

APPROVAL OF MANUFACTURER CERTIFICATE

This is to certify:

That

**TechnoGuss GmbH
Rudi-Arndt-Straße 15
39517 Tangerhütte, Germany**

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	10 000 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 **2017-06-21**

for **DNV GL**

This Certificate is valid until **2020-06-30**.
DNV GL local station: **Magdeburg**

Approval Engineer: **Gabi Dau**

**Thorsten Lohmann
Head of Section**



Particulars of the approval

Cast iron

Iron type	Grade ³⁾	Casting method ¹⁾	Max. weight [kg]	Max. section / wall thickness [mm]	Heat treatment condition ²⁾
Grey	200 ⁴⁾	SC	10 000	-	-
	250 ⁴⁾				
	300 ⁴⁾				
	350 ⁴⁾				
Nodular	VL NCI-2 ⁴⁾	SC	10 000	-	- / *
	VL NCI 370 ⁴⁾				
	VL NCI 400 ⁴⁾				
	VL NCI 500 ⁴⁾				
	VL NCI 600 ⁴⁾				
	VL NCI 700 ⁴⁾				
	VL NCI 800 ⁴⁾				
	KZ 57/80 acc. to client specification ⁵⁾				
	KZ 70/120 Cu.E acc. to client specification ⁵⁾				
	KZ 80/105 E acc. to client specification ⁵⁾				
	NZD 72 acc. to client specification ⁵⁾				
ZD 72/48 acc. to client specification ⁵⁾					
NZD 48 ⁴⁾ acc. to client specification ⁵⁾					

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) Incl. equivalent grades acc. to other standards
- 5) Possible application and certification of any material to classed object is subject to case by case approval