



APPROVAL OF MANUFACTURER CERTIFICATE

Certificate No:
AMMM00001B7
Revision No:
4

This is to certify:

That

**FRISA FORJADOS S.A. DE CV,
SANTA CATARINA PLANT**
Valentin G. Rivero 127, Los Trevino,
66150 Santa Catarina, Nuevo Leon,
Mexico

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, Forgings for gearing, Stainless steel forgings
Steel type	Carbon and carbon-manganese, Alloy, Martensitic stainless, See page 2
Forging method	Open die forging / ring rolling, See page 2
Max. weight	See page 2
Max. diameter / section	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 **2023-05-25**

for **DNV**

This Certificate is valid until **2026-06-30**.

DNV local unit: **Houston**

Approval Engineer: **Christian Wildhagen**

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.



Form code: AM 311

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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⁾
C and C-Mn	NV F400UW, NV F440UW, NV F480UW, NV F520UW, NV F560UW, NV F600UW	OD, RR ⁴⁾	25 000	762	N, NT, QT
Alloy	NV F550AW, NV F600AW, NV F650AW	OD, RR ⁴⁾	25 000	762	QT

Forgings for shafting and machinery

Forgings for gearing

Steel type	Grade ³⁾	Forging method ¹⁾	Max. weight [kg]	Max. diameter / section [mm]	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, RR ⁴⁾	25 000	762	N, NT, QT
Alloy	NV F600A, NV F700A, NV F800A, NV F900A, NV F1000A, NV F1100A	OD, RR ⁴⁾	25 000	762	QT

Stainless steel forgings

Steel type / grade	Forging method ¹⁾	Max. weight [kg]	Max. diameter / section [mm]	Heat treatment condition ²⁾
Martensitic stainless	OD, RR ⁴⁾	5 000	762	QT

Remarks:

- 1) OD: Open die forging
RR: Ring Rolling
- 2) QT: Quenched and tempered
N: Normalised
NT: Normalised and tempered
SHT: Solution Heat Treated (Solution Annealing)
- 3) Incl. equivalent grades in acc. to other standards
- 4) Max. outer diameter 3 000 mm for rolled rings