Certificate No: TAW00004H5

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Electrode

with trade name Excalibur 7018 MR

Manufacturer

Lincoln Electric Company CLEVELAND, OH, USA

is found to comply with

DNV GL class programme DNVGL-CP-0069 - Type approval - Welding consumables DNV GL rules for classification - Ships

with this approval

Grade

3 YH5

Current

AC/DC(+)

Approved diameter max. 6.4 mm (1/4 in)

Positions

All, except vertical downwards

Remarks

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Issued at Hamburg on 2020-01-22

This Certificate is valid until 2024-06-30.

DNV GL local station: New York

Approval Engineer: Dietmar Liebich



for DNV GL Digitally Signed By: Hachmoeller, Ludger Location: DNV GL Hamburg, Germany Signing Date: 2020-01-22, on behalf of

Thorsten Lohmann Head of Section



Certificate No: TAW00004H6

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Electrode

with trade name Excalibur 7018-1 MR

Manufacturer

Lincoln Electric Company CLEVELAND, OH, USA

is found to comply with

DNV GL class programme DNVGL-CP-0069 - Type approval - Welding consumables DNV GL rules for classification - Ships

with this approval

Grade

3 YH5

Current

AC/DC(+)

Approved diameter max.6.4 mm (1/4 in)

Positions

All, except vertical downwards

Remarks

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Issued at Hamburg on 2020-01-22

This Certificate is valid until 2024-06-30.

DNV GL local station: New York

Approval Engineer: Dietmar Liebich



for **DNV GL**

Digitally Signed By: Hachmoeller, Ludger Location: DNV GL Hamburg, Germany Signing Date: 2020-01-22, on behalf of

Thorsten Lohmann Head of Section

Any significant change in design or construction may render this Certificate invalid.

回热间 -- -- -- -- WELD 4424-

Certificate No: TAW00004JR

VERIFICATION STATEMENT

This is to verify:

That the Electrode

with trade name Excalibur 7018 XMR

Distributed by

Lincoln Electric Company CLEVELAND, OH, USA

is found to comply with DNV GL rules for classification - Ships

with this approval

Grade Current

3 YH5 AC/DC(+)

Approved diameter max. 6.4 mm (1/4 in)

Positions

All, except vertical downwards

Remarks

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Issued at Hamburg on 2020-02-28

This Statement is valid until 2025-02-27.

DNV GL local station: Houston

Approval Engineer: Ludger Hachmöller



for DNV GL

Digitally Signed By: Wildhagen, Christian Location: DNV GL Hamburg, Germany Signing Date: 2020-02-28, on behalf of

Thorsten Lohmann **Head of Section**

This Verification Statement is valid provided the manufacturers approval is maintained.

Davidsian 2016 12



Certificate No: **TAW00002ZF**

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Electrode

with trade name Millennium Arc 7018-1

Manufacturer

Lincoln Electric Company CLEVELAND OH, United States

is found to comply with **DNV GL rules for classification - Ships** DNV GL class programme DNVGL-CP-0069 - Type approval - Welding consumables

with this approval

Grade

3 YH5

Current

AC/DC(+)

Approved diameter 2.4mm - 4.0mm (3/32 in. - 5/32 in.)

Positions

All, except vertical downwards

Remarks

Also for fillet welding.

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Issued at Hamburg on 2017-05-19

This Certificate is valid until 2022-05-18.

DNV GL local station: Houston

Approval Engineer: Hans-Joachim Vogt



for DNV GL

Digitally Signed By: Wildhagen, Christian Location: DNV GL Hamburg, Germany Signing Date: 2017-05-22 , on behalf of

Thorsten Lohmann Head of Section

Any significant change in design or construction may render this Certificate invalid.

D. 2046 42



Certificate No: TAW000042V

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Electrode

with trade name Excalibur 10018-D2 MR

Manufacturer

Lincoln Electric Company CLEVELAND, OH, USA

is found to comply with

DNV GL rules for classification – Ships

DNV GL class programme DNVGL-CP-0069 – Type approval – Welding consumables

with this approval

Grade 3 Y62H5 Current AC/DC(+)

Approved diameter 2.4 - 4.0 mm (3/32 - 5/32 inch)
Positions All, except vertical downwards

Remarks

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Issued at Hamburg on 2018-12-11

This Certificate is valid until 2023-06-30.

DNV GL local station: Certification & Inspection

Services

Approval Engineer: Ludger Hachmöller



Thorsten Lohmann Head of Section

Any significant change in design or construction may render this Certificate invalid.



Certificate No: TAW00002YC

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Electrode

with trade name Excalibur 7028

Manufacturer

Lincoln Electric Company CLEVELAND OH, United States

is found to comply with

DNV GL class programme DNVGL-CP-0069 - Type approval - Welding consumables

with this approval

Grade

3 YH10 AC/DC(+)

Current

Approved diameter 4.0 mm - 5.6 mm (5/32 in. - 7/32 in.)

Positions

Flat and Horizontal (PB) For fillet welding only

Remarks

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Issued at Høvik on 2017-01-01

This Certificate is valid until 2021-12-31.

DNV GL local station: New York

Approval Engineer: Maxim Bobrov

for DNV GL

Digitally Signed By: Gran, Terje

Location: DNV GL Høvik, Norway

Signing Date: 09,05,2017, on behalf of



Certificate No: TAW00003KR

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Electrode

with trade name Fleetweld 5P+

Manufacturer

Lincoln Electric Company CLEVELAND OH, USA

is found to comply with DNV GL rules for classification - Ships DNV GL class programme DNVGL-CP-0069 - Type approval - Welding consumables

with this approval

Grade

Current

DC(+)

Approved diameter 2.4 - 4.8 mm (3/32 - 3/16 inch)

Positions

All, except vertical downwards

Remarks

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Issued at Hamburg on 2018-02-22

This Certificate is valid until 2022-12-31.

DNV GL local station: Certification & Inspection

Services

Approval Engineer: Ludger Hachmöller



Thorsten Lohmann Head of Section

Any significant change in design or construction may render this Certificate invalid.



Certificate No: TAW00003KS

VERIFICATION STATEMENT

This is to verify:

That the Electrode

with trade name Pipeliner 6P+

Distributed by

Lincoln Electric Company CLEVELAND OH, USA

is found to comply with

DNV GL rules for classification - Ships

DNV GL class programme DNVGL-CP-0069 - Type approval - Welding consumables

with this approval

Grade

3

Current

DC(+)

Approved diameter 2.4 - 4.8 mm (3/32 - 3/16 inch)

DC(+)

Positions

All, except vertical downwards

Remarks

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Issued at Hamburg on 2018-02-22

This Statement is valid until 2022-12-31.

DNV GL local station: Certification & Inspection

Services

Approval Engineer: Ludger Hachmöller



for **DNV GL**Digitally Signed By: Dau, Gabi
Location: DNV GL Hamburg, Germany
Signing Date: 2018-02-22, on behalf of

Thorsten Lohmann Head of Section

Certificate No: TAW000024K Revision No:

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Electrode

with trade name Fleetweld 37

Manufacturer

Lincoln Electric Company Cleveland, OH, USA

is found to comply with DNV GL rules for classification - Ships DNV GL class programme DNVGL-CP-0069 - Type approval - Welding consumables

with this approval

Grade

Current

 $AC/DC(\pm)$

Approved diameter 2.0 mm - 4.8 mm (5/64 in. - 3/16 in.)

Positions Remarks

Flat and horizontal Also for fillet welding

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Issued at Hamburg on 2021-02-05

This Certificate is valid until 2025-12-31. DNV GL local station: Houston, Approval CMC

Approval Engineer: Ludger Hachmöller

for DNV GL

Digitally Signed By: Wildhagen, Christian Location: DNV GL Hamburg, Germany Signing Date: 05.02,2021, on behalf of

Thorsten Lohmann Head of Section

Any significant change in design or construction may render this Certificate invalid. 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.

D. 1-1- 2020 02

Certificate No: TAW0000261 Revision No:

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Electrode

with trade name Jetweld LH-70

Manufacturer

Lincoln Electric Company Cleveland, OH, USA

is found to comply with DNV GL rules for classification - Ships DNV GL class programme DNVGL-CP-0069 - Type approval - Welding consumables

with this approval

Grade

3 Y40H5

Current

AC/DC(+)

Approved diameter 2.4 mm - 6.4 mm (3/32 in. - 1/4 in.)

Positions

All, except vertical downwards

Remarks

Also for fillet welding

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Issued at Hamburg on 2021-02-05

This Certificate is valid until 2025-12-31. DNV GL local station: Houston, Approval CMC

Approval Engineer: Ludger Hachmöller

for DNV GL



Digitally Signed By: Wildhagen, Christian Location: DNV GL Hamburg, Germany Signing Date: 05.02,2021, on behalf of

Thorsten Lohmann **Head of Section**

Any significant change in design or construction may render this Certificate invalid. 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.

0. 2020 02

Certificate No: **TAW000024G** Revision No:

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Electrode

with trade name
Jetweld 1

Manufacturer

Lincoln Electric Company Cleveland, OH, USA

is found to comply with

DNV GL rules for classification – Ships

DNV GL class programme DNVGL-CP-0069 – Type approval – Welding consumables

with this approval

Grade

1

Current

 $AC/DC(\pm)$

Approved diameter

3.2 mm - 6.4 mm (1/8 in. - 1/4 in.)

Positions

Fla

Remarks

Also for fillet welding

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Issued at Hamburg on 2021-02-05

This Certificate is valid until 2025-12-31.

DNV GL local station: Houston, Approval CMC

Approval Engineer: Ludger Hachmöller

for **DNV GL**Digitally Signed By: Wildhagen, C

Digitally Signed By: Wildhagen, Christian Location: DNV GL Hamburg, Germany Signing Date: 05.02.2021, on behalf of

Thorsten Lohmann Head of Section

Any significant change in design or construction may render this Certificate invalid.

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.



TYPE APPROVAL CERTIFICATE

This is to certify:

That the Wire/Gas combination

with trade name Pipeliner 80Ni1 / M21

Manufacturer

Lincoln Electric Company CLEVELAND, OH, USA

is found to comply with DNV GL rules for classification - Ships DNV GL class programme DNVGL-CP-0069 - Type approval - Welding consumables

with this approval

Grade

V Y50MS(H5)

Current

DC(+)

Approved diameter 1.0 - 1.2 mm (0.04 - 0,047 inch)

Positions

All, incl. vertical downwards

Remarks

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Issued at Hamburg on 2019-02-19

This Certificate is valid until 2023-06-30.

DNV GL local station: Certification & Inspection

Services

Approval Engineer: Ludger Hachmöller

for DNV GL

Digitally Signed By: Wenning, Martin

Location: DNV GL Hamburg, Germany Signing Date: 2019-02-19, on behalf of

Thorsten Lohmann Head of Section

Any significant change in design or construction may render this Certificate invalid.

0 - 1.1. 2016 12

DI	V.	V	" (No.	
----	----	---	-----	-----	--

Certificate No: TAW000024Y Revision No:

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Wire/Gas combination

with trade name SuperArc L-50 / C1

Manufacturer

Lincoln Electric Company Cleveland, OH, USA

is found to comply with DNV GL rules for classification - Ships DNV GL class programme DNVGL-CP-0069 - Type approval - Welding consumables

with this approval

Grade III YMS(H5)

Current DC(+)

Approved diameter 0.8 mm - 1.6 mm (0.03 in. - 1/16 in.)

Positions All, except vertical downwards

Remarks

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Issued at Hamburg on 2021-02-05

for DNV GL

This Certificate is valid until 2025-12-31.

DNV GL local station: Houston, Approval CMC

Approval Engineer: Ludger Hachmöller

Thorsten Lohmann Head of Section

Any significant change in design or construction may render this Certificate invalid. 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.

D

Certificate No: TAW000024E Revision No:

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Wire/Gas combination

with trade name SuperArc L-50 / M21

Manufacturer

Lincoln Electric Company Cleveland, OH, USA

is found to comply with **DNV GL rules for classification - Ships** DNV GL class programme DNVGL-CP-0069 - Type approval - Welding consumables

with this approval

Grade

III YMS(H5)

Current

DC(+)

Approved diameter 0.8 mm - 1.6 mm (0.03 in. - 1/16 in.)

Positions

All, except vertical downwards

Remarks

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Issued at Hamburg on 2021-02-05

This Certificate is valid until 2025-12-31.

DNV GL local station: Houston, Approval CMC

Approval Engineer: Ludger Hachmöller

for DNV GL

Thorsten Lohmann Head of Section

Any significant change in design or construction may render this Certificate invalid. 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.



Certificate No: TAW000024F Revision No:

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Wire/Gas combination

with trade name SuperArc L-56 / C1

Manufacturer

Lincoln Electric Company Cleveland, OH, USA

is found to comply with **DNV GL rules for classification - Ships** DNV GL class programme DNVGL-CP-0069 - Type approval - Welding consumables

with this approval

Grade

III YMS(H5)

Current

DC(+)

Approved diameter 0.6 mm - 1.6 mm (0.025 in. - 1/16 in.)

Positions

All, except vertical downwards

Remarks

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Issued at Hamburg on 2021-02-05

for DNV GL

This Certificate is valid until 2025-12-31. DNV GL local station: Houston, Approval CMC

Approval Engineer: Ludger Hachmöller

Thorsten Lohmann Head of Section

Any significant change in design or construction may render this Certificate invalid. 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.

2 - 1111 2020 02

Certificate No: TAW000024M Revision No:

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Wire/Gas combination

with trade name SuperArc L-56 / M21

Manufacturer

Lincoln Electric Company Cleveland, OH, USA

is found to comply with **DNV GL rules for classification - Ships** DNV GL class programme DNVGL-CP-0069 - Type approval - Welding consumables

with this approval

Grade

III YMS(H5)

Current

DC(+)

Approved diameter 0.6 mm - 1.6 mm (0.025 in. - 1/16 in.)

Positions

All, except vertical downwards

Remarks

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Issued at Hamburg on 2021-02-05

This Certificate is valid until 2025-12-31.

DNV GL local station: Houston, Approval CMC

Approval Engineer: Ludger Hachmöller

for DNV GL



Digitally Signed By: Wildhagen, Christian Location: DNV GL Hamburg, Germany Signing Date: 05.02,2021, on behalf of

Thorsten Lohmann Head of Section

Any significant change in design or construction may render this Certificate invalid. 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.

n 2020 02

Certificate No: **TAW00002YB** Revision No:

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Wire/Gas combination

with trade name SuperArc L-59 / M21

Manufacturer

Lincoln Electric Company CLEVELAND, OH, USA

is found to comply with DNV GL class programme DNVGL-CP-0069 - Type approval - Welding consumables

with this approval

Grade III Y40MS(H5)

Current DC(+)

Approved diameter 0.9 mm - 1.6 mm (0.035 in. - 1/16 in.)
Positions Flat, Horizontal and Vertical upwards

Remarks

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Issued at Hamburg on 2018-06-25

This Certificate is valid until 2022-05-01.

DNV GL local station: New York

Approval Engineer: Ludger Hachmöller



Thorsten Lohmann Head of Section

Any significant change in design or construction may render this Certificate invalid.

阿椒椒

Certificate No: TAW000024X Revision No:

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Flux Cored Wire

with trade name **Innershield NR-203MP**

Manufacturer

Lincoln Electric Company Cleveland, OH, USA

is found to comply with **DNV GL rules for classification - Ships** DNV GL class programme DNVGL-CP-0069 - Type approval - Welding consumables

with this approval

Grade III YMS(H10)

Current DC(-)

Approved diameter 1.7 mm, 2.0 mm (0.068 in., 5/64 in.)

Positions All, incl. vertical downwards **Self-shielded Flux Cored Wire** Remarks

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Issued at Hamburg on 2021-02-05

This Certificate is valid until 2025-12-31. DNV GL local station: Houston, Approval CMC

Approval Engineer: Ludger Hachmöller

for DNV GL



Digitally Signed By: Wildhagen, Christian Location: DNV GL Hamburg, Germany Signing Date: 05.02,2021, on behalf of

Thorsten Lohmann Head of Section

Any significant change in design or construction may render this Certificate invalid. 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.

5 - 1.1 - 2020 02

Certificate No: TAW0000254 Revision No:

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Flux Cored Wire

with trade name Innershield NR-203 Nickel (1%)

Manufacturer

Lincoln Electric Company Cleveland, OH, USA

is found to comply with DNV GL rules for classification - Ships DNV GL class programme DNVGL-CP-0069 - Type approval - Welding consumables

with this approval

Grade

III YMS(H10)

Current

DC(-)

Approved diameter 2.0 mm (5/64 in.)

Positions Remarks

All, incl. vertical downwards Self-shielded Flux Cored Wire

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Issued at Hamburg on 2021-02-05

This Certificate is valid until 2025-12-31. DNV GL local station: Houston, Approval CMC

Approval Engineer: Ludger Hachmöller

for DNV GL



Digitally Signed By: Wildhagen, Christian Location: DNV GL Hamburg, Germany Signing Date: 05.02.2021, on behalf of

Thorsten Lohmann Head of Section

Any significant change in design or construction may render this Certificate invalid. 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.

D

Certificate No: TAW000024S Revision No:

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Flux Cored Wire

with trade name **Innershield NR-207**

Manufacturer

Lincoln Electric Company Cleveland, OH, USA

is found to comply with **DNV GL rules for classification - Ships** DNV GL class programme DNVGL-CP-0069 - Type approval - Welding consumables

with this approval

Grade

III YMS(H15)

Current

DC(-)

Approved diameter 1.7 mm, 2.0 mm (0.068 in., 5/64 in.) Flat, Overhead and Vertical downwards

Positions Remarks

Self-shielded Flux Cored Wire

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Issued at Hamburg on 2021-02-05

This Certificate is valid until 2025-12-31.

DNV GL local station: Houston, Approval CMC

Approval Engineer: Ludger Hachmöller





Digitally Signed By: Wildhagen, Christian Location: DNV GL Hamburg, Germany Signing Date: 05.02.2021, on behalf of

Thorsten Lohmann Head of Section

Any significant change in design or construction may render this Certificate invalid. 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.

D 2020 D2

Certificate No: TAW000024S Revision No:

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Flux Cored Wire

with trade name **Innershield NR-207**

Manufacturer

Lincoln Electric Company Cleveland, OH, USA

is found to comply with **DNV GL rules for classification - Ships** DNV GL class programme DNVGL-CP-0069 - Type approval - Welding consumables

with this approval

Grade

III YMS(H15)

Current

DC(-)

Positions

Approved diameter 1.7 mm, 2.0 mm (0.068 in., 5/64 in.) Flat, Overhead and Vertical downwards

Remarks

Self-shielded Flux Cored Wire

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Issued at Hamburg on 2021-02-05

This Certificate is valid until 2025-12-31.

DNV GL local station: Houston, Approval CMC

Approval Engineer: Ludger Hachmöller

for DNV GL

Digitally Signed By: Wildhagen, Christian Location: DNV GL Hamburg, Germany Signing Date: 05.02.2021, on behalf of

Thorsten Lohmann Head of Section

Any significant change in design or construction may render this Certificate invalid. 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.

n

Certificate No: **TAW0000255** Revision No:

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Flux Cored Wire

with trade name
Innershield NR-232

Manufacturer

Lincoln Electric Company Cleveland, OH, USA

is found to comply with

DNV GL rules for classification - Ships

DNV GL class programme DNVGL-CP-0069 - Type approval - Welding consumables

with this approval

Grade III YMS(H15)

Current DC(-)

Approved diameter 1.7 mm - 2.0 mm (0.068 in. - 5/64 in.)

Positions All, except vertical downwards Remarks Self-shielded Flux Cored Wire

Also for fillet welding

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Issued at Hamburg on 2021-02-05

This Certificate is valid until 2025-12-31.

DNV GL local station: Houston, Approval CMC

Approval Engineer: Ludger Hachmöller





Thorsten Lohmann Head of Section

Any significant change in design or construction may render this Certificate invalid.

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.

Certificate No: **TAW000024T** Revision No:

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Flux Cored Wire

with trade name
Innershield NR-305

Manufacturer

Lincoln Electric Company Cleveland, OH, USA

is found to comply with

DNV GL rules for classification – Ships

DNV GL class programme DNVGL-CP-0069 – Type approval – Welding consumables

with this approval

Grade II YMS(H10)

Current DC(+)

Approved diameter 2.0 mm, 2.4 mm (5/64 in., 3/32 in.)

Positions Fla

Remarks Self-shielded Flux Cored Wire

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Issued at Hamburg on 2021-02-05

This Certificate is valid until 2025-12-31.

DNV GL local station: Houston, Approval CMC

Approval Engineer: Ludger Hachmöller



for DNV GL

Digitally Signed By: Wildhagen, Christian Location: DNV GL Hamburg, Germany Signing Date: 05.02.2021, on behalf of

Thorsten Lohmann Head of Section

Any significant change in design or construction may render this Certificate invalid.

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.

Certificate No: TAW000024V Revision No:

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Flux Cored Wire

with trade name Innershield NR-311 Ni

Manufacturer

Lincoln Electric Company Cleveland, OH, USA

is found to comply with DNV GL rules for classification - Ships DNV GL class programme DNVGL-CP-0069 - Type approval - Welding consumables

with this approval

Grade

II YMS

Current

DC(-)

Approved diameter 2.0 mm - 2.8 mm (5/64 in. - 7/64 in.)

Positions

Remarks

Self-shielded Flux Cored Wire

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Issued at Hamburg on 2021-02-05

This Certificate is valid until 2025-12-31. DNV GL local station: Houston, Approval CMC

Approval Engineer: Ludger Hachmöller

for DNV GL



Digitally Signed By: Wildhagen, Christian Location: DNV GL Hamburg, Germany Signing Date: 05.02.2021, on behalf of

Thorsten Lohmann Head of Section

Any significant change in design or construction may render this Certificate invalid. 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.

同**沙**间 _______ D : 1:1: . 2020 02

Certificate No: TAW00002N8

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Flux Cored Wire

with trade name Innershield NR 440-Ni2

Manufacturer

Lincoln Electric Company CLEVELAND OH, United States

is found to comply with

DNV GL class programme DNVGL-CP-0069 - Type approval - Welding consumables

with this approval

Grade IV YMS(H5) Current

DC(-)

Approved diameter 1.6 mm, 2.0mm (1/16 in., 5/64 in.) **Positions** All except vertical downwards

Remarks Self-shielded wire

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Issued at Høvik on 2017-02-28

This Certificate is valid until 2022-02-27.

DNV GL local station: New York

Approval Engineer: Maxim Bobrov

for DNV GL

Digitally Signed By: Gran, Terje Location: DNV GL Høvik, Norway Signing Date: 07.03.2017, on behalf of

Hanne Anita Hjerpetjønn **Head of Section**

Any significant change in design or construction may render this Certificate invalid.



Form code: WELD 1421a

Revision: 2016-12

Certificate No: TAW000024R Revision No:

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Flux Cored Wire/Gas combination

with trade name Outershield 70 / C1

Manufacturer

Lincoln Electric Company Cleveland, OH, USA

is found to comply with **DNV GL rules for classification - Ships** DNV GL class programme DNVGL-CP-0069 - Type approval - Welding consumables

with this approval

Grade

II YMS(H15)

Current

DC(+)

Approved diameter 1.6 mm - 2.4 mm (1/16 in. - 3/32 in.)

Positions

Flat and horizontal fillet welding

Remarks

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Issued at Hamburg on 2021-02-05

This Certificate is valid until 2025-12-31. DNV GL local station: Houston, Approval CMC

Approval Engineer: Ludger Hachmöller

for **DNV GL**



Digitally Signed By: Wildhagen, Christian Location: DNV GL Hamburg, Germany Signing Date: 05.02.2021, on behalf of

Thorsten Lohmann Head of Section

Any significant change in design or construction may render this Certificate invalid. 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.



Certificate No: TAW00003KU

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Flux Cored Wire/Gas combination

with trade name
UltraCore 71C / C1

Manufacturer

Lincoln Electric Company CLEVELAND OH, USA

is found to comply with

DNV GL rules for classification - Ships

DNV GL class programme DNVGL-CP-0069 - Type approval - Welding consumables

with this approval

Grade III YMS(H10)

Current DC(+)

Approved diameter 1.0 - 1.6 mm (0.045 - 1/16 inch)
Positions All, except vertical downwards

Remarks Also for fillet welding

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Issued at Hamburg on 2018-02-22

This Certificate is valid until 2022-12-31.

DNV GL local station: Certification & Inspection

Services

Approval Engineer: Ludger Hachmöller



Thorsten Lohmann Head of Section

Any significant change in design or construction may render this Certificate invalid.



Certificate No: **TAW0000230** Revision No:

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Flux Cored Wire/Gas combination

with trade name
Outershield 71M / C1

Manufacturer

Lincoln Electric Company Cleveland, OH, USA

is found to comply with

DNV GL rules for classification - Ships

DNV GL class programme DNVGL-CP-0069 - Type approval - Welding consumables

with this approval

Grade III YMS(H10)

Current DC(+)

Approved diameter 0.9 mm - 1.6 mm (0.035 in. - 1/16 in.)

Positions All, except vertical downwards

Remarks

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Issued at Hamburg on 2021-02-05

for DNV GL

This Certificate is valid until 2025-12-31.

DNV GL local station: Houston, Approval CMC

Approval Engineer: Ludger Hachmöller

Thorsten Lohmann Head of Section

Any significant change in design or construction may render this Certificate invalid.

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.

TOTAL DE LA COMPONICIONAL DEL COMPONICIONAL DE LA COMPONICIONAL DEL COMPONICIONAL DE LA COMPONICIONAL DEL COMPONICIONAL DELOCACIONAL DEL COMPONICIONAL DEL COMPONICIONAL DEL COMPONICIONAL D



Certificate No: **TAW0000252** Revision No:

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Flux Cored Wire/Gas combination

with trade name
Outershield 71M / M21

Manufacturer

Lincoln Electric Company Cleveland, OH, USA

is found to comply with

DNV GL rules for classification - Ships

DNV GL class programme DNVGL-CP-0069 - Type approval - Welding consumables

with this approval

Grade III YMS(H10)

Current DC(+)

Approved diameter 0.9 mm - 1.6 mm (0.035 in. - 1/16 in.)

Positions All, except vertical downwards

Remarks

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Issued at Hamburg on 2021-02-05

for **DNV GL**

This Certificate is valid until 2025-12-31.

DNV GL local station: Houston, Approval CMC

Approval Engineer: Ludger Hachmöller

Thorsten Lohmann Head of Section

Any significant change in design or construction may render this Certificate invalid.

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.



Certificate No: TAW00002A0

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Flux Cored Wire/Gas combination

with trade name UltraCore 71A85 / M21

Manufacturer

Lincoln Electric Company CLEVELAND OH, United States

is found to comply with

DNV GL class programme DNVGL-CP-0069 - Type approval - Welding consumables

with this approval

Grade

III YMS(H10)

Current

Approved diameter 1.0 - 1.6 mm (0.045 in. - 1/16 in.)

Positions

Flat, Vertical upwards and Overhead

Remarks

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

This Certificate is valid until 2021-12-31.

Issued at Høvik on 2017-01-01

DNV GL local station: New York

Approval Engineer: Maxim Bobrov

for DNV GL

Digitally Signed By: Gran, Terje Location: DNV GL Høvik, Norway Signing Date: 31.01,2017, on behalf of



Certificate No: **TAW00002FY**

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Flux Cored Wire/Gas combination

with trade name UltraCore 712C / C1

Manufacturer

Lincoln Electric Company CLEVELAND OH, United States

is found to comply with

DNV GL class programme DNVGL-CP-0069 - Type approval - Welding consumables

with this approval

Grade

III YMS(H10)

Current

DC(+)

Approved diameter 1.1 mm - 1.6 mm (0.045 in. - 1/16 in.)

Positions

All except vertical downwards

Remarks

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

This Certificate is valid until 2021-12-31.

Issued at Høvik on 2017-01-01

DNV GL local station: New York

Approval Engineer: Maxim Bobrov

for DNV GL

Digitally Signed By: Gran, Terje Location: DNV GL Høvik, Norway Signing Date: 31.01.2017, on behalf of



Certificate No: TAW00002A1

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Flux Cored Wire/Gas combination

with trade name UltraCore 712A80 / M21

Manufacturer

Lincoln Electric Company CLEVELAND OH, United States

is found to comply with

DNV GL class programme DNVGL-CP-0069 - Type approval - Welding consumables

with this approval

Grade

IV YMS(H10)

Current

DC(+)

Approved diameter 1.1 mm - 1.6 mm (0.045 in. - 1/16 in.) Flat, Vertical upwards and Overhead

Positions Remarks

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

This Certificate is valid until 2021-06-30.

Issued at Høvik on 2016-07-01

DNV GL local station: New York

Approval Engineer: Maxim Bobrov

for DNV GL

Digitally Signed By: Gran, Terje Location: DNV GL Høvik, Norway Signing Date: 31,01,2017, on behalf of



Certificate No: TAW000042N

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Flux Cored Wire/Gas combination

with trade name UltraCore 712A80-H / M21

Manufacturer

Lincoln Electric Company CLEVELAND, OH, USA

is found to comply with DNV GL rules for classification - Ships DNV GL class programme DNVGL-CP-0069 - Type approval - Welding consumables

with this approval

Grade

IV YMS(H5)

Current

DC(+)

Approved diameter 1.1 - 1.6 mm (0.045 - 1/16 inch)

Positions

Flat, vertical and overhead

Remarks

Also for fillet welding.

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Issued at Hamburg on 2018-12-11

This Certificate is valid until 2023-06-30.

DNV GL local station: Certification & Inspection

Services

Approval Engineer: Ludger Hachmöller



Thorsten Lohmann Head of Section

Any significant change in design or construction may render this Certificate invalid.

D. 1.1. 2016 12



Certificate No: TAW00002A6

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Flux Cored Wire/Gas combination

with trade name UltraCore 81Ni1A75-H / M21

Manufacturer

Lincoln Electric Company CLEVELAND OH, United States

is found to comply with

DNV GL class programme DNVGL-CP-0069 - Type approval - Welding consumables

with this approval

Grade

IV Y46MS(H5)

Current

DC(+)

Approved diameter 1.1 mm - 1.6 mm (0.045 in. - 1/16 in.)

Positions

Remarks

All except vertical downwards

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

This Certificate is valid until 2021-06-30. Issued at Høvik on 2016-07-01

DNV GL local station: New York

Approval Engineer: Maxim Bobrov

for DNV GL Digitally Signed By: Gran, Terje Location: DNV GL Høvik, Norway Signing Date: 31.01.2017, on behalf of



Certificate No: TAW00002A7

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Flux Cored Wire/Gas combination

with trade name
UltraCore 81Ni1C-H / C1

Manufacturer

Lincoln Electric Company CLEVELAND OH, United States

is found to comply with

DNV GL class programme DNVGL-CP-0069 - Type approval - Welding consumables

with this approval

Grade IV Y46MS(H5)

Current DC(+)

Approved diameter 1.1 mm - 1.6 mm (0.045 in. - 1/16 in.)

Positions All except vertical downwards

Remarks

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

This Certificate is valid until 2021-06-30.

Issued at Høvik on 2016-07-01

DNV GL local station: New York

Approval Engineer: Maxim Bobrov

for DNV GL
Digitally Signed By: Gran, Terje
Location: DNV GL Høvik, Norway
Signing Date: 31.01.2017, on behalf of



Certificate No: TAW00002A4

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Flux Cored Wire/Gas combination

with trade name
UltraCore 81Ni2A75-H / M21

Manufacturer

Lincoln Electric Company CLEVELAND OH, United States

is found to comply with

DNV GL class programme DNVGL-CP-0069 - Type approval - Welding consumables

with this approval

Grade III Y40MS(H5)

Current DC(+)

Approved diameter 1.1 mm - 1.6 mm (0.045 in. - 1/16 in.)
Positions Flat, Vertical upwards and Overhead

Remarks -

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

This Certificate is valid until 2021-06-30.

Issued at Høvik on 2016-07-01

DNV GL local station: New York

Approval Engineer: Maxim Bobrov

for DNV GL
Digitally Signed By: Gran, Terje
Location: DNV GL Hevik, Norway
Signing Date: 09.05.2017, on behalf of



Certificate No: TAW0000257

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Flux Cored Wire/Gas combination

with trade name
UltraCore 81Ni2C-H / C1

Manufacturer

Lincoln Electric Company CLEVELAND OH, United States

is found to comply with DNV GL rules for classification - Ships

with this approval

Grade III Y40MS(H5)

Current DC(+)

Approved diameter 1.1 mm - 1.6 mm (0.045 in. - 1/16 in.)
Positions Flat, Vertical upwards and Overhead

Remarks -

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

This Certificate is valid until 2021-06-30.

Issued at Høvik on 2016-07-01

DNV GL local station: **New York**Approval Engineer: **Maxim Bobrov**

for DNV GL





Certificate No: TAW000042K

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Flux Cored Wire/Gas combination

with trade name
UltraCore 81K2A75-H / M21

Manufacturer

Lincoln Electric Company CLEVELAND, OH, USA

is found to comply with

DNV GL rules for classification - Ships

DNV GL class programme DNVGL-CP-0069 - Type approval - Welding consumables

with this approval

Grade IV Y46MS(H5)

Current DC(+)

Approved diameter 1.1 - 1.6 mm (0.045 - 1/16 inch)
Positions All, except vertical downwards

Remarks

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Issued at Hamburg on 2018-12-11

This Certificate is valid until 2023-06-30.

DNV GL local station: Certification & Inspection

Services

Approval Engineer: Ludger Hachmöller



Thorsten Lohmann Head of Section



Certificate No: TAW00002A5

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Flux Cored Wire/Gas combination

with trade name
UltraCore HD-C / C1

Manufacturer

Lincoln Electric Company CLEVELAND OH, United States

is found to comply with

DNV GL class programme DNVGL-CP-0069 - Type approval - Welding consumables

with this approval

Grade III YMS(H10)

Current DC(+)

Approved diameter 1.1 mm - 1.6 mm (0.045 in. - 1/16 in.)

Positions All except vertical downwards

Remarks Also for fillet welding

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

This Certificate is valid until 2021-06-30.

Issued at Høvik on 2016-07-01

DNV GL local station: New York

Approval Engineer: Maxim Bobrov

for DNV GL
Digitally Signed By: Gran, Terje
Location: DNV GL Hevik, Norway
Signing Date: 31.01.2017, on behalf of



Certificate No: TAW0000264

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Flux Cored Wire/Gas combination

with trade name
UltraCore HD-M / M21

Manufacturer

Lincoln Electric Company CLEVELAND OH, United States

is found to comply with **DNV GL rules for classification - Ships**

with this approval

Grade III YMS(H10)

Current DC(+)

Approved diameter 1.1 mm - 1.6 mm (0.045 in. - 1/16 in.)

Positions All except vertical downwards

Remarks Also for fillet welding

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

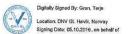
This Certificate is valid until 2021-06-30.

Issued at Høvik on 2016-07-01

DNV GL local station: New York

Approval Engineer: Maxim Bobrov

for DNV GL





Certificate No: TAW00004H4

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Flux Cored Wire/Gas combination

with trade name
UltraCore HD-12M / M21

Manufacturer

Lincoln Electric Company CLEVELAND, OH, USA

is found to comply with

DNV GL class programme DNVGL-CP-0069 - Type approval - Welding consumables DNV GL rules for classification - Ships

with this approval

Grade III YMS(H10)

Current DC(+)

Approved diameter 1.0 – 1.6mm (0.045 - 1/16in.)
Positions All, except vertical downwards

Remarks Also for fillet welding.

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Issued at **Hamburg** on **2020-01-09**This Certificate is valid until **2024-06-30**. for **DNV GL**DNV GL local station: **New York**Approval Engineer: **Dietmar Liebich**

Thorsten Lohmann Head of Section

Any significant change in design or construction may render this Certificate invalid.



Certificate No: TAW00004H1

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Flux Cored Wire/Gas combination

with trade name UltraCore HD-12C / C1

Manufacturer

Lincoln Electric Company CLEVELAND, OH, USA

is found to comply with

DNV GL class programme DNVGL-CP-0069 - Type approval - Welding consumables DNV GL rules for classification - Ships

with this approval

Grade

III YMS(H10)

Current

DC(+)

Approved diameter 1.0 - 1.6mm (0.045 - 1/16in.)

Positions

All, except vertical downwards

Remarks

Also for fillet welding

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Issued at Hamburg on 2020-01-22

This Certificate is valid until 2024-06-30.

DNV GL local station: New York

Approval Engineer: Dietmar Liebich



for DNV GL Digitally Signed By: Hachmoeller, Ludger Location: DNV GL Hamburg, Germany Signing Date: 2020-01-22, on behalf of

Thorsten Lohmann Head of Section

Any significant change in design or construction may render this Certificate invalid.



Certificate No: **TAW00003KN**

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Flux Cored Wire/Gas combination

with trade name UltraCore 712A80-H Plus / M21

Manufacturer

Lincoln Electric Company CLEVELAND OH, USA

is found to comply with **DNV GL rules for classification – Ships** DNV GL class programme DNVGL-CP-0069 - Type approval - Welding consumables

with this approval

Grade

IV YMS(H5)

Current

DC(+)

Approved diameter 1.1 - 1.6 mm (0.045 - 1/16 inch)

Positions

All, except vertical downwards

Remarks

Also for fillet welding

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Issued at Hamburg on 2018-02-22

This Certificate is valid until 2022-12-31.

DNV GL local station: Certification & Inspection

Services

Approval Engineer: Ludger Hachmöller



Thorsten Lohmann Head of Section

Any significant change in design or construction may render this Certificate invalid.



Certificate No: TAW00004H8

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Flux Cored Wire/Gas combination

with trade name
UltraCore 81K2C-H Plus / C1

Manufacturer

Lincoln Electric Company CLEVELAND, OH, USA

is found to comply with

DNV GL class programme DNVGL-CP-0069 - Type approval - Welding consumables DNV GL rules for classification - Ships

with this approval

Grade IV Y46MS(H5)

Current DC(+)

Approved diameter 1.0 – 1.6mm (0.045 - 1/16in.)
Positions All, except vertical downwards

Remarks Also for fillet welding

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Issued at Hamburg on 2020-01-22

This Certificate is valid until 2024-06-30.

DNV GL local station: New York

Approval Engineer: Dietmar Liebich



for **DNV GL**Digitally Signed By: Hachmoeller, Ludger
Location: DNV GL Hamburg, Germany
Signing Date: 2020-01-22, on behalf of

Thorsten Lohmann Head of Section

Any significant change in design or construction may render this Certificate invalid.

TENSOR E. WELD ***

D. 1.1. 0046 4



Certificate No: TAW00004H7

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Flux Cored Wire/Gas combination

with trade name
UltraCore 81Ni1C-H Plus / C1

Manufacturer

Lincoln Electric Company CLEVELAND, OH, USA

is found to comply with

DNV GL class programme DNVGL-CP-0069 - Type approval - Welding consumables DNV GL rules for classification - Ships

with this approval

Grade IV Y46MS(H5)

Current DC(+)

Approved diameter $\emptyset 1.0 - 1.6$ mm (0.045 - 1/16in.) Positions All, except vertical downwards

Remarks Also for fillet welding

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Issued at Hamburg on 2020-01-22

This Certificate is valid until 2024-06-30.

DNV GL local station: New York

Approval Engineer: Dietmar Liebich



for **DNV GL**Digitally Signed By: Hachmoeller, Ludger
Location: DNV GL Hamburg, Germany
Signing Date: 2020-01-22 , on behalf of

Thorsten Lohmann Head of Section

D 1101- D. 101- 2016



Certificate No: TAW000042T

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Flux Cored Wire/Gas combination

with trade name
UltraCore 81Ni1M-H Plus / M21

Manufacturer

Lincoln Electric Company CLEVELAND, OH, USA

is found to comply with

DNV GL rules for classification - Ships

DNV GL class programme DNVGL-CP-0069 - Type approval - Welding consumables

with this approval

Grade IV Y46MS(H5)

Current DC(+)

Approved diameter 1.1 - 1.6 mm (0.045 - 1/16 inch)
Positions All, except vertical downwards

Remarks Also for fillet welding.

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Issued at Hamburg on 2018-12-11

This Certificate is valid until 2023-06-30.

DNV GL local station: Certification & Inspection

Services

Approval Engineer: Ludger Hachmöller



Thorsten Lohmann Head of Section

Any significant change in design or construction may render this Certificate invalid.

0 - ---- 2046 42

SOF EUROSE



Certificate No: TAW000042S

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Flux Cored Wire/Gas combination

with trade name
UltraCore 91K2M-H Plus / M21

Manufacturer

Lincoln Electric Company CLEVELAND, OH, USA

is found to comply with

DNV GL rules for classification - Ships

DNV GL class programme DNVGL-CP-0069 - Type approval - Welding consumables

with this approval

Grade IV Y50MS(H5)

Current DC(+)

Approved diameter 1.1 - 1.6 mm (0.045 - 1/16 inch)
Positions All, except vertical downwards

Remarks Also for fillet welding.

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Issued at Hamburg on 2018-12-11

This Certificate is valid until 2023-06-30.

DNV GL local station: Certification & Inspection

Services

Approval Engineer: Ludger Hachmöller



Thorsten Lohmann Head of Section

Any significant change in design or construction may render this Certificate invalid.

回級回。

D 0010 10



Certificate No: TAW000042R

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Flux Cored Wire/Gas combination

with trade name
UltraCore 91K2C-H Plus / C1

Manufacturer

Lincoln Electric Company CLEVELAND, OH, USA

is found to comply with

DNV GL rules for classification - Ships

DNV GL class programme DNVGL-CP-0069 - Type approval - Welding consumables

with this approval

Grade IV Y50MS(H5)

Current DC(+)

Approved diameter 1.1 - 1.6 mm (0.045 - 1/16 inch)
Positions All, except vertical downwards

Remarks Also for fillet welding.

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Issued at Hamburg on 2018-12-11

This Certificate is valid until 2023-06-30.

DNV GL local station: Certification & Inspection

Services

Approval Engineer: Ludger Hachmöller



Thorsten Lohmann Head of Section

Any significant change in design or construction may render this Certificate invalid.

n. 2016

1....



Certificate No: TAW00002J7

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Flux Cored Wire/Gas combination

with trade name UltraCore 712C-H Plus / C1

Manufacturer

Lincoln Electric Company CLEVELAND OH, United States

is found to comply with

DNV GL class programme DNVGL-CP-0069 - Type approval - Welding consumables

with this approval

Grade IV Y40MS(H5)

Current DC(+)

Approved diameter 1.1 mm - 1.6mm (0.045 in. - 1/16 in.)

Positions All except vertical downwards

Remarks Also for fillet welding

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Issued at Høvik on 2017-01-26

This Certificate is valid until 2022-01-25.

DNV GL local station: New York

Approval Engineer: Maxim Bobrov

for DNV GL

Digitally Signed By: Gran, Terje Location: DNV GL Høvik, Norway Signing Date: 31.01.2017, on behalf of

Certificate No: **TAW0000BF** Revision No:

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Flux Cored Wire/Gas combination

with trade name
UltraCore HD Marine / C1

Manufacturer

Lincoln Electric Company CLEVELAND, OH, USA

is found to comply with

DNV GL class programme DNVGL-CP-0069 - Type approval - Welding consumables DNV GL rules for classification - Ships

with this approval

Grade II YMS(H10)

Current DC(+)

Approved diameter 1.3 – 1.6mm (0.052 – 1/16in.) Positions All, except vertical downwards

Remarks Also for fillet welding

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Issued at Hamburg on 2020-01-22

This Certificate is valid until 2024-09-23.

DNV GL local station: New York

Approval Engineer: Dietmar Liebich



for **DNV GL**

Digitally Signed By: Hachmoeller, Ludger Location: DNV GL Hamburg, Germany Signing Date: 2020-01-22 , on behalf of

Thorsten Lohmann Head of Section

Any significant change in design or construction may render this Certificate invalid.

回接回 ------

Certificate No: TAW000024W Revision No:

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Wire/Flux combination

with trade name
Lincolnweld L-61 / Lincolnweld 761

Manufacturer

Lincoln Electric Company Cleveland, OH, USA

is found to comply with

DNV GL rules for classification - Ships

DNV GL class programme DNVGL-CP-0069 - Type approval - Welding consumables

with this approval

Grade III YM Current DC(+)

Approved diameter 1.6 mm - 4.8 mm (1/16 in. - 3/16 in.)

Positions Flat

Remarks

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Issued at Hamburg on 2021-02-05

This Certificate is valid until **2025-12-31**.

DNV GL local station: **Houston, Approval CMC**

Approval Engineer: Ludger Hachmöller

for DNV GL



Digitally Signed By: Wildhagen, Christian Location: DNV GL Hamburg, Germany Signing Date: 05.02.2021, on behalf of

Thorsten Lohmann Head of Section

Any significant change in design or construction may render this Certificate invalid. 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.

Certificate No: **TAW0000251** Revision No:

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Wire/Flux combination

with trade name
Lincolnweld L-61 / Lincolnweld 780

Manufacturer

Lincoln Electric Company Cleveland, OH, USA

is found to comply with

DNV GL rules for classification - Ships

DNV GL class programme DNVGL-CP-0069 - Type approval - Welding consumables

with this approval

Grade II YTM Current DC(+)

Approved diameter 1.6 mm - 4.8 mm (1/16 in. - 3/16 in.)

Positions Fla

Remarks

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Issued at Hamburg on 2021-02-05

This Certificate is valid until **2025-12-31**.

DNV GL local station: **Houston, Approval CMC**

Approval Engineer: Ludger Hachmöller

for **DNV GL**



Digitally Signed By: Wildhagen, Christian Location: DNV GL Hamburg, Germany Signing Date: 05.02.2021, on behalf of

Thorsten Lohmann Head of Section

Any significant change in design or construction may render this Certificate invalid. 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.

....



TYPE APPROVAL CERTIFICATE

Certificate No: TAW000024J Revision No:

This is to certify:

That the Wire/Flux combination

with trade name Lincolnweld L-61 / Lincolnweld 8500

Manufacturer

Lincoln Electric Company Cleveland, OH, USA

is found to comply with
DNV GL rules for classification – Ships
DNV GL class programme DNVGL-CP-0069 – Type approval – Welding consumables

with this approval

Grade IV YM Current DC(+)

Approved diameter 1.6 mm - 4.8 mm (1/16 in. - 3/16 in.)

Positions

Flat

Remarks

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV.

Issued at Hamburg on 2021-03-08

This Certificate is valid until 2025-12-31.

DNV local station: Houston, Approval CMC

Approval Engineer: Ludger Hachmöller



for **DNV** Digitally Signed By: Wenning, Martin

Location: DNV GL Hamburg, Germany Signing Date: 2021-03-08, on behalf of

Thorsten Lohmann Head of Section

Any significant change in design or construction may render this Certificate invalid.

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.

n.

Certificate No: **TAW0000243** Revision No:

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Wire/Flux combination

with trade name
Lincolnweld L-61 / Lincolnweld 860

Manufacturer

Lincoln Electric Company Cleveland, OH, USA

is found to comply with

DNV GL rules for classification - Ships

DNV GL class programme DNVGL-CP-0069 - Type approval - Welding consumables

with this approval

Grade III YM / II YT

Current DC(+)

Approved diameter 1.6 mm - 4.8 mm (1/16 in. - 3/16 in.)

Positions Fla

Remarks T: t<=19 mm

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Issued at Hamburg on 2021-02-05

This Certificate is valid until 2025-12-31.

DNV GL local station: Houston, Approval CMC

Approval Engineer: Ludger Hachmöller

for **DNV GL**



Digitally Signed By: Wildhagen, Christian Location: DNV GL Hamburg, Germany Signing Date: 05.02.2021, on behalf of

Thorsten Lohmann Head of Section

Any significant change in design or construction may render this Certificate invalid. 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.



Certificate No: TAW00002A8

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Wire/Flux combination

with trade name

Lincolnweld L-70 / Lincolnweld 761

Manufacturer

Lincoln Electric Company CLEVELAND OH, United States

is found to comply with

DNV GL class programme DNVGL-CP-0069 - Type approval - Welding consumables

with this approval

Grade III YTM Current AC/DC(+)

Approved diameter 2.0 mm - 4.8 mm (5/64 in. - 3/16 in.)

Positions Fla

Remarks Two run technique with 3 wires on DC(+).

T: t ≤ 30 mm.

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

This Certificate is valid until 2021-12-31.

Issued at Høvik on 2017-01-01

DNV GL local station: New York

Approval Engineer: Maxim Bobrov

for DNV GL
Digitally Signed By: Gran, Terje
Location: DNV GL Høvik, Norway
Signing Date: 31,01,2017, on behalf of



Certificate No: TAW00002N9

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Wire/Gas combination

with trade name

Lincolnweld L-70 / Lincolnweld 8500

Manufacturer

Lincoln Electric Company CLEVELAND OH, United States

is found to comply with

DNV GL class programme DNVGL-CP-0069 - Type approval - Welding consumables

with this approval

Grade III YM(H10)

Current AC

Approved diameter 2.0 mm - 4.8 mm (5/64 in. - 3/16 in.)

Positions Flat Remarks -

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Issued at Høvik on 2017-02-28

This Certificate is valid until 2022-02-27.

DNV GL local station: New York

Approval Engineer: Maxim Bobrov

for DNV GL
Digitally Signed By: Gran, Terje
Location: DNV GL Høvik, Norway
Signing Date: 07.03.2017, on behalf of

Certificate No: TAW000024H Revision No:

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Wire/Flux combination

with trade name

Lincolnweld L-S3 (LNS 133U, L-50M) / Lincolnweld 8500

Manufacturer

Lincoln Electric Company CLEVELAND OH, United States

is found to comply with DNV GL rules for classification - Ships

with this approval

Grade

V Y42M(H10)

Current

DC(+)

Approved diameter 2.4 mm - 4.0 mm (3/32 in. - 5/32 in.)

Positions

Remarks

Flat

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

This Certificate is valid until 2021-09-14. Issued at Høvik on 2016-09-15

DNV GL local station: New York

Approval Engineer: Maxim Bobrov

for DNV GL





Certificate No: TAW00004H2

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Wire/Flux combination

with trade name

Lincolnweld L-S3 (LNS 133U, L-50M) / Lincolnweld 888

Manufacturer

Lincoln Electric Company CLEVELAND, OH, USA

is found to comply with

DNV GL class programme DNVGL-CP-0069 - Type approval - Welding consumables DNV GL rules for classification - Ships

with this approval

Grade

IV Y42M

Current

AC/DC(+)

Approved diameter 1.6 mm

Positions

Flat

Remarks

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Issued at Hamburg on 2020-01-22

This Certificate is valid until 2024-06-30.

DNV GL local station: New York

Approval Engineer: Dietmar Liebich



for DNV GL Digitally Signed By: Hachmoeller, Ludger Location: DNV GL Hamburg, Germany Signing Date: 2020-01-22, on behalf of

Thorsten Lohmann Head of Section

Any significant change in design or construction may render this Certificate invalid.

同校间 - WEI C 4 4 3 4 -

Certificate No: **TAW00000BD** Revision No:

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Wire/Flux combination

with trade name

Lincolnweld L-S3 (LNS 133U, L-50M) / Lincolnweld 842-H

Manufacturer

Lincoln Electric Company CLEVELAND, OH, USA

is found to comply with

DNV GL class programme DNVGL-CP-0069 - Type approval - Welding consumables DNV GL rules for classification - Ships

with this approval

Grade

V Y42M(H5)

Current

AC/DC(+)

Approved diameter 5/64 (2.0mm), 3/32 (2.4mm), 1/8 (3.2mm), 5/32 (4.0mm)

Positions

Remarks

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Issued at Hamburg on 2020-01-22

This Certificate is valid until 2024-10-31.

DNV GL local station: New York

Approval Engineer: Dietmar Liebich



for DNV GL Digitally Signed By: Hachmoeller, Ludger

Location: DNV GL Hamburg, Germany Signing Date: 2020-01-22, on behalf of

Thorsten Lohmann Head of Section

Any significant change in design or construction may render this Certificate invalid.

国数国

Certificate No: TAW000024N Revision No:

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Wire/Flux combination

with trade name Lincolnweld L-50 / Lincolnweld 880 M

Manufacturer

Lincoln Electric Company Cleveland, OH, USA

is found to comply with DNV GL rules for classification - Ships DNV GL class programme DNVGL-CP-0069 - Type approval - Welding consumables

with this approval

Grade

VYM

Current

DC(+)

Approved diameter 1.6 mm - 4.8 mm (1/16 in. - 3/16 in.)

Positions

Remarks

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Issued at Hamburg on 2021-02-05

This Certificate is valid until 2025-12-31. DNV GL local station: Houston, Approval CMC

Approval Engineer: Ludger Hachmöller

for DNV GL



Thorsten Lohmann Head of Section

Any significant change in design or construction may render this Certificate invalid. 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.



Certificate No: TAW000047J

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Wire/Flux combination

with trade name
Lincolnweld L-56 / Lincolnweld 888

Manufacturer

Lincoln Electric Company CLEVELAND, OH, USA

is found to comply with

DNV GL rules for classification - Ships

DNV GL class programme DNVGL-CP-0069 - Type approval - Welding consumables

with this approval

Grade V Y50M(H5)
Current AC/DC(+)

Approved diameter 1.6 - 4.0 mm (1/16 - 5/32 inch)

Positions Flat

Remarks

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Issued at Hamburg on 2019-02-20

This Certificate is valid until 2023-12-31.

DNV GL local station: Certification & Inspection

Services

Approval Engineer: Ludger Hachmöller



for **DNV GL**

Digitally Signed By: Wildhagen, Christian Location: DNV GL Hamburg, Germany Signing Date: 2019-02-20, on behalf of

Thorsten Lohmann Head of Section

Any significant change in design or construction may render this Certificate invalid.

D - 1-1- - DO4C 40



Certificate No: TAW000042W

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Wire/Flux combination

with trade name Lincolnweld L-56 / 880M

Manufacturer

Lincoln Electric Company CLEVELAND, OH, USA

is found to comply with

DNV GL rules for classification - Ships

DNV GL class programme DNVGL-CP-0069 - Type approval - Welding consumables

with this approval

Grade IV YM Current DC(+)

Approved diameter 1.6 - 4.0 mm (1/16 - 5/32 inch)

Positions Flat

Remarks

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Issued at Hamburg on 2018-12-11

This Certificate is valid until 2023-06-30.

DNV GL local station: Certification & Inspection

Services

Approval Engineer: Ludger Hachmöller



Thorsten Lohmann Head of Section

Any significant change in design or construction may render this Certificate invalid.

D- 1444 2044 40

Certificate No: TAW000036R Revision No:

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Wire/Flux combination

with trade name Lincolnweld LA-71 / Lincolnweld 880M

Manufacturer

Lincoln Electric Company CLEVELAND, OH, USA

is found to comply with DNV GL rules for classification - Ships DNV GL class programme DNVGL-CP-0069 - Type approval - Welding consumables

with this approval

Grade

IV Y46M(H5)

Current

DC(+)

Approved diameter 2.4 - 4.0 mm (3/32 - 5/32 inch)

Positions

Remarks

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Issued at Hamburg on 2018-12-11

This Certificate is valid until 2023-12-10.

DNV GL local station: New York

Approval Engineer: Ludger Hachmöller



Thorsten Lohmann Head of Section



Certificate No: TAW000042Z

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Wire/Flux combination

with trade name
Lincolnweld LA-84 / Lincolnweld 888

Manufacturer

Lincoln Electric Company CLEVELAND, OH, USA

is found to comply with

DNV GL rules for classification - Ships

DNV GL class programme DNVGL-CP-0069 - Type approval - Welding consumables

with this approval

Grade IV Y55M Current DC(+)

Approved diameter 2.4 - 4.0 mm (3/32 - 5/32 inch)

Positions Fla

Remarks

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Issued at Hamburg on 2018-12-11

This Certificate is valid until 2023-06-30.

DNV GL local station: Certification & Inspection

Services

Approval Engineer: Ludger Hachmöller



Thorsten Lohmann Head of Section



Certificate No: **TAW00002YD**

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Wire/Flux combination

with trade name

Lincolnweld LA-84 (LNS 164) / Lincolnweld 842-H

Manufacturer

Lincoln Electric Company CLEVELAND OH, United States

is found to comply with

DNV GL class programme DNVGL-CP-0069 - Type approval - Welding consumables

with this approval

Grade Current V Y55M(H5) AC/DC(+)

Approved diameter 2.0 mm - 4.0 mm (5/64 in. - 5/32 in.)

Positions

Flat

Remarks

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Issued at Høvik on 2017-01-01

This Certificate is valid until 2021-12-31.

DNV GL local station: New York

Approval Engineer: Maxim Bobrov

for DNV GL

Digitally Signed By: Gran, Terje Location: DNV GL Høvik, Norway Signing Date: 09.05.2017, on behalf of

Certificate No: TAW000024D Revision No:

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Wire/Flux combination

with trade name

Lincolnweld LA-85(LNS 165) / Lincolnweld 8500

Manufacturer

Lincoln Electric Company Cleveland, OH, USA

is found to comply with

DNV GL rules for classification - Ships

DNV GL class programme DNVGL-CP-0069 - Type approval - Welding consumables

with this approval

Grade

V YM46(H10)

Current

DC(+)

Approved diameter 2.4 mm - 4.8 mm (3/32 in. - 3/16 in.)

Positions

Remarks

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Issued at Hamburg on 2021-02-05

This Certificate is valid until 2025-12-31.

DNV GL local station: Houston, Approval CMC

Approval Engineer: Ludger Hachmöller

for DNV GL



Digitally Signed By: Wildhagen, Christian Location: DNV GL Hamburg, Germany Signing Date: 05.02.2021, on behalf of

Thorsten Lohmann Head of Section

Any significant change in design or construction may render this Certificate invalid. 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.



Certificate No: TAW000042Y

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Wire/Flux combination

with trade name
Lincolnweld LA-85 / Lincolnweld 888

Manufacturer

Lincoln Electric Company CLEVELAND, OH, USA

is found to comply with

DNV GL rules for classification - Ships

DNV GL class programme DNVGL-CP-0069 - Type approval - Welding consumables

with this approval

Grade V Y50M(H5)
Current AC/DC(+)

Approved diameter 2.4 - 4.8 mm (3/32 - 3/16 inch)

Positions FI

Remarks

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Issued at Hamburg on 2018-12-11

This Certificate is valid until 2023-12-10.

DNV GL local station: Certification & Inspection

Services

Approval Engineer: Ludger Hachmöller



Thorsten Lohmann Head of Section

Any significant change in design or construction may render this Certificate invalid.

国热原



Certificate No: TAW00002Y9

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Wire/Flux combination

with trade name

Lincolnweld LA-85 (LNS 165) / Lincolnweld 842-H

Manufacturer

Lincoln Electric Company CLEVELAND OH, United States

is found to comply with

DNV GL class programme DNVGL-CP-0069 - Type approval - Welding consumables

with this approval

Grade Current

V Y50M(H5) AC/DC(+)

Approved diameter 2.0 mm - 4.8 mm (5/64 in. - 3/16 in.)

Positions

Flat

Remarks

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Issued at Høvik on 2017-01-01

This Certificate is valid until 2021-12-31.

DNV GL local station: New York

Approval Engineer: Maxim Bobrov

for **DNV GL** Digitally Signed By: Gran, Terje Location: DNV GL Høvik, Norway Signing Date: 09.05.2017, on behalf of



Certificate No: TAW00002A3

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Wire/Flux combination

with trade name

Lincolnweld LAC-690 / Lincolnweld 888

Manufacturer

Lincoln Electric Company CLEVELAND OH, United States

is found to comply with

DNV GL class programme DNVGL-CP-0069 - Type approval - Welding consumables

with this approval

Grade V YM69(H5) Current AC/DC(+)

Approved diameter 2.4 mm - 4.0 mm (3/32 in. - 5/32 in.)

Positions Flat Remarks -

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

This Certificate is valid until 2021-12-31. Issued at Høvik on 2017-01-01

DNV GL local station: New York

Approval Engineer: Maxim Bobrov

for **DNV GL**

Digitally Signed By: Gran, Terje

Location: DNV GL Høvik, Norway

Signing Date: 31,01,2017, on behalf of



Certificate No: TAW00004H3

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Wire/Flux combination

with trade name

Lincolnweld LAC-690 / Lincolnweld 842-H

Manufacturer

Lincoln Electric Company CLEVELAND, OH, USA

is found to comply with

DNV GL class programme DNVGL-CP-0069 - Type approval - Welding consumables DNV GL rules for classification - Ships

with this approval

Grade

V Y62M(H5)

Current

AC

Approved diameter 2.4 mm - 4.0 mm

Positions

Flat

Remarks

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Issued at Hamburg on 2020-01-22

This Certificate is valid until 2024-06-30.

DNV GL local station: New York

Approval Engineer: Dietmar Liebich



for DNV GL Digitally Signed By: Hachmoeller, Ludger Location: DNV GL Hamburg, Germany Signing Date: 2020-01-22, on behalf of

Thorsten Lohmann Head of Section

Any significant change in design or construction may render this Certificate invalid.

0.

同核间 -