



APPROVAL OF MANUFACTURER CERTIFICATE

Certificate No:
AMMM00001SM
Revision No:
2

This is to certify:

That

**Metallwerk Franz Kleinken GmbH Metall- und Eisengießerei und
Maschinenfabrik**
Hervester Str.42 ; 46282 Dorsten,
Germany

is an approved manufacturer of
Iron Castings

in accordance with
DNV rules for classification – Ships
DNV class programme – DNV-CP-0249 Iron castings

and the following particulars:

Iron type	Grey cast iron, Nodular cast iron
Casting method	See page 2
Max. weight	30 000 kg (Grey cast iron) 16 000 kg (Nodular cast iron)
Max. wall thickness	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 **2023-11-02**

for **DNV**

This Certificate is valid until **2026-11-30**.

DNV local unit: **Essen**

Approval Engineer: **Andreas Koch**

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.



Particulars of the approval

Cast iron

Iron type	Grade	Casting method	Max. weight [kg]	Heat treatment condition
Grey	200	SC	30 000	AC
	250			
	300			
Nodular	NV NCI-1	SC	16 000	AC
	NV NCI-2			
	NV NCI370			
	NV NCI400			
	NV NCI500-7			
	NV NCI600-3			
	NV NCI700			
NV NCI800				

Remarks:

- 1) SC: Sand casting
- 2) AC: As cast
- 3) Incl. equivalent grades in acc. to other standards