



# APPROVAL OF MANUFACTURER CERTIFICATE

Certificate No:  
**AMMM00002Y7**  
Revision No:  
**3**

This is to certify:

That

**Officine Nicola Galperti & Figlio S.p.A.**  
Via Trivio Fuentes, 4, 22101 Gera Lario, CO,  
Italy

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:

<b>Application area</b>	<b>Forgings for gearing, Forgings for boilers, pressure vessels and piping systems, Ferritic steel forgings for low temperature service, Stainless steel forgings</b>
<b>Steel type</b>	<b>Carbon and carbon-manganese, Alloy, Austenitic stainless, Ferritic-austenitic (duplex) stainless</b>
<b>Forging method</b>	<b>Open die forging/closed die forging/ring rolling</b>
<b>Max. weight</b>	<b>See page 2</b>
<b>Max. thickness</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 **2024-12-23**

This Certificate is valid until **2028-01-30**.

DNV local unit: **Italy/Malta CMC**

Approval Engineer: **Andreas Koch**



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 300,000 USD.

## Particulars of the approval

### Forgings for gearing

Steel type	Grade <sup>3)</sup>	Forging method <sup>1)</sup>	Max. weight [kg]	Max. thickness [mm]	Heat treatment condition <sup>2)</sup>
Alloy	NV F600A, NV F700A, NV F800A, NV F900A, NV F1000A, NV F1100A	OD/CD/RR <sup>4)</sup>	20 000	400	QT

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

Steel type	Grade <sup>3)</sup>	Forging method <sup>1)</sup>	Max. weight [kg]	Max. thickness [mm]	Heat treatment condition <sup>2)</sup>
C and C-Mn	NV F450H, NV F490H	OD/CD/RR <sup>4)</sup>	20 000	400	N

### Ferritic steel forgings for low temperature service

Steel type	Grade <sup>3) 5)</sup>	Forging method <sup>1)</sup>	Max. weight [kg]	Max. thickness [mm]	Heat treatment condition <sup>2)</sup>
C and C-Mn	NV F450LI, NV F490LI	OD/CD/RR <sup>4)</sup>	20 000	400	N

### Stainless steel forgings

Steel type	Grade <sup>7)</sup>	Forging method <sup>1)</sup>	Max. weight [kg]	Max. diameter	Heat treatment condition <sup>2)</sup>
Austenitic	CrNi	OD	3 000	300	SHT
Ferritic-austenitic	22 Cr Duplex	OD	6 000	400	SHT
	25 Cr Duplex	OD	6 000	400	SHT

### Steels acc. other standards

Steel type/grade <sup>3) 5) 6)</sup>	Forging method <sup>1)</sup>	Max. weight [kg]	Max. thickness [mm]	Heat treatment condition <sup>2)</sup>
ASTM A350 LF2	OD/CD/RR <sup>4)</sup>	20 000	400	N

### Remarks:

- <sup>1)</sup> OD: Open die forging; CD: Closed die forging; RR: Ring Rolling
- <sup>2)</sup> QT: Quenched and tempered; N: Normalised
- <sup>3)</sup> Incl. equivalent grades in acc. to other standards
- <sup>4)</sup> Max. outer diameter 6 000 mm for rolled rings
- <sup>5)</sup> Qualified impact test temperature of -46°C (Minimum average energy 41 [J]); Details to test temperature, design temperature and thickness given in DNV-RU-SHIP-Pt2Ch2-Sec6.7.4.2 Table 13 (Mechanical properties for ferritic steel forgings for low temperature service) are to be observed
- <sup>6)</sup> Possible application and certification of any material to classed object is subject to case-by-case approval based on DNV plan or type approval
- <sup>7)</sup> Stainless steel forgings shall be in accordance with recognized standards, e.g. EN 10222, ASTM A182, 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