

APPROVAL OF MANUFACTURER CERTIFICATE

This is to certify:

That

VonRoll casting AG
Rüeggisingerstr. 2,
6020 Emmenbrücke, Switzerland

is an approved manufacturer of
Iron Castings

in accordance with
DNV GL rules for classification – Ships

and the following particulars:

Iron type(s)	Grey cast iron, Nodular cast iron
Max. weight	600 kg
Remarks	see particulars of the approval

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 **2017-06-13**

for **DNV GL**

This Certificate is valid until **2020-07-31**.

DNV GL local station: **Augsburg**

Approval Engineer: **Gabi Dau**

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	200	SC	600	-	- / *
	250				
	300				
	EN-GJL-200 acc. to EN 1561 ³⁾				
	EN-GJL-250 acc. to EN 1561 ³⁾				
	EN-GJL-300 acc. to EN 1561 ³⁾				
Nodular	VL NCI 400	SC	600	-	- / *
	EN-GJS-400-15 acc. to EN 1563 ³⁾				
	EN-GJS-400-18 acc. to EN 1563 ³⁾				
	EN-GJS-450-10 acc. to EN 1563 ³⁾				
	GG5251 acc. to client specification				
	EN-GJS-XSiMo3.8-0.6 acc. to client specification ⁴⁾				
	EN-GJS-XSiMo4-0,5 acc. to client specification ⁴⁾				
	EN-GJS-XSiMo4-1 acc. to client specification ⁴⁾				
	EN-GJSA-XNiSiCr35-5-2 acc. to 13835 ⁴⁾				

Remarks:

- 1) SC: sand casting
- 2) -: as cast
- *: acc. to client specification
- 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