

APPROVAL OF MANUFACTURER CERTIFICATE

This is to certify:**That****Gießerei Radeberg GmbH
Heinrich-Gläser-Strasse 1, 01454 Radeberg, Germany**is an approved manufacturer of
Iron Castingsin accordance with
**DNV GL rules for classification – Ships
DNV GL offshore standards**

and the following particulars:

Iron type(s)	Grey cast iron, Nodular cast iron
Max. weight	800 kg
Remarks	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 **2017-04-28**for **DNV GL**This Certificate is valid until **2020-05-31**.
DNV GL local station: **Magdeburg**Approval Engineer: **Christian Wildhagen**

**Thorsten Lohmann
Head of Section**

Particulars of the approval

Cast iron

Iron type	Grade	Casting method ¹⁾	Max. weight [kg]	Max. section / wall thickness [mm]	Heat treatment condition ²⁾
Grey	EN-GJL-200 acc. EN 1561	SC	800	200	-
	EN-GJL-250 Acc. EN 1561				
Nodular	VL NCI-2	SC	800	200	F
	VL NCI 370	SC	800	200	-
	VL NCI 400	SC	800	200	-
	VL NCI 500	SC	800	200	-
	VL NCI 600	SC	800	200	-
	VL NCI 700	SC	800	200	-
	VL NCI 800	SC	800	200	-
	EN-GJS-400-18-LT acc. to EN 1563 ³⁾	SC	800	200	F
	EN-GJS-400-18 acc. to EN 1563 ³⁾	SC	800	200	-
	EN-GJS-400-15 acc. to EN 1563 ³⁾	SC	800	200	-
	EN-GJS-450-10 acc. to EN 1563 ³⁾	SC	800	200	-
	EN-GJS-500-7 acc. to EN 1563 ³⁾	SC	800	200	-
	EN-GJS-600-3 acc. to EN 1563 ³⁾	SC	800	200	-
	EN-GJS-700-2 acc. to EN 1563 ³⁾	SC	800	200	-
	EN-GJS-800-2 acc. to EN 1563 ³⁾	SC	800	200	-
	EN-GJS-SiMo40-10 acc. EN 16124 ⁴⁾	SC	800	200	F
EN-GJS-SiMo50-10 acc. EN 16124 ⁴⁾	SC	800	200	F	

Remarks:

- 1) SC: Sand Casting
- 2) F: Ferritizing
- 3) Certification of any material applied to classed object shall fulfill the applicable material requirements in the DNV GL class rules
- 4) Possible application and certification of any material to classed object is subject to case by case approval