [kg]	Max. diameter / section [mm]	Delivery condition ²⁾
C and C-Mn	VL F400UW, VL F440UW, VL F480UW, VL F520UW, VL F560UW, VL F600UW	OD, RR	5000	500	N, QT
Alloy	VL F550AW, VL F620AW, VL F650AW	OD, RR	5000	500	N, QT

Forgings for shafting and machinery

Forgings for gearing

Steel type	Grade 3)	Forging method ¹⁾	Max. weight [kg]	Max. diameter / section [mm]	Delivery condition ²⁾
C and C-Mn	VL C400U, VL C440U, VL C480U, VL C520U, VL C560U, VL C600U, VL F640U, VL F680U, VL F720U, VL F760U	OD, RR	5000	500	N, QT
Alloy	VL C600A, VL C700A, VL C800A, VL C900A, VL F1000A, VL F1100A	OD, RR	5000	500	N, QT

Remarks:

- 1) OD: Open die forging
- RR: Ring rolling
- 2) QT: Quenched and tempered
- N: Normalised
- 3) Incl. equivalent grades in acc. to other recognized standards



Adam K. Łobodziński
Principal Marine Surveyor
Head of Poland Marine
Jurisdiction: Poland,
Slovakia, Czech Republic

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.



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