

APPROVAL OF MANUFACTURER CERTIFICATE

Certificate No:
AMMM00000WH
Revision No:
1

This is to certify:

That
J.D. Brackelsberg GmbH
Ennepetal, Germany

is an approved manufacturer of
Iron Castings

in accordance with
DNV GL rules for classification – Ships

and the following particulars:

Iron type	Grey cast iron, Nodular cast iron
Casting method	Sand casting
Max. weight	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 **2019-11-01**

This Certificate is valid until **2022-08-31**.

DNV GL local station: **Essen**

Approval Engineer: **Stefan Röhr**



for **DNV GL**
Digitally Signed By: Wildhagen, Christian
Location: DNV GL Hamburg, Germany
Signing Date: 2019-11-04 , on behalf of

Thorsten Lohmann
Head of Section



Job Id: **263.11-006201-2**
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Particulars of the approval

Cast iron

Iron type	Grade ³⁾	Casting method ¹⁾	Max. weight [kg]	Heat treatment condition ²⁾
Grey	200	SC	120	AC
	250	SC	120	AC
	300	SC	120	AC
	350	SC	120	AC
Nodular	VL NCI-1	SC	120	AC, F
	VL NCI-2	SC	120	AC, F
	VL NCI 370	SC	120	AC
	VL NCI 400	SC	120	AC
	VL NCI 500	SC	120	AC
	VL NCI 600	SC	120	AC
	VL NCI 700	SC	120	AC
	VL NCI 800	SC	120	AC

Remarks:

- ¹⁾ SC: Sand casting
- ²⁾ AC: As cast; F: Ferritizing
- ³⁾ Incl. equivalent grades in acc. to other standards, e.g. EN 1561 and EN 1563