

# APPROVAL OF MANUFACTURER CERTIFICATE

Certificate No:  
**AMMM0000119**  
Revision No:  
**3**

This is to certify:

That

**SETFORGE BOUZONVILLE**  
Route de Guerstling, 57320 Bouzonville,  
France

is an approved manufacturer of  
**Steel Forgings**

in accordance with

**DNV rules for classification – Ships**  
**DNV class programme – DNV-CP-0247 Steel forgings**

and the following particulars:

<b>Application area</b>	<b>Forgings for hull structures and equipment</b> <b>Forgings for shafting and machinery</b> <b>Forgings for boilers, pressure vessels and piping systems</b>
<b>Steel type(s)</b>	<b>Carbon, Carbon-Manganese,</b> <b>Alloy</b>
<b>Forging method</b>	<b>Open die forging/closed die forging</b>
<b>Max. weight</b>	<b>See page 2 ff.</b>
<b>Max. diameter/section</b>	<b>See page 2 ff.</b>
<b>Heat treatment condition</b>	<b>See page 2 ff.</b>

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 **2024-07-04**

This Certificate is valid until **2027-06-30**.

DNV local unit: **Belgium FIS**

Approval Engineer: **Stefan Röhr**



for DNV

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

**Thorsten Lohmann**  
**Head of Section**

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 300,000 USD.



## Particulars of the approval

### Forgings for hull structures and equipment

Steel type	Grade <sup>4)</sup>	Forging method <sup>1)</sup>	Max. weight [kg]	Max. diameter/section [mm]	Heat treatment condition <sup>2)</sup>
C and C-Mn	NV F400UW, NV F440UW, NV F480UW, NV F520UW, NV F560UW, NV F600UW	OD, CD	850	400	N, NT, QT
Alloy	NV F550AW, NV F620AW, NV F650AW				

### Forgings for shafting and machinery

Steel type	Grade <sup>4)</sup>	Forging method <sup>1)</sup>	Max. weight [kg]	Max. diameter/section [mm]	Heat treatment condition <sup>2)</sup>
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, CD	850	400	N, NT, QT
Alloy	NV F600A, NV F700A, NV F800A, NV F900A, NV F1000A, NV F1100A				

### Forgings for boilers, pressure vessels and piping systems

Steel type	Grade <sup>4)</sup>	Forging method <sup>1)</sup>	Max. weight [kg]	Max. diameter/section [mm]	Heat treatment condition <sup>2)</sup>
C and C-Mn	NV F450H	OD, CD	850	400	N, NT, QT
	NV F490H				N, NT, QT
Alloy	NV F0.5Mo				NT, QT
	NV F1Cr0.5Mo				N
	NV F2.25Cr1MoN				QT
	NV F2.25Cr1MoQT				

**Special alloy forgings according to customer specifications**

Steel type / grade <sup>3)</sup>	Forging method <sup>1)</sup>	Max. weight [kg]	Max. diameter/section [mm]	Heat treatment condition <sup>2)</sup>
1.4939 acc. to MAN B&W Q10.09431-5221	OD, CD	850	400	acc. to customer spec.
1.4923 acc. to ABB HZTL651278				
X12CrNiMo12 acc. to WL1.4939-2				

Remarks:

- 1) OD: Open die forging; CD: Closed die forging
- 2) QT: Quenched and tempered; N: Normalised; NT: Normalised and tempered
- 3) Certification of any material applied to classed object shall fulfill the applicable material requirements in the DNV class rules or DNV approved drawings
- 4) Incl. equivalent grades in acc. to other standards