

APPROVAL OF MANUFACTURER CERTIFICATE

Certificate No:
AMMM000034W

This is to certify:

That

FABRIZIO CARLOTTO SRL ACCIAI STAMPATI

**Via Campo di Maggio, 23
21020 Brunello VA,
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:

| | |
|---------------------------------|--|
| Application area | Forgings for hull structures and equipment, Forgings for shafting and machinery, Forgings for boilers, pressure vessels and piping systems, |
| Steel type | Carbon and carbon-manganese, Alloy, See page 2 |
| Forging method | Open die forging See page 2 |
| Max. weight | 100 kg |
| Max. diameter / section | 200 mm |
| 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 **Høvik** on **2024-01-31**

This Certificate is valid until **2027-01-30**.

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

Approval Engineer: **Torben Schällicke**



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 hull structures and equipment

| Steel type | Grade ³⁾ | Forging method ¹⁾ | Max. weight [kg] | Max. diameter / section [mm] | Heat treatment condition ^{2,4)} |
|------------|----------------------------------|------------------------------|------------------|------------------------------|--|
| C and C-Mn | NV F400UW, NV F440UW, NV F480UW, | OD | 100 | 200 | N |

Forgings for shafting and machinery

| Steel type | Grade ³⁾ | Forging method ¹⁾ | Max. weight [kg] | Max. diameter / section [mm] | Heat treatment condition ^{2,4)} |
|------------|------------------------------|------------------------------|------------------|------------------------------|--|
| C and C-Mn | NV F400U, NV F440U, NV F480U | OD | 100 | 200 | N |
| Alloy | NV F600A, NV F700A, NV F800A | OD | 100 | 200 | QT |

Forgings for boilers, pressure vessels and piping systems

| Steel type | Grade ³⁾ | Forging method ¹⁾ | Max. weight [kg] | Max. diameter / section [mm] | Heat treatment condition ^{2,4)} |
|------------|---------------------|------------------------------|------------------|------------------------------|--|
| C and C-Mn | NV F450H | OD | 100 | 200 | N |

Remarks:

- 1) OD: Open die forging
- 2) QT: Quenched and tempered
N: Normalised
- 3) Incl. equivalent grades in acc. to other standards
- 4) Subcontracted heat treatment workshop shall be approved by DNV