



# APPROVAL OF MANUFACTURER CERTIFICATE

Certificate No:  
**AMMM00001GN**  
Revision No:  
**4**

This is to certify:

That

**KOREA STEEL CO., LTD. (Noksan Works)**  
**84, Noksansandan 407-ro, Gangseo-gu, Busan,**  
**Republic of Korea,**

is an approved manufacturer of  
**Rolled Steel Products**

in accordance with

**DNV rules for classification – Ships**

**DNV-OS-B101 – Metallic materials**

**DNV class programme – DNV-CP-0243 Rolled steel products – non stainless steel**

and the following particulars:

|                                 |   |
|---------------------------------|---|
| <b>Application area</b>         | <b>Normal strength steel,<br/>High strength steel</b>   |
| <b>Product</b>                  | <b>Structural sections,<br/>Bars</b>  |
| <b>Manufacturing method</b>     | <b>Electric arc furnace or Basic oxygen converter,<br/>Continuous casting,<br/>See page 2</b> |
| <b>Deoxidation</b>              | <b>Killed</b>   |
| <b>Max. thickness/diameter</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 **2023-10-20**

for **DNV**

This Certificate is valid until **2026-10-30**.

DNV local unit: **Gimhae Station**

Approval Engineer: **Dechun Lou**

**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

### Normal strength steel

| Grade | Product      | Steel making <sup>1) 3)</sup> | Fine grain elements | Max. thickness / diameter [mm] | Heat treatment condition <sup>2)</sup> |
|-------|--------------|-------------------------------|---------------------|--------------------------------|--|
| NV A  | Section, Bar | EAF or BOC, CC                | -                   | 15 / 65                        | AR                                     |

### High strength steel

| Grade                             | Product      | Steel making <sup>1) 3)</sup> | Fine grain elements | Max. thickness / diameter [mm] | Heat treatment condition <sup>2)</sup> |
|-----------------------------------|--------------|-------------------------------|---------------------|--------------------------------|--|
| NV A32                            | Section, Bar | EAF, CC                       | Al or Al+V          | 15 / 30                        | AR                                     |
| NV A36                            | Section, Bar |                               | Al+V                |                                |  |
| NV A32, NV D32,<br>NV A36, NV D36 | Section, Bar | EAF, CC                       | Al+V                | 15 / -                         | AR                                     |

#### Remarks:

- <sup>1)</sup> BOC: Basic oxygen converter  
 EAF: Electric arc furnace  
 CC: Continuous casting
- <sup>2)</sup> AR: as rolled
- <sup>3)</sup> Semi-finished products from DNV approved manufacturer.