

APPROVAL OF MANUFACTURER CERTIFICATE

Certificate No:
AMMM00001EG
Revision No:
1

This is to certify:

That
ŽDAS, a.s.
Ždár nad Sázavou,
Czech Republic

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, 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 GL classed object shall fulfill the material requirements in the applicable DNV GL class rules.

Issued at **Hamburg** on **2020-07-06**

for **DNV GL**

This Certificate is valid until **2023-07-10**.

DNV GL local station: **Prague CMC**

Approval Engineer: **Christian Wildhagen**

Thorsten Lohmann
Head of Section

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Job Id: **263.11-004473-3**
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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	VL F400UW, VL F440UW, VL F480UW, VL F520UW, VL F560UW, VL F600UW	CD, OD	10 000	N, NT, QT
Alloy	VL F550AW, VL F600AW, VL 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	VL F400U, VL F440U, VL F480U, VL F520U, VL F560U, VL F600U, VL F640U, VL F680U, VL F720U, VL F760U	CD, OD	10 000	N, NT, QT
Alloy	VL F600A, VL F700A, VL F800A, VL F900A, VL F1000A, VL 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.