

# APPROVAL OF MANUFACTURER CERTIFICATE

**This is to certify:**

That

**Josef Schonlau Maschinenfabrik und Eisengiesserei GmbH &  
Co. KG  
Geseke, Germany**is an approved manufacturer of  
**Iron Castings**in accordance with  
**DNV GL rules for classification – Ships**

and the following particulars:

<b>Iron type(s)</b>	<b>Grey cast iron, Nodular cast iron</b>
<b>Max. weight</b>	<b>3 500 kg</b>
<b>Remarks</b>	<b>See particulars of the approval</b>

Manufacturer(s) approved by this certificate is/are accepted to deliver according to DNV GL, DNV and GL rules.

This Certificate is valid until **2019-06-30**.Issued at **Hamburg** on **2016-06-27**DNV GL local station: **Essen**Approval Engineer: **Christian Wildhagen**for **DNV GL**

Digitally Signed By: Roehr, Stefan

Location: DNV GL Hamburg, Germany

Signing Date: 2016-06-28, on behalf of .....

**Thorsten Lohmann  
Head of Section**

Job Id: **263.11-003334-2**  
Certificate No: **AMMM00000RN**

## Particulars of the approval

### Cast iron:

Grade	Product	Supply Condition	Casting Method	Weight [kg], max.
VL NCI-1	GGG	F	SC	3 500
VL NCI-2	GGG	F	SC	3 500
VL NCI370	GGG	AC/SR	SC	3 500
VL NCI400	GGG	AC/SR	SC	3 500
VL NCI500	GGG	AC/SR	SC	3 500
VL NCI600	GGG	AC/SR	SC	3 500
VL NCI700	GGG	AC/SR	SC	3 500
VL NCI800	GGG	AC/SR	SC	3 500
Grades acc. to EN 1563	GGG	AC/SR/F	SC	3 500
EN-GJSA-XNiCr20-2 acc. to EN 13835	GGG-A	AC	SC	3 500
Grades acc. to EN 1561	GG	AC	SC	3 500

GGG: nodular cast iron  
AC: as cast  
SC: sand casting

GG: grey cast iron  
F: ferritized

-A: austenitic  
SR: stress relieved