

Fearnley Procter



PRODUCT APPROVAL

Arnco Technology Trust Ltd.

13340 Pike Road, Stafford, Texas 77477

This is to certify that the above company's following product has been reviewed & 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.

Specification

NS.03.30.00.1110

Product

Arnco 350XT™ Hardbanding Initial application on Tool Joints.

SCOPE: The procedure followed has been 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 Arnco 350XT™ Hardbanding on 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 Arnco Technology Trust Ltd. 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, Arnco Technology Trust Ltd. has been granted approval for the initial application of Arnco 350XT™ 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™.

REFERENCE DOCUMENTS: Arnco Technology Trust Ltd. Hardbanding Specification Manual for the Preparation, Application and Inspection of Hardbanding Products Version 2.1 June 28, 2012 (Initial Approval) and Version 2.3 August 15, 2015 (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.

Issued By

A handwritten signature in black ink, appearing to read 'Kevin Fearnley', is written over a light blue background.

Kevin Fearnley

Chairman NS-1™ Technical Review Committee

Review No : FP NS 874

Certificate No : 0115/16-2

Approval Date : 6th January, 2016

Valid Till : 5th January, 2018

Registered Since : 29th April, 2013

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.ns-as.com.