



**Work Order - WO0372384**  
**Steel Mill Approval – Renewal**  
**Certificate No. STML-0372384**

Attention: NANJING IRON & STEEL CO., LTD. (WCN: 425274)

*(Revised on 10-Oct-2025, supersedes review letter under WO0372384 dated 02-Oct-2025)*

The documents shown in the attached list are reviewed or filed for reference in accordance with the applicable requirements of the following and the facility is considered approved to manufacture products for hull application as outlined in the process/product approval.

- ABS Rules for Materials and Welding Part 2 (2025)

Please note it is the responsibility of the facility to inform ABS of any changes to the manufacturing parameters and request renewal of approval prior to the five-year expiry date.

Refer to attachments, Process/Product Approval; Manufacturer Approval Certificate (STML-0372384).

For any clarifications, contact Ms. Li-Hong Lin at +86-21-23270994, or [llin@eagle.org](mailto:llin@eagle.org).

Very truly yours,

Gareth Burton  
Senior Vice President of Engineering

Electronically Signed by: Satya Meruva

Documents List

| Drawing No.                                  | Rev. No. | Title  | Status                          |
|--|----------|--|---------------------------------|
| Analysis material for Heavy plate plant      | -        | Analysis material for Heavy plate plant      | Reviewed                        |
| Analysis material for Medium plate plant     | -        | Analysis material for Medium plate plant     | Reviewed                        |
| Analysis material for Wide plate, coil plant | -        | Analysis material for Wide plate, coil plant | Reviewed                        |
| Declaration                                  | -        | Declaration                                  | Reviewed                        |
| GB_T 1900-2016_ISO 9001-2015 Certificate     | -        | GB_T 1900-2016_ISO 9001-2015 Certificate     | Filed by ABS for Reference Only |
| NGQP26                                       | 10/7     | Non-conformances control procedure           | Filed by ABS for Reference Only |
| NGQP28                                       | 9/8      | Corrective and preventive control procedure  | Filed by ABS for Reference Only |

Electronic copies of the documents, appropriately stamped, are available in the ABS MyFreedom™ Client Portal.

Process/Product Approval

Certificate No. STML-0372384

| Product | Grade   | Thickness | Fine Grain Practice | Casting Practice <sup>1</sup> | Delivery Condition <sup>1</sup> |
|---------|---|-----------|---------------------|-------------------------------|---------------------------------|
| Plate   | ABS – VH32*/36<br>O39/O51/O55/O60/<br>O65/O70/O75 Z35 | 40 mm     | Al+Ti               | CC                            | TMCP                            |
| Plate   | ABS – A*/B Z35  | 25 mm     | N/A                 | CC                            | AR                              |
| Plate   | ABS – A*/B Z35  | 40 mm     | N/A                 | CC                            | CR                              |
| Plate   | ABS – D Z35   | 35 mm     | Al+Nb+Ti            | CC                            | CR                              |
| Plate   | ABS – A*/B*/D Z35                                     | 40 mm     | Al                  | CC                            | CR                              |
| Plate   | ABS – A*/B*/D*/E<br>Z35                               | 60 mm     | Al+Nb               | CC                            | N                               |
| Plate   | ABS – AH*/DH<br>32*/36 Z35                            | 35 mm     | Al+Nb+Ti            | CC                            | CR                              |
| Plate   | ABS – AH*/DH<br>32*/36 Z35                            | 40 mm     | Al                  | CC                            | CR                              |
| Plate   | ABS - AH*/DH*/<br>EH*/FH 32*/36*<br>/40 Z35           | 40 mm     | Al+Nb+Ti            | CC                            | TMCP                            |
| Plate   | ABS – AH*/DH*<br>/EH 32*/36Z35                        | 80 mm     | Al+Nb+V             | CC                            | N                               |

| Product  | Grade  | Thickness               | Fine Grain Practice     | Casting Practice <sup>1</sup> | Delivery Condition <sup>1</sup> |
|--|--|-------------------------|-------------------------|-------------------------------|---------------------------------|
| Plate  | ABS – AQ*/DQ*/EQ*/FQ 43*/47 Z35                  | 40 mm                   | Al+Nb+V+Ti              | CC                            | TMCP                            |
| Plate  | ABS – AQ*/DQ*/EQ*/FQ 43*/47*/51*/56 Z35          | 60 mm                   | Al+Nb+V+Ti              | CC                            | QT                              |
| Plate  | Non-ABS – EN10028-4 X12Ni5 Z35                   | 25 mm                   | Al                      | CC                            | QT                              |
| Plate  | Non-ABS – EN10225-1 S355MLO Z35*/S420MLO Z35     | 40 mm                   | Al+Nb+Ti                | CC                            | TMCP                            |
| Plate  | Non-ABS – EN10225-1 S460MLO Z35                  | 40 mm                   | Al+Nb+Ti                | CC                            | TMCP                            |
| Plate  | ABS – A*/B*/D*/E                                 | 60 mm                   | Al+Nb+Ti                | CC                            | TMCP                            |
| Plate  | ABS – AH*/DH*/EH36*/40                           | 60 mm                   | Al+Nb+Ti                | CC                            | TMCP                            |
| Clad Steel Plate   | ABS and Non-ABS – A*/B*/D + 304*/304L            | (20+3 <sup>a</sup> ) mm | (Al+Nb+Ti) <sub>a</sub> | CC; <sup>a</sup>              | AR                              |
| Clad Steel Plate   | ABS and Non-ABS – A*/B*/D + 316*/316L            | (20+3 <sup>a</sup> ) mm | (Al+Nb+Ti) <sub>a</sub> | CC; <sup>a</sup>              | AR                              |
| Clad Steel Plate   | ABS and Non-ABS – AH*/DH 32*/36 + 304*/304L      | (20+3 <sup>a</sup> ) mm | (Al+Nb+Ti) <sub>a</sub> | CC; <sup>a</sup>              | AR                              |
| Clad Steel Plate   | ABS and Non-ABS – AH*/DH 32*/36 + 316*/316L      | (20+3 <sup>a</sup> ) mm | (Al+Nb+Ti) <sub>a</sub> | CC; <sup>a</sup>              | AR                              |
| Clad Steel Plate   | ABS and Non-ABS – AH*/DH 32*/36 + S31803*/S32205 | (20+3 <sup>a</sup> ) mm | (Al+Nb+Ti) <sub>a</sub> | CC; <sup>a</sup>              | AR                              |
| <b>Steel Making Practice<sup>1</sup>: BOF</b><br><b>Deoxidation Practice: Si+Al Killed</b><br><b>Heat treatment Facility: In-house</b><br><b>For Medium Plate Plant</b><br><sup>a</sup> indicate that the clad steel is sourced from ABS approved mill |  |                         |                         |                               |                                 |
| Plate  | ABS – A*/B Z35                                   | 25 mm                   | N/A                     | CC                            | AR                              |

| Product | Grade  | Thickness | Fine Grain Practice | Casting Practice <sup>1</sup> | Delivery Condition <sup>1</sup> |
|---------|--|-----------|---------------------|-------------------------------|---------------------------------|
| Plate   | ABS – A*/B Z35                                 | 40 mm     | N/A                 | CC                            | CR                              |
| Plate   | ABS – D Z35                                    | 35 mm     | Al+Nb+Ti            | CC                            | CR                              |
| Plate   | ABS – D*/E Z35                                 | 40 mm     | Al+Nb+Ti            | CC                            | TMCP                            |
| Plate   | ABS – A*/B*/D Z35                              | 40 mm     | Al                  | CC                            | CR                              |
| Plate   | ABS – A*/B*/D*/E Z35                           | 60 mm     | Al+Nb               | CC                            | N                               |
| Plate   | ABS – AH*/DH 32*/36 Z35                        | 35 mm     | Al+Nb+Ti            | CC                            | CR                              |
| Plate   | ABS – AH*/DH 32*/36 Z35                        | 40 mm     | Al                  | CC                            | CR                              |
| Plate   | ABS - AH*/DH*/EH*/FH 32*/36*/40 Z35            | 40 mm     | Al+Nb+Ti            | CC                            | TMCP                            |
| Plate   | ABS – AH*/DH*/EH 32*/36Z35                     | 80 mm     | Al+Nb+V             | CC                            | N                               |
| Plate   | ABS – AQ*/DQ*/EQ*/FQ 43*/47 Z35                | 40 mm     | Al+Nb+V+Ti          | CC                            | TMCP                            |
| Plate   | ABS – AQ*/DQ*/EQ*/FQ 43*/47*/51*/56 Z35        | 60 mm     | Al+Nb+V+Ti          | CC                            | QT                              |
| Plate   | ABS – AQ*/DQ*/EQ 63*/70 Z35                    | 80 mm     | Al+Nb+V+Ti          | CC                            | QT                              |
| Plate   | Non-ABS – EN 10028-4 X12Ni5 (5%Ni)             | 50 mm     | Al+V                | CC                            | QT                              |
| Plate   | Non-ABS – EN 10028-4 X7Ni9 Z35 (9% Ni)         | 50 mm     | Al                  | CC                            | QT                              |
| Plate   | Non-ABS – EN10028-4 X12Ni5 Z35                 | 50 mm     | Al                  | CC                            | QT                              |
| Plate   | ABS – VH32*/36 O39/O51/O55/O60/O65/O70/O75 Z35 | 40 mm     | Al+Ti               | CC                            | TMCP                            |
| Plate   | Non-ABS – EN10225-1 S355MLO Z35*/S420MLO Z35   | 40 mm     | Al+Nb+Ti            | CC                            | TMCP                            |

| Product  | Grade  | Thickness | Fine Grain Practice | Casting Practice <sup>1</sup> | Delivery Condition <sup>1</sup> |
|--|--|-----------|---------------------|-------------------------------|---------------------------------|
| Plate  | Non-ABS –<br>EN10225-1<br>S460MLO Z35              | 40 mm     | Al+Nb+Ti            | CC                            | TMCP                            |
| <b>Steel Making Practice<sup>1</sup>: BOF</b><br><b>Deoxidation Practice: Si+Al Killed</b><br><b>Heat treatment Facility: In-house</b><br><b>For Wide Plate &amp; Coil Plant</b> |  |           |                     |                               |                                 |
| Plate  | ABS – A*/B Z35                                     | 40 mm     | Al                  | CC                            | AR                              |
| Plate  | ABS – A*/B*/D Z35                                  | 40 mm     | Al                  | CC                            | CR                              |
| Plate  | ABS – A*/B*/D*/E<br>Z35                            | 100 mm    | Al+Nb               | CC                            | N                               |
| Plate  | ABS – AH*/DH<br>32*/36 Z35                         | 40 mm     | Al                  | CC                            | CR                              |
| Plate  | ABS – AH*/DH*/<br>EH*/FH 32*/36*<br>/40 Z35        | 60 mm     | Al+Nb+Ti            | CC                            | TMCP                            |
| Plate  | ABS – AH*/DH*/<br>EH 36*/40 Z35                    | 100 mm    | Al+Nb+V+<br>Ti      | CC                            | TMCP                            |
| Plate  | ABS – AH*/DH*/<br>EH 32*/36 Z35                    | 100 mm    | Al+Nb+V             | CC                            | N                               |
| Plate  | ABS –<br>AH*/DH*/EH47<br>BCA1 Z35                  | 80 mm     | Al+Nb+V+<br>Ti      | CC                            | TMCP                            |
| Plate  | ABS – AQ*/DQ*/<br>EQ*/FQ 43*/47 Z35                | 100 mm    | Al+Nb+V+<br>Ti      | CC                            | QT                              |
| Plate  | ABS – AQ*/DQ*/<br>EQ*/FQ 51*/56 Z35                | 100 mm    | Al+Nb+V+<br>Ti      | CC                            | QT                              |
| Plate  | ABS – AQ*/DQ*/<br>EQ*/FQ 63*/70 Z35                | 100 mm    | Al+Nb+V+<br>Ti      | CC                            | QT                              |
| Plate  | Non-ABS – ASTM<br>A514 Gr. Q/ASTM<br>A517 Gr.Q Z35 | 100 mm    | Al+Nb+V+<br>Ti      | CC                            | QT                              |
| Plate  | ABS – A*/B*/D*/E<br>-W200 Z35                      | 60 mm     | Al+V+Ti             | CC                            | TMCP                            |
| Plate  | ABS – AH*/DH*/                                     | 60 mm     | Al+V+Ti             | CC                            | TMCP                            |

| Product                                       | Grade  | Thickness               | Fine Grain Practice     | Casting Practice <sup>1</sup> | Delivery Condition <sup>1</sup> |
|---|--|-------------------------|-------------------------|-------------------------------|---------------------------------|
|   | EH 32*/36-W200 Z35                                     |                         |                         |                               |                                 |
| Plate   | ABS – V-O39/O51/O60 Z35                                | 40 mm                   | Al+Nb+Ti                | CC                            | TMCP                            |
| Plate   | ABS – VH32*/36-O39*/O51 Z35                            | 60 mm                   | Al+Nb+Ti                | CC                            | TMCP                            |
| Plate   | ABS – VH32*/36-O60 Z35                                 | 40 mm                   | Al+Nb+Ti                | CC                            | TMCP                            |
| Plate   | ABS – VH32*/36-O39*/O51*/O60*/O75 Z35                  | 60 mm                   | Al+Nb+Ti                | CC                            | N                               |
| Plate   | Non-ABS – EN 10028-4 13MnNi6-3 Z35                     | 60 mm                   | Al+Nb+Ti                | CC                            | N                               |
| Plate   | Non-ABS – EN 10028-4 X12Ni5 Z35 (5% Ni)                | 60 mm                   | Al                      | CC                            | QT                              |
| Plate   | Non-ABS – EN 10028-4 X7Ni9 Z35 (9% Ni)                 | 60 mm                   | Al                      | CC                            | QT                              |
| Plate   | ABS – AQ*/DQ*/EQ 43*/47 Z35                            | 100 mm                  | Al+Nb+V+Ti              | CC                            | TMCP                            |
| Plate   | ABS – VH32*/36-O39*/O51*/O60*/O75 Z35                  | 40 mm                   | Al+Ti                   | CC                            | TMCP                            |
| Clad Steel Plate                              | ABS and Non-ABS – AH*/DH 32*/36 + 304*/304L*/316*/316L | (24+4 <sup>a</sup> ) mm | (Al+Nb+Ti) <sub>a</sub> | CC; <sup>a</sup>              | AR                              |
| Clad Steel Plate                              | ABS and Non-ABS – A*/B*/D + 304*/304L*/316*/316L       | (24+4 <sup>a</sup> ) mm | (Al+Nb+Ti) <sub>a</sub> | CC; <sup>a</sup>              | AR                              |
| Plate   | ABS - AH*/DH*/EH40 BCA1/BCA2 Z35 <sup>b</sup>          | 100 mm                  | Al+Nb+Ti                | CC                            | TMCP                            |
| Plate   | ABS - AH*/DH*/EH47 BCA1/BCA2 Z35 <sup>b</sup>          | 100 mm                  | Al+Nb+Ti                | CC                            | TMCP                            |
| <b>Steel Making Practice<sup>1</sup>: BOF</b> |  |                         |                         |                               |                                 |

| Product  | Grade  | Thickness | Fine Grain Practice | Casting Practice <sup>1</sup> | Delivery Condition <sup>1</sup> |                        |           |                   |                                  |
|--|--|-----------|---------------------|-------------------------------|---------------------------------|------------------------|-----------|-------------------|----------------------------------|
| <p><b>Deoxidation Practice:</b> Si+Al Killed<br/> <b>Heat treatment Facility:</b> In-house<br/> <b>Note:</b> <sup>a</sup> indicate that the clad steel is sourced from ABS approved mill;<br/> <sup>b</sup>. <b>Small scale production tests in lieu of large-scale test for BCA2 grade.</b><br/> The test parameters are as follows,<br/> - NDTT test as per ASTM E208, with P-2 type specimens.<br/> - Frequency of test: One sample per mother plate<br/> - Acceptance criteria</p> <table border="1"> <thead> <tr> <th>Grade/ Sample Location</th> <th>Mid-Depth</th> </tr> </thead> <tbody> <tr> <td>EH40/47 BCA1/BCA2</td> <td>No break at -35°C (NDTT ≤ -40°C)</td> </tr> </tbody> </table> <p>- Crack Arrest Temperature (CAT) will be estimated from the NDTT test. If CAT does not meet the specified acceptance criteria, a large scale test (double tension test or CAT test) will be carried out to determine <math>K_{Ic} \geq 6000 \text{ N/mm}^{1.5}</math> (BCA1) or <math>8000 \text{ N/mm}^{1.5}</math> (BCA2) at -10°C or CAT to be ≤ -10°C.</p> <p><b>For Heavy Plate Plant</b></p> |  |           |                     |                               |                                 | Grade/ Sample Location | Mid-Depth | EH40/47 BCA1/BCA2 | No break at -35°C (NDTT ≤ -40°C) |
| Grade/ Sample Location   | Mid-Depth  |           |                     |                               |                                 |                        |           |                   |                                  |
| EH40/47 BCA1/BCA2  | No break at -35°C (NDTT ≤ -40°C)   |           |                     |                               |                                 |                        |           |                   |                                  |
| Plate  | Non-ABS – ASTM A553/A553M Type III Z35, ASME SA-553/SA-553M Type III Z35, **Q/320116 NJGT249 06Ni7DR Z35 | 50 mm     | Al                  | CC                            | QT                              |                        |           |                   |                                  |
| <p><b>Steel Making Practice<sup>1</sup>:</b> BOF<br/> <b>Deoxidation Practice:</b> Si+Al Killed<br/> <b>Heat treatment Facility:</b> N/A<br/> <b>For Wide Plate &amp; Coil Plant, Heavy Plate Plant</b><br/> **Q/320116NJGT 249 is the material specification from Nanjing Iron &amp; Steel Co., Ltd.</p>  |  |           |                     |                               |                                 |                        |           |                   |                                  |
| Plate  | Non-ABS – ASTM A553/A553M Type I Z35, ASME SA-553/SA-553M Type I Z35, EN10028-4 X8Ni9 QT640*/QT680 Z35   | 50 mm     | Al                  | CC                            | QT                              |                        |           |                   |                                  |
| Plate  | ABS – AH*/DH*/EH 32*/36*/40-W600 Z35   | 80 mm     | Al+Nb+V+Ti          | CC                            | TMCP                            |                        |           |                   |                                  |
| Plate  | Non-ABS – EN10225-1 S355MLO Z35*/S420MLO Z35   | 120 mm    | Al+Nb+Ti            | CC                            | TMCP                            |                        |           |                   |                                  |

| Product   | Grade  | Thickness | Fine Grain Practice | Casting Practice <sup>1</sup> | Delivery Condition <sup>1</sup> |
|---|--|-----------|---------------------|-------------------------------|---------------------------------|
| Plate   | Non-ABS –<br>EN10225-1<br>S460MLO Z35  | 120 mm    | Al+Nb+Ti            | CC                            | TMCP                            |
| Plate   | ABS – A*/B*/D*/E<br>Z25*/Z35   | 153 mm    | Al+Nb+Ti            | CC                            | N                               |
| Plate   | ABS – AH*/DH*/EH<br>32*/36 Z25*/Z35  | 153 mm    | Al+Nb+V+<br>Ti      | CC                            | N                               |
| Plate   | ABS & Non-ABS –<br>AQ*/DQ*/EQ<br>63*/70 Z25*/Z35,<br>A514/A517 Gr.Q<br>Mod. Z25*/Z35 | 153 mm    | Al+Nb+V+<br>Ti      | CC                            | QT                              |
| Plate   | ABS –<br>AQ*/DQ*/EQ*/FQ<br>56 Z25*/Z35   | 80 mm     | Al+Nb+V+<br>Ti      | CC                            | TMCP                            |
| Plate   | ABS –<br>AQ*/DQ*/EQ*/FQ<br>63*/70 Z35  | 180 mm    | Al+Nb+V+<br>Ti      | Ingot Cast                    | QT                              |
| Plate   | ABS – VH32*/36-<br>O55*/O60 Z35  | 60 mm     | Al+Nb+Ti            | CC                            | TMCP                            |
| Plate   | ABS – A*/B Z35   | 40 mm     | /                   | CC                            | AR                              |
| Plate   | ABS – FH 36*/40<br>Z35   | 100 mm    | Al+Nb+V+<br>Ti      | CC                            | TMCP                            |
| Plate   | ABS – AH*/DH*/EH<br>32*36 Z35  | 120 mm    | Al+Nb+V+<br>Ti      | CC                            | TMCP                            |
| Plate   | ABS – FQ47,<br>AQ*/DQ*/EQ*/FQ<br>51 Z35  | 80 mm     | Al+Nb+V+<br>Ti      | CC                            | TMCP                            |
| Plate   | ABS – A*/B*/D*/E<br>Z25*/Z35   | 100 mm    | Al+Nb+Ti            | CC                            | TMCP                            |
| Plate   | ABS – AQ*/DQ*/EQ<br>43*/47 Z25*/Z35  | 153 mm    | Al+Nb+V+<br>Ti      | CC                            | QT                              |
| <b>Steel Making Practice<sup>1</sup>: BOF</b><br><b>Deoxidation Practice: Si+Al Killed</b><br><b>Heat treatment Facility: N/A</b><br><b>Note: For Heavy Plate Plant</b> |  |           |                     |                               |                                 |
| Plate   | ABS & non-ABS –<br>AQ*/DQ*/EQ*<br>FQ63*/70<br>Z25*/Z35,                              | 210 mm    | Al+Nb+V+<br>Ti      | IC                            | Q&T                             |

| Product  | Grade  | Thickness | Fine Grain Practice | Casting Practice <sup>1</sup> | Delivery Condition <sup>1</sup>            |
|--|--|-----------|---------------------|-------------------------------|--|
|  | A514/A517 Gr.Q<br>Mod. Z25*/Z35  |           |                     |                               |  |
| <b>Steel Making Practice<sup>1</sup>: EAF</b><br><b>Deoxidation Practice: Si+Al Killed</b><br><b>Heat treatment Facility: In-house</b><br><b>For Heavy Plate Plant</b>   |  |           |                     |                               |  |
| Plate  | Non-ABS – ASME<br>SA-645 Gr. B Z35   | 50 mm     | Al                  | CC                            | QIT  |
| <b>Steel Making Practice<sup>1</sup>: BOF</b><br><b>Deoxidation Practice: Si-Al Killed</b><br><b>Heat treatment Facility: In-house</b><br><b>Heavy Plate Plant &amp; Wide Plate/Coil Plant</b>   |  |           |                     |                               |  |
| Plate  | Non-ABS – ISO<br>21635 & ASTM<br>A1106/A1106M<br>High Manganese<br>Austenitic Steel, KS<br>D3031 SLMN400A,<br>Q/320116NJGT262<br>NiM LT 400,<br>HMA400 | 50 mm     | Al+V                | CC                            | Hot rolled<br>and<br>controlled<br>cooling |
| <b>Steel Making Practice<sup>1</sup>: BOF</b><br><b>Deoxidation Practice: Si+Al Killed</b><br><b>Heat treatment Facility: In-house</b><br><b>For Heavy Plate Plant</b><br>Note: Steel is not to be used for Ammonia Service unless ammonia compatibility test is performed in accordance with IMO MSC.1/Circ. 1599/Rev.2 Appendix 2. |  |           |                     |                               |  |

\* Approval of these grades is based on qualification tests carried out on the higher grade.

Note 1:

- 1) CC: Continuous Casting
- 2) IC: Ingot Casting
- 3) AR: As Rolled
- 4) N: Normalized
- 5) CR: Controlled Rolling
- 6) TMCP: Thermo-Mechanical Controlled Processing
- 7) QT: Quenched and Tempered
- 8) QIT: Quenched + Intermediate Heat Treatment + Tempering
- 9) BOF: Basic Oxygen Furnace
- 10) EAF: Electric Arc Furnace

Note 2: Use of Non-ABS grades on ABS classed vessels are subject to specific review at the time of application.

Note 3: Properties decrease with increase in thickness is to be considered in design.



CERTIFICATE NUMBER  
STML-0372384  
ISSUING OFFICE  
GCD Materials

# CERTIFICATE OF STEEL MILLS FACILITY AND PROCESS APPROVAL

This is to certify that a representative of ABS did, at the request of  
**NANJING IRON & STEEL CO., LTD.**  
XIEJIADIAN, LUHE DISTRICT, NANJING, China

attend its facilities as indicated in the ABS City CN NJ Nanjing Port port office survey report number 7139862 dated 06 August 2025 in order to carry out a survey of the facilities and associated quality procedures. The facility is considered capable of manufacturing

## ***Plate components for marine applications***

in accordance with the ABS Approval letter (Reference WO0372384), ABS Rules, designated standards and ABS approved drawings. The approval is valid till 23 July 2030 subject to adherence to relevant ABS Rules and Survey requirements.

A handwritten signature in black ink, appearing to read 'Marcus Cridland', is written over a horizontal line.

**Marcus Cridland**  
**Chief Metallurgist, ABS**

ISSUE DATE: 06 August 2025  
EXPIRY DATE: 23 July 2030

NOTE: This certificate evidences compliance with one or more of the Rules, Guides, standards or other criteria of ABS or a statutory, industrial or manufacturer's standards. It is issued solely for the use of ABS, its committees, its clients or other authorized entities. This Certificate is a representation only that the structure, item of material, equipment, machinery or any other item covered by this Certificate has met one or more of the Rules, Guides, standards or other criteria of ABS as of the date of issue. Parties are advised to review the Rules for the scope and conditions of classification and to review the survey records for a full description of any restrictions or limitation on the vessel's service or surveys. The validity, applicability and interpretation of this Certificate is governed by the Rules and standards of ABS who shall remain the sole judge thereof. Nothing contained in this Certificate or in any notation made in contemplation of this Certificate shall be deemed to relieve any designer, builder, owner, manufacturer, seller, supplier, repairer, operator or other entity of any warranty express or implied.