



Marine & Offshore

Certificate number: 13259/D1 BV

File number: MAT 1354/01

Product code: 90071

This certificate is not valid when presented without the full attached schedule composed of 7 sections

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APPROVAL CERTIFICATE for MATERIALS

This certificate is issued to

NLMK DANSTEEL A/S

Frederiksværk - DENMARK

for the type of product

HIGHER STRENGTH HULL STEEL ROLLED PRODUCTS

Hot rolled plates made of steel grades AH32, DH32, EH32, AH36, DH36, EH36, AH40 and DH40.

Requirements:

Bureau Veritas Rules on Materials and Welding for the Classification of Marine Units

This certificate is issued to attest that Bureau Veritas Marine & Offshore did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.

This certificate will expire on: 20 Dec 2023

For Bureau Veritas Marine & Offshore,

At BV FREDERICIA, on 08 Jan 2020,

Jesper JENSEN



This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with Bureau Veritas Marine & Offshore. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. This certificate is issued within the scope of the General Conditions of Bureau Veritas Marine & Offshore available on the internet site www.veristar.com. Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against Bureau Veritas Marine & Offshore for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION :

Hot rolled plates.

Steel grade	Deoxydation Practice & Refining	Delivery conditions
AH32 - DH32 AH36 - DH36 AH40	Killed and Fine grain treated with Al+V Killed and Fine grain treated with Al+V	As Rolled (AR) with thickness range 5mm to 25mm As Rolled (AR) with thickness range 5mm to 12.5mm
AH32 - DH32 - EH32 AH36 - DH36 - EH36	Killed and Fine grain treated with Al+Nb	Normalised (N) with thickness range 5mm to 60mm
AH32 - DH32 - EH32 AH36 - DH36 - EH36	Killed and Fine grain treated with Al+Nb+V	Normalised (N) with thickness range 61mm to 150mm
AH32 - DH32 AH36 - DH36 AH40 - DH40 Z25-Z35	Killed and Fine grain treated with Al+Nb or Al+Nb+V	Normalising Rolling (NR) with thickness up to 55mm

No steelmaking. Continuous cast slabs from Novolipstek Steel.

2. DOCUMENTS AND DRAWINGS :

2.1-Documents issued by NLMK DanSteel A/S:

- Documentation referenced ZIB/bv280503 dated 28 May 2003.
- "Application report for extension of thickness range approval of high strength heavy plates grades BV AH36 and BV DH36 and grade BV AH40 in as rolled (+AR) delivery condition" Rev.01 dated 07/05/2018.
- "Approval application reports for NLMK DanSteel A/S Weldability Qualification testing according to Bureau Veritas Rule Note NR 480 DTR03 E for high strength heavy plates after normalizing (+N) grades incl. BV EH36 and BV EH36 Z35 according to Rules on materials and welding for the Classification of marine units Rule Note NR 216 DT R10 E thickness incl.150mm" Rev.01 dated 07/05/2018.
- "Approval application report for NLMK DanSteel A/S Weldability Qualification testing according to requirements of Bureau Veritas Rule Note NR 480 DTR03 E for high strength heavy plates in +NR delivery condition grades incl. AH36, DH36, AH40, DH40, with Z35-quality thickness incl.55mm" dated December 2019.

3. TEST REPORTS :

3.1-Documents issued by NLMK DanSteel A/S:

- Test reports about test pieces number 5665E, 5726E, 5728E and 5727E.
- "Application report for extension of thickness range approval of high strength heavy plates grades BV AH36 and BV DH36 and grade BV AH40 in as rolled (+AR) delivery condition" Rev.01 dated 07/05/2018.
- "Approval application reports for NLMK DanSteel A/S Weldability Qualification testing according to Bureau Veritas Rule Note NR 480 DTR03 E for high strength heavy plates after normalizing (+N) grades incl. BV EH36 and BV EH36 Z35 according to Rules on materials and welding for the Classification of marine units Rule Note NR 216 DT R10 E thickness incl.150mm" Rev.01 dated 07/05/2018.
- Statistical datas : AH40 in thickness 5-12.5mm in AR ; AH36-DH36 in thickness 5-35mm in NR; AH36-EH36 in thickness 60-150mm in N; AH36-DH36 in AR issued for years 2016-2017.
- "Approval application report for NLMK DanSteel A/S Weldability Qualification testing according to requirements of Bureau Veritas Rule Note NR 480 DTR03 E for high strength heavy plates in +NR delivery condition grades incl. AH36, DH36, AH40, DH40, with Z35-quality thickness incl.55mm" dated December 2019.

4. APPLICATION / LIMITATION :

As per Bureau Veritas Rules for Classification. Raw materials such as "slabs" for manufacturing of plates are to be supplied by BV approved steelmaker.

5. PRODUCTION SURVEY REQUIREMENTS :

- 5.1 - The steel plates are to be supplied by NLMK Dansteel A/S in compliance with the type and the requirements described in this certificate.
- 5.2 - This type of product is within the category IBV of Bureau Veritas Rule Note NR320.
- 5.3 - BV product certificate is required.

6. MARKING OF PRODUCT :

As per Bureau Veritas Rules for Classification.

7. OTHERS :

This certificate replaces approvals from No.13259/A0 BV to No.13259/D0 BV.

***** END OF CERTIFICATE *****



Marine & Offshore

Certificate number: 13261/D0 BV

File number: MAT 1354/01

Product code: 9006I

This certificate is not valid when presented without the full attached schedule composed of 7 sections

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APPROVAL CERTIFICATE for MATERIALS

This certificate is issued to

NLMK DANSTEEL A/S

Frederiksværk - DENMARK

for the type of product

NORMAL STRENGTH HULL STEEL ROLLED PRODUCTS

Hot rolled plates made of steel grade A, B, D and E

Requirements:

Bureau Veritas Rules on Materials and Welding for the Classification of Marine Units

This certificate is issued to attest that Bureau Veritas Marine & Offshore did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.

This certificate will expire on: 21 Nov 2023**For Bureau Veritas Marine & Offshore,**

At BV FREDERICIA, on 21 Nov 2018,

Jesper Jensen



This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with Bureau Veritas Marine & Offshore. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. This certificate is issued within the scope of the General Conditions of Bureau Veritas Marine & Offshore available on the internet site www.veristar.com. Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against Bureau Veritas Marine & Offshore for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION :

Hot rolled plates.

Steel grade	Deoxydation practice & Refining	Delivery conditions
A	Killed and fine grain treated with Al	As Rolled (AR) up to 100mm
	Killed and fine grain treated with Al+Nb	Normalised (N) up to 100mm
B	Killed and fine grain treated with Al	As Rolled (AR) up to 40mm
	Killed and fine grain treated with Al+Nb	Normalised (N) up to 100mm
D	Killed and fine grain treated with Al	Normalised (N) up to 100mm
E	Killed and fine grain treated with Al	Normalised (N) up to 50mm

No steelmaking. Continuous cast slabs from OJSC Novolipetsk Steel.

2. DOCUMENTS AND DRAWINGS :

As per documents issued by NLMK DanSteel A/S:

- Documentation referenced ZIB/bv280503 dated 28 May 2003.
- Information on production version 1, dated 22 October 2018.

3. TEST REPORTS :

As per documents issued by NLMK DanSteel A/S:

- Documentation referenced ZIB/bv280503 dated 28 May 2003.
- Actual production test results of steel grades A, B, D, E in 2018 in +AR and +N delivery condition, submitted October 2018.

4. APPLICATION / LIMITATION :

As per Bureau Veritas Rules for Classification.

Raw materials such as "slabs" for manufacturing of plates are to be supplied by BV approved steelmaker.

5. PRODUCTION SURVEY REQUIREMENTS :

5.1 - The steel plates are to be supplied by NLMK Dansteel A/S in compliance with the type and the requirements described in this certificate.

5.2 - This type of product is within the category IBV of Bureau Veritas Rule Note NR320.

5.3 - BV product certificate is required.

6. MARKING OF PRODUCT :

As per Bureau Veritas Rules for Classification.

7. OTHERS :

This certificate replaces approvals from No.13261/A0 BV to No.13261/C0 BV.

***** END OF CERTIFICATE *****



Marine & Offshore
Division

Certificate number: 47344/A0 BV

File number: MAT 1354-2016

Product code: 90071

This certificate is not valid when presented without the full attached schedule composed of 7 sections

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APPROVAL CERTIFICATE for MATERIALS

This certificate is issued to

NLMK DANSTEEL A/S

Frederiksværk - DENMARK

for the type of product

HIGHER STRENGTH HULL STEEL ROLLED PRODUCTS

Hot rolled plates in steel grades, AH32/AH36/AH40; DH32/DH36/DH40;
EH32/EH36/EH40; FH32/FH36 including Z25 and Z35 grades.

Requirements:

Bureau Veritas Rules on Materials and Welding for the Classification of Marine Units

This certificate is issued to attest that BUREAU VERITAS did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.

This certificate will expire on: 29 Nov 2021

For BUREAU VERITAS,

At BV FREDERICIA, on 29 Nov 2016,

Jesper Jensen



This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with BUREAU VERITAS. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. This certificate is issued within the scope of the General Conditions of BUREAU VERITAS Marine & Offshore Division available on the internet site www.veristar.com. Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against BUREAU VERITAS for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION :

Hot rolled steel plates

Steel grade(1)	Deoxydation practice & refining	Delivery conditions
AH32-AH36-AH40 DH32-DH36-DH40 EH32-EH36-EH40	Killed and Al+Nb fine grain treated	Thermo-mechanically rolled (TMCP) with thickness 6mm to 60mm
AH32-AH36-AH40 DH32-DH36-DH40 EH32-EH36-EH40 FH32-FH36	Killed and Al+Nb+V+Ti fine grain treated	Thermo-mechanically rolled (TMCP) with thickness 6mm to 60mm

(1) All grades are with Z25 or Z35 through thickness properties additional grades.

Steel making by Basic Oxygen Converter, Ladle refinement and/or Vacuum Degassing, Continuous Casting, Slab production in NLMK steel plant - Lipetsk. Hot rolling operations carried out at NLMK steel plant - Frederiksværk.

2. DOCUMENTS AND DRAWINGS :

- "Approval application for NLMK DanSteel A/S weldability qualification testing to BV rules" Revision No.1 issued by NLMK DanSteel A/S and dated October 2015.

3. TEST REPORTS :

- "Approval application for NLMK DanSteel A/S weldability qualification testing to BV rules" Revision No.1 dated October 2015, and, "NLMK Dan Steel BV weldability report FH40 in 60mm" Rev.2 - Appendix D dated year 2016 issued by NLMK DanSteel A/S.

4. APPLICATION / LIMITATION :

As per Bureau Veritas Rules for Classification. Slab supplied by NLMK steel plant - Lipetsk.

5. PRODUCTION SURVEY REQUIREMENTS :

The steel plates are to be supplied by NLMK DanSteel A/S in compliance with the type and the requirements described in this certificate. This type of product is within the category IBV of Bureau Veritas Rule Note NR320. BV product certificate is required.

6. MARKING OF PRODUCT :

As per Bureau Veritas Rules for Classification. In addition to the material grade designation, products are to be marked with the symbol Z25 or Z35 as applicable.

7. OTHERS :

Nil.

*** END OF CERTIFICATE ***