



APPROVAL OF MANUFACTURER CERTIFICATE

Certificate No:
AMMM00000BS
Revision No:
2

This is to certify:

That

Gontermann-Peipers GmbH
Hain Works
Marienborner Str. 49,
Germany

is an approved manufacturer of
Iron Castings

in accordance with
DNV rules for classification – Ships
DNV-OS-B101 – Metallic materials

and the following particulars:

Iron type	Grey cast iron, Nodular cast iron, Austenitic cast iron, GOPAG C 500 F
Casting method	See page 2
Max. weight	See page 2
Max. wall thickness	See page 2
Heat treatment condition	See page 2
Additional approval conditions	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 **2022-02-15**

for **DNV**

This Certificate is valid until **2025-02-02**.

DNV local station: **Essen**

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.



Particulars of the approval

Cast iron

Iron type	Grade ⁴⁾	Casting method ¹⁾	Max. weight [kg]	Max. section / wall thickness [mm]	Heat treatment condition ²⁾
Grey	EN-GJL-200, EN-GJL-250, EN-GJL-300 acc. EN 1561	KC, SC	60000	1200	AC
		ZC	10000	120	AC
	EN-GJL-200C, EN-GJL-250C, EN-GJL-300C acc. EN 16482	CC	10000	520	AC
Nodular	GJS-400-15, GJS-400-18, GJS-450-10, GJS-500-7, GJS-600-3, GJS-700-2 acc. EN 1563	KC, SC	60000	1200	AC, F, P
		ZC	10000	100	F, P
	GJS-400-15C, GJS-400-18C, GJS-450-10C, GJS-500-7C, GJS-600-3C, GJS-700-2C acc. EN 16482	CC	10000	520	AC, F, P
	NV NCI 400, NV NCI 500, NV NCI 600, NV NCI 700, NV NCI 800	KC, SC	60000	1200	AC, F, P
		CC, ZC	10000	100	AC, F, P
	Austenitic Cast Iron acc. EN 13835 ³⁾	KC	30000	1200	AC, N
		ZC	10000	100	AC, N
	GOPAG C 500 F with reduced safety factor $S_r = XY$ ⁵⁾	CC	10000	520	F

Remarks:

- 1) SC: Sand casting
 ZC: Centrifugal casting
 CC: Continuous casting
 KC: Chill casting
- 2) AC: As cast
 F: Ferritizing
 P: Pearlitizing
 N: Normalizing
- 3) Possible application and certification of any material to classed object is subject to case by case approval
- 4) Incl. equivalent grades in acc. to other standards
- 5) According to DNV Design Accompanying Assessment, see "Evaluation Report for Application in Offshore Constructions" Report No.: CR-ADA-GL-IV-1-03982-0; application is subject to case by case approval