



APPROVAL OF MANUFACTURER CERTIFICATE

Certificate No:
AMMM000031M

This is to certify:

That

Inova Cast Pvt. Ltd.

**Survey No. 202, Village: Veraval (Shapar), Dist. Rajkot - 360 024,
Gujarat,
India**

is an approved manufacturer of
Steel Castings

in accordance with

**DNV rules for classification – Ships
DNV class programme – DNV-CP-0246 Steel castings**

and the following particulars:

| | |
|---------------------------------------|--|
| Application area | Castings for hull structures and equipment, Castings for machinery, Ferritic steel castings for low temperature service, Stainless steel castings |
| Steel type | Carbon and carbon-manganese, Austenitic stainless, See page 2 |
| Casting method | Investment casting |
| Max. weight | See page 2 |
| Max. wall thickness | See page 2 |
| Heat treatment condition | See page 2 |
| Additional approval conditions | See page 2 |

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 **2023-04-27**

for **DNV**

This Certificate is valid until **2026-04-26**.

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

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.



Form code: AM 311

Revision: 2022-12

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Page 1 of 2

Particulars of the approval

Castings for hull structure and equipment

| Steel type | Grade ³⁾ | Casting method ¹⁾ | Max. weight [kg] | Max. section / wall thickness [mm] | Heat treatment condition ²⁾ |
|------------|---------------------------------|------------------------------|------------------|------------------------------------|--|
| C and C-Mn | NV C400UW, NV C440UW, NV C480UW | IC | 55 | 50 | N, NT, QT |

Castings for machinery

| Steel type | Grade ³⁾ | Casting method ¹⁾ | Max. weight [kg] | Max. section / wall thickness [mm] | Heat treatment condition ²⁾ |
|------------|------------------------------|------------------------------|------------------|------------------------------------|--|
| C and C-Mn | NV C400U, NV C440U, NV C480U | IC | 55 | 50 | N, NT, QT |

Ferritic steel castings for low temperature service

| Steel type | Grade ³⁾ | Casting method ¹⁾ | Max. weight [kg] | Max. section / wall thickness [mm] | Heat treatment condition ²⁾ |
|------------|---------------------|------------------------------|------------------|------------------------------------|--|
| C and C-Mn | NV C450L, NV C490L | IC | 55 | 50 | N, NT, QT |

Stainless steel castings

| Steel type | Grade ³⁾ | Casting method ¹⁾ | Max. weight [kg] | Max. section / wall thickness [mm] | Heat treatment condition ²⁾ |
|------------|--|------------------------------|------------------|------------------------------------|--|
| Austenitic | GX 2 CrNi 18 10 (304L), GX 5 CrNi 19 9 (304), GX 2 CrNiMo 19 11 2 (316L), GX 5 CrNiMo 19 11 2 (316) | IC | 55 | 50 | SHT |

Remarks:

- ¹⁾ IC: Investment Casting
- ²⁾ SHT: Solution Heat Treated (Solution Annealing)
N: Normalised
QT: Quenched and tempered
NT: Normalised and tempered
- ³⁾ Incl. equivalent grades in acc. to other standards