



# APPROVAL OF MANUFACTURER CERTIFICATE

Certificate No:  
**AMMM0000121**  
Revision No:  
**2**

This is to certify:

That

**FOMAS, Inc.**  
**500 Wallace Way, York, SC 29745,**  
**USA**

is an approved manufacturer of  
**Steel Forgings**

in accordance with  
**DNV rules for classification – Ships**

and the following particulars:

<b>Application area</b>	<b>Forgings for hull structures and equipment Forgings for shafting and machinery Forgings for boilers, pressure vessels and piping systems Forgings for gearing Stainless steel forgings</b>
<b>Steel type(s)</b>	<b>Carbon and carbon-manganese, Alloy, Austenitic stainless, Martensitic stainless</b>
<b>Forging method</b>	<b>Ring rolling</b>
<b>Max. weight</b>	<b>See page 2</b>
<b>Max. diameter / section</b>	<b>See page 2</b>
<b>Heat treatment condition</b>	<b>See page 2</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 **2022-02-11**

for **DNV**

This Certificate is valid until **2024-12-31**.

DNV local station: **Houston**

Approval Engineer: **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.



Form code: AM 311

Revision: 2021-03

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## Particulars of the approval

### Forgings for hull structures and equipment

Steel type	Grade <sup>3)</sup>	Forging method <sup>1)</sup>	Max. weight [kg]	Heat treatment condition <sup>2)</sup>
C and C-Mn	NV F400UW, NV F440UW, NV F480UW, NV F520UW, NV F560UW, NV F600UW	RR	1 370	N, NT, QT
Alloy	NV F550AW, NV F600AW, NV F650AW	RR	1 370	QT

### Stainless steel forgings

Steel type	Grade <sup>3)5)</sup>	Forging method <sup>1)</sup>	Max. weight [kg]	Heat treatment condition <sup>2)</sup>
Austenitic	CrNi (F304, F304L)	RR	550	SHT
	CrNiMo (F316, F316L)	RR	550	SHT
Martensitic		RR	690	SHT

### Forgings for gearing Forgings for shafting and machinery

Steel type	Grade <sup>3)</sup>	Forging method <sup>1)</sup>	Max. weight [kg]	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	RR	1 370	N, NT, QT
Alloy	NV F600A, NV F700A, NV F800A, NV F900A, NV F1000A, NV F1100A	RR	1 370	QT

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

Steel type	Grade <sup>3)</sup>	Forging method <sup>1)</sup>	Max. weight [kg]	Heat treatment condition <sup>2)</sup>
C and C-Mn	NV F450H, NV F490H	RR	1 370	N, NT, QT
Alloy	NV F0.5Mo, NV F1Cr0.5Mo	RR	1 370	NT, QT
	NV F2.25Cr1Mo	RR	1 370	N, QT

Remarks:

- 1) RR: Ring Rolling
- 2) QT: Quenched and tempered  
 N: Normalized  
 NT: Normalized and tempered  
 SHT: Solution Heat Treated (Solution Annealing)
- 3) Incl. equivalent grades in acc. to other standards
- 4) Possible application and certification of any material to classed object is subject to case by case approval
- 5) Stainless steel forgings shall be in accordance with recognized standards, e.g. EN 10222, ASTM A473/A965/A1049 and JIS G 3214, provided that supplementary requirements contained herein are also met. Recognition of other standards is subject to submission to the Society for evaluation.