

APPROVAL OF MANUFACTURER **CERTIFICATE**

Certificate No: AMMM00000Y0 Revision No:

This is to certify:

That

Scot Forge Co. 8001 Winn Rd. Spring Grove, IL 60081,

is an approved manufacturer of **Steel Forgings**

in accordance with

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

and the following particulars:

Application area Forgings for hull structures and equipment

Forgings for shafting and machinery

Forgings for gearing

Forgings for boilers, pressure vessels and piping systems

Steel type Carbon and Carbon-Manganese,

Alloy

Forging method Open die forging, Ring rolling

Max. weight 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 classed object shall fulfill the material requirements in the applicable DNV class rules.

Issued at Hamburg on 2024-11-20

This Certificate is valid until 2027-10-24.

DNV local unit: Certification & Inspection Services

Approval Engineer: Enno Brück



for **DNV**

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

Form code: AM 311 Revision: 2024-10 www.dnv.com Page 1 of 2

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.



Job Id: **263.11-000966-6** Certificate No: **AMMM00000Y0**

Revision No:

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	VN F400UW, NV F440UW, NV F480UW, NV F520UW, NV F560UW, NV F600UW	OD, RR	10 000	N, NT, QT
Alloy	NV F550AW, NV F600AW, NV F650AW	OD, RR	10 000	QT

Forgings for shafting and machinery Forgings for gearing

Steel type	Grade ³⁾	Forging method ¹⁾	Max. weight [kg]	Heat treatment condition ²⁾
	NV F400U, NV F440U,			
	NV F480U, NV F520U,			
C and C-Mn	NV F560U, NV F600U,	OD, RR	10 000	N, NT, QT
	NV F640U, NV F680U,			
	NV F720U, NV F760U			
	NV F600A, NV F700A,			
Alloy	NV F800A, NV F900A,	OD, RR	10 000	QT
	NV F1000A, NV F1100A			

Forgings for boilers, pressure vessels and piping systems

Steel type	Grade ³⁾	Forging method ¹⁾	Max. weight [kg]	Heat treatment condition ²⁾
C and C-Mn	NV F450H, NV F490H	OD, RR	10 000	N, NT, QT
Alloy	NV F0.5Mo, NV F1Cr0.5Mo	OD, RR	10 000	N, NT, QT
	NV F2.25Cr1Mo	OD, RR	10 000	N, QT

Remarks:

¹⁾ OD: Open die forging; RR: Ring rolling

²⁾ QT: Quenched and tempered; N: Normalized; NT: Normalized and tempered

3) Incl. equivalent grades in acc. to other standards

Form code: AM 311 Revision: 2024-10 www.dnv.com Page 2 of 2



APPROVAL OF MANUFACTURER CERTIFICATE

Certificate No: **AMMM00001ER** Revision No:

4

This is to certify:

That

Scot Forge Co. 105 Scot Drive, Clinton, WI, USA

is an approved manufacturer of Steel Forgings

in accordance with

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

and the following particulars:

Application area Forgings for hull structures and equipment,

Forgings for shafting and machinery

Steel type Carbon and carbon-manganese,

Alloy

Forging method Open die forging Max. weight 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 classed object shall fulfill the material requirements in the applicable DNV class rules.

Issued at Hamburg on 2024-11-15

This Certificate is valid until **2027-10-24**.

DNV local unit: **Certification & Inspection Services**

Approval Engineer: Enno Brück



for DNV

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Christian Wildhagen

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Job Id: 263.11-007596-3 Certificate No: AMMM00001ER

Revision No:

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	10 000	N, NT, QT
Alloy	NV F550AW, NV F600AW, NV F650AW	OD	10 000	QT

Forgings for shafting and machinery

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	10 000	N, NT, QT
Alloy	NV F600A, NV F700A, NV F800A, NV F900A, NV F1000A, NV F1100A	OD	10 000	QT

Remarks:

- OD: Open die forging
 QT: Quenched and tempered; N: Normalised; NT: Normalised and tempered
 Incl. equivalent grades in acc. to other standards

Form code: AM 311 Revision: 2024-10 www.dnv.com Page 2 of 2



APPROVAL OF MANUFACTURER **CERTIFICATE**

Certificate No: AMMM00001ES Revision No:

This is to certify:

That

Scot Forge Co. 9394 Belmont Ave., Franklin Park, IL, **USA**

is an approved manufacturer of **Steel Forgings**

in accordance with

Steel type

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

and the following particulars:

Forgings for hull structures and equipment, **Application area**

Forgings for shafting and machinery Carbon and carbon-manganese,

Alloy

Open die forging Forging method Max. weight See page 2 See page 2 Heat treatment condition

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 2024-11-15

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Job Id: 263.11-007595-3 Certificate No: AMMM00001ES

Revision No:

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	10 000	N, NT, QT
Alloy	NV F550AW, NV F600AW, NV F650AW	OD	10 000	QT

Forgings for shafting and machinery

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	10 000	N, NT, QT
Alloy	NV F600A, NV F700A, NV F800A, NV F900A, NV F1000A, NV F1100A	OD	10 000	QT

Remarks:

1)

OD: Open die forging QT: Quenched and tempered; 2)

N: Normalised;

NT: Normalised and tempered

Incl. equivalent grades in acc. to other standards

Form code: AM 311 Revision: 2024-10 www.dnv.com Page 2 of 2