



# APPROVAL OF MANUFACTURER CERTIFICATE

Certificate No:  
**AMMM0000100**  
Revision No:  
**3**

This is to certify:

That

**König & Co.GmbH**  
Obere Industriestraße 24-26, 57250 Netphen,  
Germany

is an approved manufacturer of  
**Pressed Parts**

in accordance with

**DNV rules for classification – Ships**  
**DNV class programme – DNV-CP-0350 Pressed parts and seamless gas cylinders**

and the following particulars:

<b>Application area</b>	<b>Pressed parts (dished and conical heads)</b>
<b>Steel type</b>	<b>Carbon and Carbon-Manganese</b> <b>Austenitic stainless</b> <b>Austenitic-ferritic (duplex) stainless</b> <b>Nickel alloy</b> <b>Aluminium alloy</b> <b>Copper alloy</b>
<b>Manufacturing method</b>	<b>Hot and cold forming</b>
<b>Max. thickness</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 classed object shall fulfill the material requirements in the applicable DNV class rules.

Issued at **Hamburg** on **2023-02-16**

for **DNV**

This Certificate is valid until **2025-08-31**.

DNV local unit: **Essen**

Approval Engineer: **Christian Wildhagen**

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

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.



## Particulars of the approval

### Pressed parts

Grade <sup>3)</sup>	Manufacturing method <sup>1)</sup>	Max. thickness [mm]	Diameter [mm]	Delivery condition <sup>2)</sup>
Steel acc. to EN 10025-2				
S235JR, S235J0, S235J2, S275JR, S275J0, S275J2, S355JR, S355J0, S355J2, S355K2	CF	90	8 000	N
	HF	120	2 000	N
Steel acc. to EN 10025-3				
S275N, S275NL, S355N, S355NL	CF	90	8 000	N
	HF	120	2 000	N
Steel acc. to EN 10028-2				
P235GH, P265GH, P295GH, P355GH, 16Mo	CF	90	8 000	N
	HF	120	2 000	N
Steel acc. to EN 10028-3				
P275NH, P275NL1, P275NL2, P355N, P355NL1, P355NL2	CF	90	8 000	N
	HF	120	2 000	N
P460NH, P460NL1, P460NL2	HF, CF	40	7100	N, N+A
Austenitic stainless steel acc. EN 10028-7				
1.4301, 1.4306, 1.4307, 1.4311, 1.4401, 1.4404, 1.4435, 1.4436, 1.4541, 1.4550, 1.4571	CF	90	8 000	SHT
	HF	120	2 000	SHT
Austenitic-ferritic (duplex) stainless steel acc. EN 10028-7				
1.4462	CF	35	8 000	SHT
	HF	60	2 000	SHT
Nickel alloy steel acc. EN 10028-4				
X8Ni9	CF	35	8 000	QT
	HF	50	2 000	QT
Aluminium alloy acc. EN 13445				
EN AW 5083	CF	50	4000	O, H111, H112
Copper alloy acc. EN 1653				
CuNi30Mn1Fe	HF	16	2000	A

#### Remarks:

- 1) CF: cold forming  
HF: hot formed
- 2) N: Normalized  
SHT: Solution Heat Treated (solution annealing)  
QT: Quenched and tempered  
A: Annealed
- 3) Incl. equivalent grades in acc. to other standards (e.g. 304 LN acc. ASTM SA-240, Gr.60 acc. SA 516)

#### Special remarks:

- Pre-material supplier: manufacturers approved by DNVGL for the applicable grades of semi-finished products
- Welding is permitted according to procedures approved by DNV