

APPROVAL OF MANUFACTURER CERTIFICATE

This is to certify:

That

M. Jürgensen GmbH & Co. KG
Markschell 3, 24966 Sörup,
Germanyis an approved manufacturer of
Iron Castingsin accordance with
DNV GL rules for classification – Ships

and the following particulars:

Iron type(s)	Grey cast iron, Nodular cast iron
Casting method	Centrifugal casting
Max. weight	5 000 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 **2017-10-23**for **DNV GL**This Certificate is valid until **2020-10-31**.DNV GL local station: **Hamburg**Approval Engineer: **Christian Wildhagen**

Thorsten Lohmann
Head of Section

Particulars of the approval

Cast iron

Iron type	Grade	Casting method ¹⁾	Max. weight [kg]	Heat treatment condition ²⁾
Grey	200	CC	5 000 kg	AC
	250			
	300			
	350			
Nodular	VL NCI 400	CC	5 000 kg	AC/F
	VL NCI 500		5 000 kg	AC
	VL NCI 600		5 000 kg	AC
	VL NCI 700		5 000 kg	AC/P
	VL NCI 800		5 000 kg	AC/P
	EN-GJS-400-18 acc. EN 1563 ³⁾		5 000 kg	AC/F
	EN-GJS-400-15 acc. EN 1563 ³⁾		5 000 kg	AC/F
	EN-GJS-450-10 acc. EN 1563 ³⁾		5 000 kg	AC/F
	EN-GJS-500-7 acc. EN 1563 ³⁾		5 000 kg	AC
	EN-GJS-600-3 acc. EN 1563 ³⁾		5 000 kg	AC
	EN-GJS-700-2 acc. EN 1563 ³⁾		5 000 kg	AC/P
	EN-GJS-800-2 acc. EN 1563 ³⁾		5 000 kg	AC/P
	Special cast iron acc. customer specification ⁴⁾		5 000 kg	Acc. spec.

Remarks:

- 1) CC: Centrifugal Casting
- 2) F: Ferritizing annealing
P: Perlitization annealing
AC: As Cast
- 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