

APPROVAL OF MANUFACTURER CERTIFICATE

This is to certify:

That
Edelstahlwerke Schmees GmbH
Rudolf-Diesel-Weg 6-8, 40764 Langenfeld,
Germany

is an approved manufacturer of
Steel Castings

in accordance with
DNV GL rules for classification – Ships

and the following particulars:

Application area	Castings for hull structures and equipment Casting for machinery Castings for boilers, pressure vessels and piping systems Ferritic steel castings for low temperature service Stainless steel castings
Steel type(s)	Carbon and carbon-manganese, Alloy, Austenitic stainless Austenitic-ferritic stainless Nickel superalloy
Casting method	See page 2
Max. weight	1 200 kg
Max. wall thickness	100 mm
Delivery Condition	See page 2
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 **2017-05-23**

for **DNV GL**

This Certificate is valid until **2020-05-31**.
DNV GL local station: **Essen**

Approval Engineer: **Christian Wildhagen**

Thorsten Lohmann
Head of Section



Particulars of the approval

Castings for hull structure and equipment

Steel type	Grade	Casting method ¹⁾	Max. weight [kg]	Max. section / wall thickness [mm]	Delivery condition ²⁾
C and C-Mn	Acc. EN 10293 ³⁾ , DIN 1681 ³⁾	SC, IC	1 200	100	N, NT
	Acc. EN 10213 ³⁾	SC, IC	1 200	100	N, NT
Alloy	Acc. EN 10213 ³⁾	SC, IC	1 200	100	N, QT
	Acc. SEW 520 ³⁾	SC, IC	1 200	100	N, QT
Austenitic	Acc. EN 10283 ³⁾	SC, IC	1 200	100	SHT
	Acc. EN 10213 ³⁾	SC, IC	1 200	100	SHT
Austenitic-ferritic	Acc. EN 10283 ³⁾	SC, IC	1 200	100	SHT
	Acc. EN 10213 ³⁾	SC, IC	1 200	100	SHT
Nickel	2.4856 acc. customer specification ⁴⁾	SC, IC	1 200	100	Acc. specification

Remarks:

- 1) SC: Sand Casting
IC: Ceramic Mould Casting
N: Normalised
QT: Quenched and tempered
SHT: Solution Heat Treated (solution annealing)
- 2) Certification of any material applied to classed object shall fulfill the applicable material requirements in the DNV GL class rules
- 3) Possible application and certification of any material to classed object is subject to case by case approval

Special conditions:

Production/repair welding permitted according following approved WPS:
WF 1410145 HH Page 01 WPSnr. 7.624 artgleich 2, VP:02/2011 dd. 2011-12-15
WF 1410145 HH Page 02 WPSnr. 7.624 artfremd 3, VP:05/2011 dd. 2011-12-15
as well as according the welding procedures approved with our letter ref. no. 074886-14 dd. 2014-08-21.
The requirements acc. DNVGL Rules for Ships, Part 2, Chapter 2, Section 8, 1.13 are to be observed;
major repairs require case by case approval of DNVGL.