

# APPROVAL OF MANUFACTURER CERTIFICATE

Certificate No:  
**AMMM00001J8**  
Revision No:  
**1**

**This is to certify:**

**That**  
**Impro Industries (Yixing) Co., Ltd**  
**Yixing City, Jiangsu, China**

is an approved manufacturer of  
**Iron Castings**

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

and the following particulars:

|                                       |  |
|---------------------------------------|--|
| <b>Iron type</b>                      | <b>Compacted (vermicular) graphite cast iron<br/>in grade GJV 450 according to ISO 16112</b> |
| <b>Casting method</b>                 | <b>Sand casting</b>  |
| <b>Max. weight</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 **2020-09-15**

for **DNV GL**

This Certificate is valid until **2023-07-31**.

DNV GL local station: **Jiangyin**

Approval Engineer: **Stefan Röhr**

**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 GL AS, its parent companies and subsidiaries as well as their officers, directors and employees ("DNV GL") 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.



Job Id: **263.11-010850-1**  
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## Particulars of the approval

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### Cast iron

| Iron type / grade   | Casting method <sup>1)</sup> | Max. weight [kg] | Heat treatment condition <sup>2)</sup> |
|---|------------------------------|------------------|--|
| Compacted (vermicular) graphite cast iron in grade GJV 450 according to ISO 16112 | SC                           | 410              | AC                                     |
|   | SC                           | 200              | A                                      |

Remarks:

- <sup>1)</sup> SC: Sand casting
- <sup>2)</sup> A: Annealed; AC: As cast

### Additional approval conditions

For applications subject to special approval