



APPROVAL OF MANUFACTURER CERTIFICATE

Certificate No:
AMMM00001EG
Revision No:
2

This is to certify:

That

ŽDAS, a.s.

**Strojirenská 675/6, Žďár nad Sázavou 59101,
Czech Republic**

is an approved manufacturer of
Steel Forgings

in accordance with

**DNV rules for classification – Ships
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, Stainless steel forgings, Bolts and nuts
Steel type	Carbon and carbon-manganese, Alloy, Martensitic stainless, See page 2
Forging method	Open die forging / closed die forging
Max. weight	See page 2
Max. diameter	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 **2023-12-06**

for **DNV**

This Certificate is valid until **2026-07-10**.

DNV local unit: **Prague CMC**

Approval Engineer: **Enno Brück**

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.



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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	CD, OD	10 000	N, NT, QT
Alloy	NV F550AW, NV F600AW, NV F650AW	CD, 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	CD, OD	10 000	N, NT, QT
Alloy	NV F600A, NV F700A, NV F800A, NV F900A, NV F1000A, NV F1100A	CD, OD	10 000	QT

Stainless steel forgings incl. bolts and nuts

Steel type ⁴⁾	Forging method ¹⁾	Max. weight [kg]	Heat treatment condition ²⁾
Martensitic	CD, OD	4 000	SHT

Remarks:

- 1) OD: Open die forging
CD: Closed die forging
- 2) QT: Quenched and tempered
N: Normalised
NT: Normalised and tempered
- 3) Incl. equivalent grades in acc. to other standards
- 4) 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.