

APPROVAL OF MANUFACTURER CERTIFICATE

Certificate no.:
AMMM0000034
Revision No:
3

This is to certify:

that

Celsa Huta Ostrowiec Sp. z o.o.
ul. Jana Samsonowicza 2,
27-400 Ostrowiec Świętokrzyski,
Poland

is an approved manufacturer of
Steel Forgings

in accordance with

DNV rules for classification – Ships
DNV-OS-B101 – Metallic materials
DNV class programme – DNV-CP-0247 Steel forgings

and the following particulars:

Application area	Forgings for hull structures and equipment Forgings for shafting and machinery Forgings for crankshafts
Steel type	Carbon and carbon-manganese, Alloy, See page 2
Forging method	Open die forging
Max. weight	125 000 kg
Heat treatment condition	See page 2
Additional approval conditions	See page 2

Manufacturer(s) approved by this certificate is/are accepted to deliver according to DNV GL, DNV and GL rules.
Materials to be applied to DNV classed object shall fulfill the material requirements in the applicable DNV class rules.

Issued at **Hamburg** on **2025-06-18**

This Certificate is valid until **2028-06-30**.

DNV local unit: **Katowice CMC**

Approval Engineer: **Andrzej Otrebski**



for **DNV**

This document has been digitally signed and will
therefore not have handwritten signature
Christian Wildhagen

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to USD 300 000.

Particulars of the approval

Forgings for hull structures and equipment

Steel type	Grade ³⁾	Forging method ¹⁾	Max. weight [kg]	Heat treatment condition ²⁾
C and C-Mn	NV F400UW, NV F440UW, NV F480UW, NV F520UW, NV F560UW, NV F600UW	OD	125 000	N, NT, QT
Alloy	NV F550AW, NV F600AW, NV F650AW	OD	125 000	QT

Forgings for shafting and machinery

Forgings for crankshafts

Steel type	Grade ³⁾	Forging method ¹⁾	Max. weight [kg]	Heat treatment condition ²⁾
C and C-Mn	NV F400U, NV F440U, NV F480U, NV F520U, NV F560U, NV F600U, NV F640U, NV F680U, NV F720U, NV F760U	OD	125 000	N, NT, QT
Alloy	NV F600A, NV F700A, NV F800A, NV F900A, NV F1000A, NV F1100A	OD	125 000	QT

Remarks:

- ¹⁾ OD: Open die forging
- ²⁾ QT: Quenched and tempered
 N: Normalized
 NT: Normalized and tempered
- ³⁾ Incl. equivalent grades in acc. to other standards

Special conditions:

Including solid forged continuous grain flow crankshafts produced by the TR-method