

APPROVAL OF MANUFACTURER CERTIFICATE

Certificate No:
AMMM0000121
Revision No:
1

This is to certify:

That
FOMAS, Inc.
York, SC, USA

is an approved manufacturer of
Steel Forgings

in accordance with
DNV GL rules for classification – Ships

and the following particulars:

Application area	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
Steel type(s)	Carbon and carbon-manganese, Alloy, Austenitic stainless, Martensitic stainless
Forging method	Ring rolling
Max. weight	1 370 kg for carbon and carbon manganese and alloy steels, 550 kg for austenitic stainless steel, 690 kg for martensitic stainless steel
Max. diameter / section	See page 2
Heat treatment condition	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 GL classed object shall fulfill the material requirements in the applicable DNV GL class rules.

Issued at **Hamburg** on **2019-04-23**

for **DNV GL**

This Certificate is valid until **2021-12-31**.

DNV GL local station: **Houston**

Approval Engineer: **Andreas Koch**

Thorsten Lohmann
Head of Section



Job Id: **263.11-004395-3**
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Particulars of the approval

Forgings for hull structures and equipment Stainless steel forgings

Steel type	Grade ³⁾	Forging method ¹⁾	Max. weight [kg]	Delivery condition ²⁾
C and C-Mn	VL F400UW, VL F440UW, VL F480UW, VL F520UW, VL F560UW, VL F600UW	RR	1 370	N, NT, QT
Alloy	VL F550AW, VL F600AW, VL F650AW	RR	1 370	QT
Austenitic	CrNi (F304, F304L)	RR	550	SHT
	CrNiMo (F316, F316L)			
Austenitic-ferritic stainless	22 Cr Duplex	RR	690	SHT
	25 Cr Duplex			

Forgings for gearing Forgings for shafting and machinery

Steel type	Grade ³⁾	Forging method ¹⁾	Max. weight [kg]	Delivery condition ²⁾
C and C-Mn	VL F400U, VL F440U, VL F480U, VL F520U, VL F560U, VL F600U, VL F640U, VL F680U, VL F720U, VL F760U	RR	1 370	N, NT, QT
Alloy	VL F600A, VL F700A, VL F800A, VL F900A, VL F1000A, VL F1100A	RR	1 370	QT

Forgings for boilers, pressure vessels and piping systems

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

Remarks:

- 1) RR: Ring Rolling
- 2) QT: Quenched and tempered
N: Normalized
NT: Normalized and tempered
N+QT: Normalized followed by quenched 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.