

# APPROVAL OF MANUFACTURER CERTIFICATE

Certificate No:  
**AMMM0000295**  
Revision No:  
**1**

**This is to certify:**

**That**

**Alchemia S.A. Oddzial Kuznia Batory w Chorzowie  
Chorzów, Poland**

is an approved manufacturer of  
**Steel Forgings**

in accordance with  
**DNV GL rules for classification – Ships**

and the following particulars:

<b>Application area</b>	<b>Forgings for hull structures and equipment Forgings for shafting and machinery</b>
<b>Steel type(s)</b>	<b>Carbon and Carbon-Manganese, Alloy</b>
<b>Forging method</b>	<b>Open die forging</b>
<b>Max. weight</b>	<b>See page 2</b>
<b>Heat treatment condition</b>	<b>See page 2</b>

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 **2019-02-22**

for **DNV GL**

This Certificate is valid until **2021-06-30**.

DNV GL local station: **Katowice**

Approval Engineer: **Stefan Röhr**

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**Thorsten Lohmann**  
**Head of Section**



Job Id: **263.11-009656-1**  
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## Particulars of the approval

### Forgings for hull structures and equipment

Steel type	Grade <sup>3) 4)</sup>	Forging method <sup>1)</sup>	Max. weight [kg]	Delivery condition <sup>2)</sup>
C and C-Mn	VL F400UW, VL F440UW, VL F480UW, VL F520UW, VL F560UW, VL F600UW	OD	11 000	N, NT, QT
Alloy	VL F550AW, VL F600AW, VL F650AW	OD	11 000	N, NT, QT

### Forgings for shafting and machinery

Steel type	Grade <sup>3) 4)</sup>	Forging method <sup>1)</sup>	Max. weight [kg]	Delivery condition <sup>2)</sup>
C and C-Mn	VL F400U, VL F440U, VL F480U, VL F520U, VL F560U, VL F600U, VL F640U, VL F680U, VL F720U, VL F760U	OD	11 000	N, NT, QT
Alloy	VL F600A, VL F700A, VL F800A, VL F900A, VL F1000A, VL F1100A	OD	11 000	N, NT, QT

#### Remarks:

- 1) OD: Open die forging
- 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