



REVIEW NO > FP1 828
CERTIFICATE NO > 004/17-2
APPROVAL DATE > 22nd July 2017
EXPIRY DATE > 21st July 2019
REGISTERED SINCE > 22nd July 2008

**PRODUCT
APPROVAL
2017**

Postle Industries, Inc.

5500 WEST 164TH STREET, CLEVELAND, OH 44142, USA.

Fearnley Procter Certify that the above company's following Product has been reviewed and approved by a NS-1[™] Technical Review Committee.

Fearnley Procter NS-1[™] Edition 3 Quality and Inspection Requirements for New and Refurbished Drilling and Well Completion Equipment Standards.

SPECIFICATIONS

> NS.03.30.00.1110

PRODUCT

> Duraband® NC Alloy Hardbanding Initial Application onto New Drill Pipe Tool Joints

SCOPE:

The procedure followed was to compare the specific requirements of the relevant Fearnley Procter NS-1[™] Edition 3 documentation with the submitted information, and to perform certain testing on the product.

The evaluation of the application procedures for Postle Industries, Inc. Duraband® NC Alloy Hardbanding onto new drill pipe tool joints has been performed in compliance with the general requirements and recommendations as stipulated in NS-1[™] Supplementary Requirements, NS.03.30.00.1110 (Rev. 10) Section 5.0, and Sub-Specification 90.1, 90.3 and 160.

The following data was supplied and tests performed by Postle Industries, Inc. for Fearnley Procter under this approval:

1) Micro Hardness Test (across weld metal, HAZ plus base metal) **2)** Hardbanding Adhesion Test Results **3)** Welding Procedures/Guidelines **4)** Inspection Guidelines **5)** Acceptance/Rejection Criteria **6)** Casing Wear Results.

As a result of this review, Postle Industries, Inc. has been granted the approval for the initial application of Duraband® NC Alloy Hardbanding onto new drill pipe tool joints, and deemed suitable for service when applied as per the processes, procedures reviewed and the requirements of NS-1[™].



Issued By
Kevin Fearnley
Chairman NS-1[™] Technical Review Committee

A handwritten signature in black ink, appearing to read 'Kevin Fearnley', is written over a vertical line.

REFERENCE DOCUMENTS: Postle Industries, Inc. Application Procedure for Hardbanding Manual Version 1.1 12th May 2008 (Initial Approval) and Version 2.3, 23rd July 2013 (Re-approval).

NOTA BENE: This certificate relates solely to the Procedure Qualification Record of the Organisation identified above and should not be interpreted as implying that all or any other applicators of this product are competent to do so. Organisations applying the above Hardbanding are required to qualify their own Welding Procedure Specification by means of a Procedure Qualification Record and maintain Welder Performance Qualification in accordance with Fearnley International Group Ltd. NS-1[™] Edition 3 requirements.

To maintain validity during the said period the above named Company must maintain a valid subscription to and comply with the Fearnley Procter NS-1[™] Quality and Inspection Requirements for New and Refurbished Drilling and Well Completion Equipment.
Certificates and Levels of Approval can be verified at www.fp.international



REVIEW NO > FPI 815
CERTIFICATE NO > 0041/17-2
APPROVAL DATE > 17th March 2017
EXPIRY DATE > 16th March 2019
REGISTERED SINCE > 17th March 2012

**PROCESS
APPROVAL
2017**

Postle Industries, Inc.

5500 WEST 164TH STREET, CLEVELAND, OH 44142, USA.

The above Company has demonstrated through Procedure Qualification Records that their Welding Procedure Specifications, for the welding process and scope of applications below, are capable of providing the required properties specified by the Company.

Qualification is in conformance with the requirements of:

Fearnley Procter NS-1™ Edition 3 Quality and Inspection Requirements for New and Refurbished Drilling and Well Completion Equipment Standards.

SPECIFICATIONS

- > NS.03.30.00.1110 (Drill Pipe with Welded Tool Joints)
- > NS.03.30.80.1110 (Heavy Weight Drill Pipe with Welded Tool Joints)
- > NS.03.30.80.1120 (Non-welded Heavy Weight Drill Pipe)

SERVICE/PROCESS

- > Re-application of Duraband® NC Hardbanding over Hardbanding Products:
1) Arnco 150XT™, 2) Arnco 350XT™, 3) Arnco 100XT™, 4) Castolin OTW 12Ti,
5) Duraband® NC, 6) Smooth X®, 7) Armacor™ M Star, 8) TCS™ Titanium,
9) TCS™ 8000, 10) Tuffband® NC

SCOPE

The evaluation of the application procedures for Duraband® NC on drill pipe tool joints for the re-application over the above stated Hardbanding products has been performed in compliance with the general requirements and recommendations as stipulated in NS-1™ Supplementary Requirements, NS.03.30.00.1110 (Rev. 10) Section 5.0, and Sub-Specification 90.1, 90.3 and 160.

The following data was supplied and tests performed by Postle Industries, Inc. for Fearnley Procter International under this approval:

- 1) Micro Hardness Test (across weld metal, HAZ plus base metal)
- 2) Hardbanding Adhesion Test Results
- 3) Welding Procedures/Guidelines
- 4) Inspection Guidelines
- 5) Acceptance/Rejection Criteria.



Fearnley Procter
International Ltd

Issued By
Kevin Fearnley
Chairman NS-1™ Technical Review Committee

REFERENCE DOCUMENTS: Postle Industries, Inc. Hardbanding Procedure Manual Version 2.3, 23rd July 2013). **EXCLUSIONS:** Hardbanding on the Centre Wear Pad of Heavy Weight Drill Pipe with Welded Tool Joints. **NOTA BENE: 1)** Arnco 150XT™, Arnco 350XT™, Arnco 100XT™ and Castolin OTW 12Ti registered first approval – February 9, 2015. **2)** Duraband® NC, Smooth X®, Armacor™ M Star and TCS™ Titanium registered first approval – December 11, 2009. **3)** This certificate relates solely to the Procedure Qualification Record of the Organisation identified above and should not be interpreted as implying that all or any other applicators of this product are competent to do so. Organisations applying the above Hardbanding are required to qualify their own Welding Procedure Specification by means of a Procedure Qualification Record and maintain Welder Performance Qualification in accordance with Fearnley Procter NS-1™ Edition 3 requirements

To maintain validity during the said period the above named Company must maintain a valid subscription to and comply with the Fearnley Procter NS-1™ Quality and Inspection Requirements for New and Refurbished Drilling and Well Completion Equipment.
Certificates and Levels of Approval can be verified at www.fpinternational



REVIEW NO > FP1 828
CERTIFICATE NO > 0051/17-2
APPROVAL DATE > 22nd July 2017
EXPIRY DATE > 21st July 2019
REGISTERED SINCE > 22nd July 2010

**PRODUCT
APPROVAL
2017**

Postle Industries, Inc.

5500 WEST 164TH STREET, CLEVELAND, OH 44142, USA.

Fearnley Procter Certify that the above company's following Product has been reviewed and approved by a NS-1[™] Technical Review Committee.

Fearnley Procter NS-1[™] Edition 3 Quality and Inspection Requirements for New and Refurbished Drilling and Well Completion Equipment Standards.

SPECIFICATIONS

> NS.03.30.00.1110

PRODUCT

> Tuffband® NC Alloy Hardbanding Initial Application onto New Drill Pipe Tool Joints

SCOPE:

The procedure followed was to compare the specific requirements of the relevant Fearnley Procter NS-1[™] Edition 3 documentation with the submitted information, and to perform certain testing on the product.

The evaluation of the application procedures for Postle Industries, Inc. Tuffband® NC Alloy Hardbanding onto new drill pipe tool joints has been performed in compliance with the general requirements and recommendations as stipulated in NS-1[™] Supplementary Requirements, NS.03.30.00.1110 (Rev. 10) Section 5.0, and Sub-Specification 90.1, 90.3 and 160.

The following data was supplied and tests performed by Postle Industries, Inc. for Fearnley Procter under this approval:

1) Micro Hardness Test (across weld metal, HAZ plus base metal) **2)** Hardbanding Adhesion Test Results **3)** Welding Procedures/Guidelines **4)** Inspection Guidelines **5)** Acceptance/Rejection Criteria **6)** Casing Wear Results.

As a result of this review, Postle Industries, Inc. has been granted the approval for the initial application of Tuffband® NC Alloy Hardbanding onto new drill pipe tool joints, and deemed suitable for service when applied as per the processes, procedures reviewed and the requirements of NS-1[™].



Issued By
Kevin Fearnley
Chairman NS-1[™] Technical Review Committee

A handwritten signature in black ink, appearing to read 'Kevin Fearnley', is written over a vertical line.

REFERENCE DOCUMENTS: Postle Industries, Inc. Application Procedure for Hardbanding Manual Version 2.0, 7th July 2011 (Initial Approval) and Version 2.3, 23rd July 2013 (Re-approval).

NOTA BENE: This certificate relates solely to the Procedure Qualification Record of the Organisation identified above and should not be interpreted as implying that all or any other applicators of this product are competent to do so. Organisations applying the above Hardbanding are required to qualify their own Welding Procedure Specification by means of a Procedure Qualification Record and maintain Welder Performance Qualification in accordance with Fearnley Procter NS-1[™] Edition 3 requirements.

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APPROVAL DATE > 17th March 2017
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REGISTERED SINCE > 17th March 2012

**PROCESS
APPROVAL
2017**

Postle Industries, Inc.

5500 WEST 164TH STREET, CLEVELAND, OH 44142, USA.

The above Company has demonstrated through Procedure Qualification Records that their Welding Procedure Specifications, for the welding process and scope of applications below, are capable of providing the required properties specified by the Company.

Qualification is in conformance with the requirements of:

Fearnley Procter NS-1™ Edition 3 Quality and Inspection Requirements for New and Refurbished Drilling and Well Completion Equipment Standards.

SPECIFICATIONS

- > NS.03.30.00.1110 (Drill Pipe with Welded Tool Joints)
- > NS.03.30.80.1110 (Heavy Weight Drill Pipe with Welded Tool Joints)
- > NS.03.30.80.1120 (Non-welded Heavy Weight Drill Pipe)

SERVICE/PROCESS

- > Re-application of Duraband® NC Hardbanding over Hardbanding Products:
1) Arnco 150XT™, 2) Arnco 350XT™, 3) Arnco 100XT™, 4) Castolin OTW 12Ti,
5) Duraband® NC, 6) Smooth X®, 7) Armacor™ M Star, 8) TCS™ Titanium,
9) TCS™ 8000, 10) Tuffband® NC

SCOPE

The evaluation of the application procedures for Duraband® NC on drill pipe tool joints for the re-application over the above stated Hardbanding products has been performed in compliance with the general requirements and recommendations as stipulated in NS-1™ Supplementary Requirements, NS.03.30.00.1110 (Rev. 10) Section 5.0, and Sub-Specification 90.1, 90.3 and 160.

The following data was supplied and tests performed by Postle Industries, Inc. for Fearnley Procter International under this approval:

- 1) Micro Hardness Test (across weld metal, HAZ plus base metal)
- 2) Hardbanding Adhesion Test Results
- 3) Welding Procedures/Guidelines
- 4) Inspection Guidelines
- 5) Acceptance/Rejection Criteria.



Fearnley Procter
International Ltd

Issued By
Kevin Fearnley
Chairman NS-1™ Technical Review Committee

REFERENCE DOCUMENTS: Postle Industries, Inc. Hardbanding Procedure Manual Version 2.3, 23rd July 2013). **EXCLUSIONS:** Hardbanding on the Centre Wear Pad of Heavy Weight Drill Pipe with Welded Tool Joints. **NOTA BENE: 1)** Arnco 150XT™, Arnco 350XT™, Arnco 100XT™ and Castolin OTW 12Ti registered first approval – February 9, 2015. **2)** Duraband® NC, Smooth X®, Armacor™ M Star and TCS™ Titanium registered first approval – December 11, 2009. **3)** This certificate relates solely to the Procedure Qualification Record of the Organisation identified above and should not be interpreted as implying that all or any other applicators of this product are competent to do so. Organisations applying the above Hardbanding are required to qualify their own Welding Procedure Specification by means of a Procedure Qualification Record and maintain Welder Performance Qualification in accordance with Fearnley Procter NS-1™ Edition 3 requirements

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