



# APPROVAL OF MANUFACTURER CERTIFICATE

Certificate No:  
**AMMM000034M**

This is to certify:

That

**Shanxi Baofan Heavy Industry Group Co., Ltd.**  
Beixili Industrial Area, Dingxiang County,  
Xinzhou City, Shanxi,  
China

is an approved manufacturer of  
**Steel Forgings**

in accordance with  
**DNV rules for classification – Ships**  
**DNV class programme – DNV-CP-0247 Steel forgings**

and the following particulars:

|                                 |  |
|---------------------------------|--|
| <b>Application area</b>         | <b>Forgings for boilers, pressure vessels and piping systems</b> |
| <b>Steel type</b>               | <b>Carbon and carbon-manganese,<br/>Alloy</b>                    |
| <b>Forging method</b>           | <b>Open die forging</b>  |
| <b>Max. weight</b>              | <b>See page 2</b>  |
| <b>Max. thickness</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 classed object shall fulfill the material requirements in the applicable DNV class rules.

Issued at **Hamburg** on **2024-01-09**

This Certificate is valid until **2027-01-08**.

DNV local unit: **Dalian NB & CMC**

Approval Engineer: **Stefan Röhr**



for **DNV**

This document has been digitally signed and will  
therefore not have handwritten signature

Christian Wildhagen

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.



Form code: AM 311

Revision: 2022-12

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## Particulars of the approval

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### Forgings for boilers, pressure vessels and piping systems

| Steel type | Grade <sup>3)</sup>     | Forging method <sup>1)</sup> | Max. weight [kg] | Max. thickness [mm] | Heat treatment condition <sup>2)</sup> |
|------------|-------------------------|------------------------------|------------------|---------------------|--|
| C and C-Mn | NV F450H, NV F490H      | OD                           | 2 000            | 120                 | N, NT, QT                              |
| Alloy      | NV F0.5Mo, NV F1Cr0.5Mo | OD                           | 2 000            | 120                 | NT, QT                                 |
|            | NV F2.25Cr1Mo           | OD                           | 2 000            | 120                 | NT, QT                                 |

Remarks:

- 1) OD: Open die forging
- 2) QT: Quenched and tempered; N: Normalised; NT: Normalised and tempered
- 3) Incl. equivalent grades in acc. to other standards