

APPROVAL OF MANUFACTURER CERTIFICATE

This is to certify:

That

Albert Hoffmann GmbH
Eschweiler, Germany

is an approved manufacturer of
Steel Castings

in accordance with
DNV GL rules for classification – Ships
DNV GL offshore standards

and the following particulars:

Application area	Castings for hull structures and equipment Casting for machinery
Steel type(s)	Carbon and carbon-manganese, Alloy
Casting method	Sand casting
Max. weight	See page 2
Heat treatment condition	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 **2018-12-03**

This Certificate is valid until **2021-12-31**.

DNV GL local station: **Essen**

Approval Engineer: **Stefan Röhr**



for **DNV GL**

Digitally Signed By: Wildhagen, Christian

Location: DNV GL Hamburg, Germany

Signing Date: 2018-12-03, on behalf of

Thorsten Lohmann
Head of Section



Particulars of the approval

Castings for hull structure and equipment

Steel type	Grade ^{3) 4)}	Casting method ¹⁾	Max. weight [kg]	Heat treatment condition ²⁾
C and C-Mn	VL C400UW, VL C440UW, VL C480UW, VL C520UW, VL C560UW, VL C600UW	SC	6 300	N, NT, QT
Alloy	C550AW, C620AW	SC	6 300	N, NT, QT

Castings for machinery

Steel type	Grade ^{3) 4)}	Casting method ¹⁾	Max. weight [kg]	Heat treatment condition ²⁾
C and C-Mn	VL C400U, VL C440U, VL C480U, VL C520U, VL C560U, VL C600U	SC	6 300	N, NT, QT
Alloy	C550A, C600A, VL C690A	SC	6 300	N, NT, QT

Remarks:

- 1) SC: Sand Casting
- 2) N: Normalised; NT: Normalised and tempered; QT: Quenched and tempered
- 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 in acc. to other standards