

APPROVAL OF MANUFACTURER CERTIFICATE

This is to certify:**That****Eisengießerei O. Gattermann GmbH + Co. KG
Nonnensteg 1, 37586 Dassel,
Germany**is an approved manufacturer of
Iron Castingsin 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	800 kg
Heat treatment condition	As cast or stress relieving, 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 GL classed object shall fulfill the material requirements in the applicable DNV GL class rules.

Issued at **Hamburg** on **2018-01-12**for **DNV GL**This Certificate is valid until **2020-11-30**.DNV GL local station: **Essen**Approval Engineer: **Christian Wildhagen**

**Thorsten Lohmann
Head of Section**

Particulars of the approval

Cast iron

Iron type	Grade ³⁾	Casting method ¹⁾	Max. weight [kg]	Heat treatment condition ²⁾
Grey	200	SC	800	AC
	250	SC	800	AC
	300	SC	800	AC
	EN-GJL-200 acc. EN 1561	SC	800	AC
	EN-GJL-250 acc. EN 1561	SC	800	AC
	EN-GJL-300 acc. EN 1561	SC	800	AC
Nodular	VL NCI-1	SC	800	AC / F
	VL NCI-2	SC	800	AC / F
	VL NCI 370	SC	800	AC
	VL NCI 400	SC	800	AC
	VL NCI 500	SC	800	AC
	VL NCI 600	SC	800	AC
	VL NCI 700	SC	800	AC
	VL NCI 800	SC	800	AC
	EN-GJS-400-18-RT acc. EN 1563	SC	800	AC / F
	EN-GJS-400-18-LT acc. EN 1563	SC	800	AC / F
	EN-GJS-400-15 acc. EN 1563	SC	800	AC
	EN-GJS-400-18 acc. EN 1563	SC	800	AC
	EN-GJS-450-10 acc. EN 1563	SC	800	AC
	EN-GJS-500-7 acc. EN 1563	SC	800	AC
	EN-GJS-600-3 acc. EN 1563	SC	800	AC
EN-GJS-700-2 acc. EN 1563	SC	800	AC	
EN-GJS-800-2 acc. EN 1563	SC	800	AC	

Remarks:

- 1) SC: Sand casting
- 2) AC: As cast
F: Ferritizing
- 3) Certification of any material applied to classed object shall fulfill the applicable material requirements in the DNV GL class rules