

Fearnley Procter



PRODUCT APPROVAL

Shanghai BoTeng Welding Consumables Co. Ltd.

No. 1825 Luodong Road, Baoshan Industrial Zone, Shanghai, 200940, P.R.C.

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

Product

NS.03.30.00.1110

BoTn 3000 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 Shanghai BoTeng Welding Consumables Co. Ltd. – BoTn 3000 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 Section 5.0, and Sub-Specification 90.1, 90.3 and 160.

The following data was supplied and tests performed by Shanghai BoTeng Welding Consumables Co. 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.

REFERENCE DOCUMENTS: Shanghai BoTeng Welding Consumables Co. Ltd. Hardbanding Specification for new application of BoTn 1000 Hardbanding on Tool Joints, Heavy Weight Drill Pipe and Drill Collar, Third Edition, May 2010 Rev. 1.2.

As a result of this review, Shanghai BoTeng Welding Consumables Co. Ltd. has been granted approval for the initial application of BoTn 3000 Hardbanding onto new drill pipe tool joints, and deemed suitable for service when applied as per the processes and procedures reviewed and the requirements of NS-1™.

NOTA BENE: This certificate relates solely to the Procedure Qualification Record (PQR) of 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 (WPS) by means of a Procedure Qualification Record (PQR) and maintain Welder Performance Qualification (WPQ) 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 green background.

Kevin Fearnley

Chairman NS-1™ Technical Review Committee

Review No : FP NS 005

Certificate No : 0043/13-2

Approval Date : 1st October, 2013

Valid Till : 30th September, 2015

Registered Since : 1st October, 2007

To maintain validity during the said period the above named Company must fully comply with the current Fearnley Procter NS-1™ Edition 3 Quality and Inspection Requirements for New and Refurbished Drilling and Well Completion Equipment latest revisions.

Certificates can be verified at Fearnley Procter Website www.fearnleyproctergroup.com