



**DNV**

# APPROVAL OF MANUFACTURER CERTIFICATE

Certificate No:  
**AMMM00002C2**  
Revision No:  
**5**

This is to certify:

That

**Iraeta Energy Equipment Co., Ltd.**

**No. 4177, Jiwang Road, Zhangqiu district, Jinan City, Shandong Province,  
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 hull structures and equipment Forgings for shafting and machinery Stainless steel forgings</b>
<b>Steel type</b>	<b>Carbon and carbon-manganese, Alloy Austenitic stainless</b>
<b>Forging method</b>	<b>Open die forging, ring rolling</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>
<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 **2025-01-14**

This Certificate is valid until **2028-01-31**.

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

Approval Engineer: **Christian Wildhagen**



for **DNV**

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

Stefan Rudi

**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.



**DNV**

# APPROVAL OF MANUFACTURER CERTIFICATE

Certificate No:  
**AMMM000038N**

This is to certify:

That  
**Iraeta Energy Equipment Co., Ltd.**  
No. 4177 Jiwang Road, Zhangqiu, Jinan,  
Shandong Province 250217,  
China

is an approved manufacturer of  
**Steelmaking**

in accordance with  
**DNV rules for classification – Ships**  
**DNV class programme – DNV-CP-0242 Semi-finished steel products**

and the following particulars:

<b>Application area</b>	<b>Steelmaking</b>
<b>Products</b>	<b>Semi-finished products for rolling or forging stock (ingots / cast billets)</b>
<b>Steel type</b>	<b>Carbon and carbon-manganese, Alloy</b>
<b>Manufacturing method</b>	<b>EAF, LF, VOD, IC or CC</b>
<b>Deoxidation</b>	<b>Killed</b>
<b>Max weight</b>	<b>See page 2</b>
<b>Max. diameter</b>	<b>See page 2</b>
<b>Heat treatment condition</b>	<b>As cast</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 **2024-12-18**

This Certificate is valid until **2027-12-17**.

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

Approval Engineer: **Stefan Röhr**



for **DNV**

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**Christian Widhagen**

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DNV

# APPROVAL OF MANUFACTURER CERTIFICATE

Certificate No:  
**AMMM000022A**  
Revision No:  
**4**

This is to certify:

That

**Iraeta (Jining) High-tech Equipment Co., Ltd.**  
No. 29, Longqiao North Road, Xinyan Town, Yanzhou District,  
Jining City, Shandong Province,  
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 hull structures and equipment</b> <b>Forgings for shafting and machinery</b> <b>Steelmaking</b>
<b>Steel type</b>	<b>Carbon and carbon-manganese,</b> <b>Alloy</b>
<b>Forging method</b>	<b>Open die forging</b>
<b>Max. weight</b>	<b>See page 2</b>
<b>Max. diameter</b>	<b>See page 2</b>
<b>Heat treatment condition</b>	<b>See page 2</b>
<b>Additional approval conditions</b>	<b>Including steelmaking, 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 **2024-07-29**

This Certificate is valid until **2027-05-22**.

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

Approval Engineer: **Stefan Röhr**



for **DNV**

Digitally Signed By: Lohmann, Thorsten  
Location: DNV Hamburg, Germany  
Signing Date: 29.07.2024

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