

# APPROVAL OF MANUFACTURER CERTIFICATE

**This is to certify:****That****Hammerschmiede Jäckel Müller GmbH  
Ripshorster Strasse 460, 45357 Essen,  
Germany**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>Stainless steel forgings</b>
<b>Steel type</b>	<b>Austenitic stainless, Ferritic-austenitic (duplex) stainless, see page 2</b>
<b>Forging method</b>	<b>Open die forging / closed die forging</b>
<b>Max. weight</b>	<b>See page 2</b>
<b>Max. diameter / section</b>	<b>See page 2</b>
<b>Heat treatment condition</b>	<b>See page 2</b>
<b>Additional approval conditions</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 **2019-04-26**for **DNV GL**This Certificate is valid until **2022-04-25**.DNV GL local station: **Essen**Approval Engineer: **Christian Wildhagen****Thorsten Lohmann  
Head of Section**

Job Id: **263.11-009646-1**  
Certificate No: **AMMM00002H8**

## Particulars of the approval

### Stainless steel forgings

Steel type <sup>3)</sup>	Grade	Forging method <sup>1)</sup>	Max. weight [kg]	Heat treatment condition <sup>2)</sup>
Austenitic stainless	CrNiMo	OD, CD	500	SHT
Ferritic-austenitic (duplex) stainless	22Cr-duplex	OD, CD	500	SHT
	25Cr-duplex			

#### Remarks:

- 1) OD: Open die forging  
CD: Closed die forging
- 2) SHT: Solution Heat Treated (Solution Annealing)
- 3) Stainless steel forgings shall be in accordance with recognized standards, e.g. EN 10222, ASTM A473/A965/A1049 and JIS G 3214, provided that supplementary requirements contained herein are also met. Recognition of other standards is subject to submission to the Society for evaluation.