



PROFLOAT

THE FLOATATION PROFESSIONALS

(2 3/16 [56 mm])
MUX LINES
CUTOUT DEPTH

(3 3/16 [80 mm])
MUX LINES CUTOUT
DISTANCE TO OD PROFILE

(5 1/2 [140 mm])
MUX LINES
CUTOUT WIDTH

(13/16 [21 mm])
SPLITLINE GAP

(1 3/16 [30 mm])



OUR COMPANY

ProFloat are experts in Drill Riser Buoyancy, offering industry-leading repairs, modifications, spares supply and lifecycle management worldwide. Since establishment we have repaired thousands of Buoyancy Modules for various drilling contractors on every continent, with specific focus on the high-frequency energy maintenance hotspots.

Our repairs are not only world-class, but present significant long-term value relative to their cost, by ensuring that buoyancy equipment achieves its intended life span. We carry out repairs in the field, at any location required by the Drilling Contractor, and we do so at any time throughout the lifecycle of the buoyancy, often coinciding with 5- and 10-year riser recertification windows but also ad hoc as our customers may require.

ABOUT US

International Field Service Repairs

Field service capability and track record on every continent and in over 20 countries, we are highly mobile and ensure a pain free experience.

A Track Record you can depend on

With thousands of drill riser buoyancy elements maintained, modified and managed over a 12 year history, we are the premier global repairer.

Aiding compliance, ensuring performance

Our highly flexible, complete repair service built on years of OEM-aligned best practices and applicable regulation, ensures confidence in the compliance, safety and performance of work.

Data and safety

By ensuring damaged fitments are attended to promptly and compliantly, riser joint relegation due to damaged fitments and other safety concerns can be alleviated.

OUR TEAM

ProFloat is proudly represented by a team of dynamic people with key skill sets covering a range of areas that are of importance to our work and the interests of our customers.

KEANE HARVEY

Managing Director

ADAM VAN DER WALT

Project Coordinator

MARLON OKKERS

Production Manager

NATHAN PHILLANDER

Production Supervisor

SIVUYILE KLAAS

Coating Manager

NEVELLE WOLMARANS

Quality Assurance Supervisor

TRACEY ZURNAMER

Finance Manager

CHARNÉ OCTOBER

Administrator



(2 3/16 [56 mm])
MAX LINES
CUTOUT DEPTH
(3 3/16 [80 mm])
MAX LINES CUTOUT
DISTANCE TO OD PROFILE

(5 1/2 [140 mm])

BUOYANCY REPAIRS

Drill Riser Buoyancy is costly equipment intended to last 20 years. Potential down-time or rejection of riser joints with impaired fitments can result if this equipment is not properly maintained in fit-for-service condition. Buoyancy is unfit for service if it is cracked, broken in multiple pieces, missing major sections, contains deteriorated buoyancy material or has suffered water ingress.



ProFloat has developed a best-in-class repair method over 10 years of service, seeing us keep thousands of pieces of equipment in service.



We have technicians trained in all categories of repair across all OEMs of drill riser buoyancy.



Combining this expertise with specialized products and materials intended for rigorous offshore use, we provide a repair quality, speed & flexibility which is difficult to match.



Transverse Crack Repair



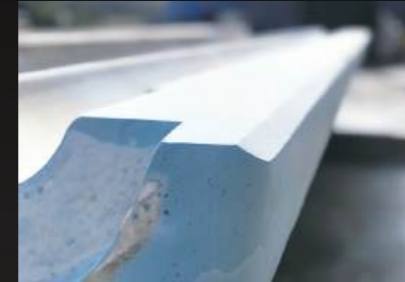
Longitudinal Crack Repair



Buildup of Major Sections



Channel Alignment For Main Tube & Aux Line Housing



Shaping & Fairing of Critical Dimensions



Lamination & Skin Restoration



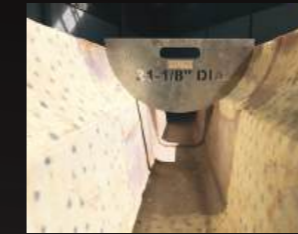
Painting & Marking



QC & Weighing



Reporting & Data Packs

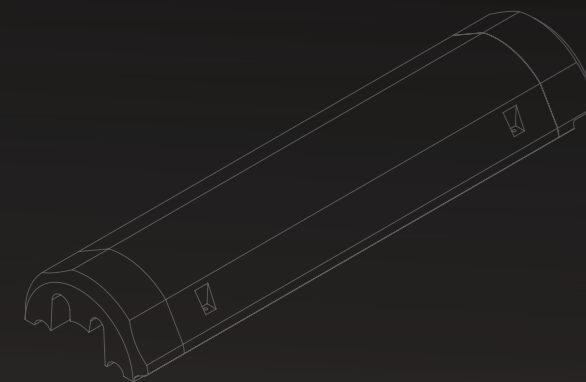




RISER READINESS

We conduct services in field locations where our customers have limited personnel and support. In these situations, we provide a turn-key solution by undressing riser joints, repairing buoyancy and then redressing riser joints to be ready for load-out and return to the rig.

We also carry out buoyancy swop-out, which entails readying the desired number and depth of riser joints, providing reporting regarding damage observed and providing a reliable basis for future budgeting.



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MODIFICATIONS & MPD

Buoyancy frequently requires to improve performance, safety or usability, including for the adoption of MPD or 20K riser capability by the Drilling Contractor.

This can include modification of the main channels order to accommodate a different aux line configuration, installing MUX clamp windows or retrofitting retention strap and tensioner recesses or VIV-suppression improvements.

ProFloat offers seamless engineering and implementation of bespoke modifications through onsite installation and ProFloat proprietary modification techniques.

This work is provided as a stand-alone service or as a part of on-going repairs. The output is a product which is more suited to the Drilling Contractor's needs.

MUX CLAMP LOCATIONS

MUX-001

PROFLOAT

Current Assembly

FFVY-0000-01

PROFLOAT BUOYANCY MODIFICATION

SUB TITLE: BUOYANCY MODIFICATION

DATE: 10/15/2011

SHEET: 1 OF 3

DESCRIPTION: MUX CLAMP LOCATIONS

REV: 001

DATE: 10/15/2011

BY: [Signature]

CHECKED: [Signature]

APPROVED: [Signature]

SCALE: 1:1

PROFLOAT



PARTS & SPARES

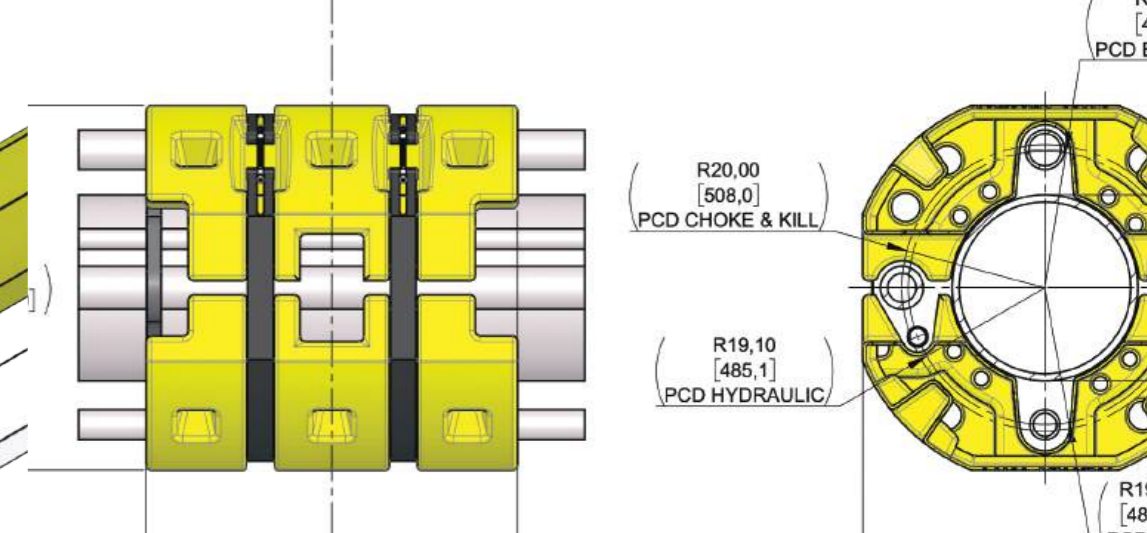
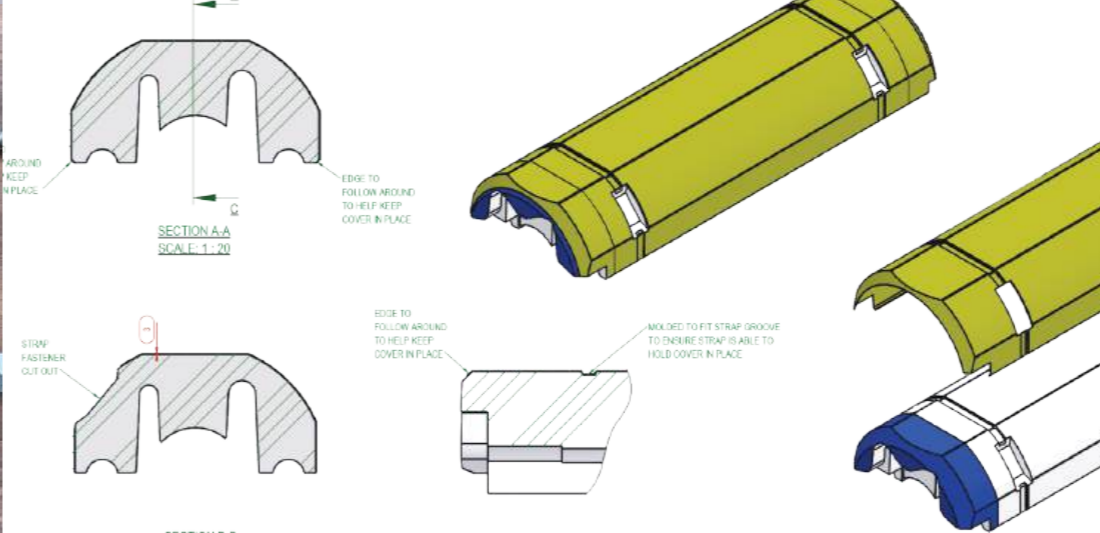
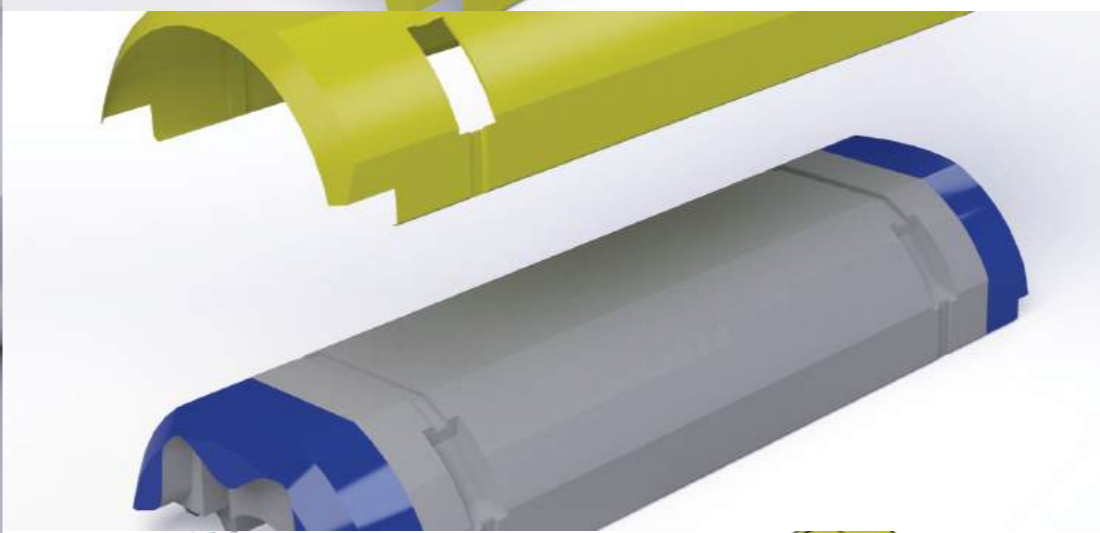
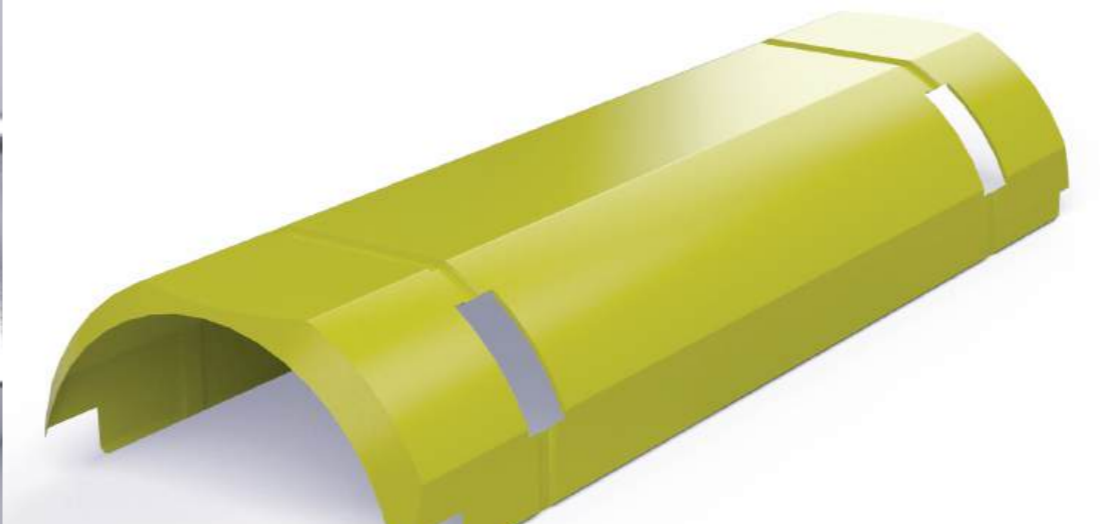
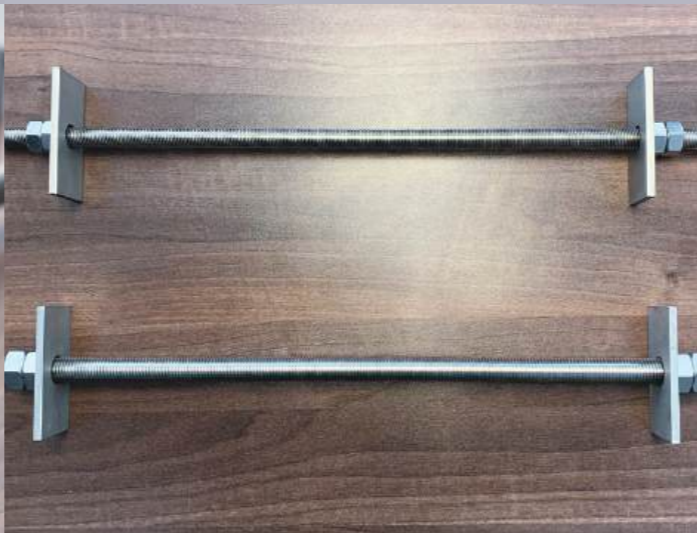
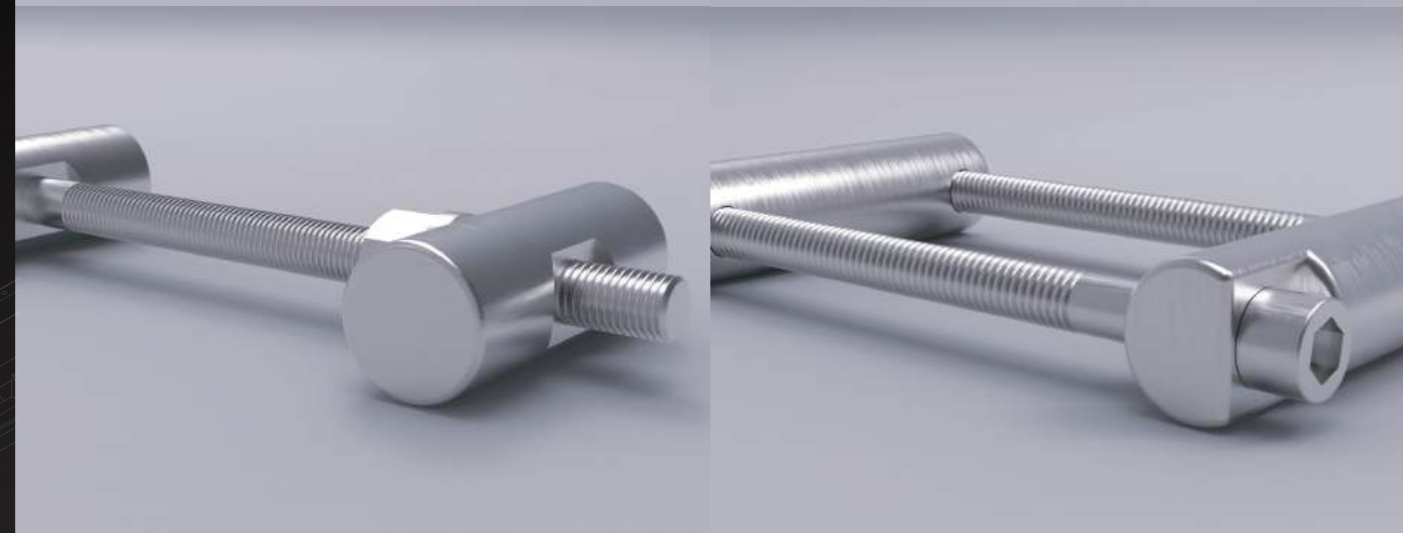
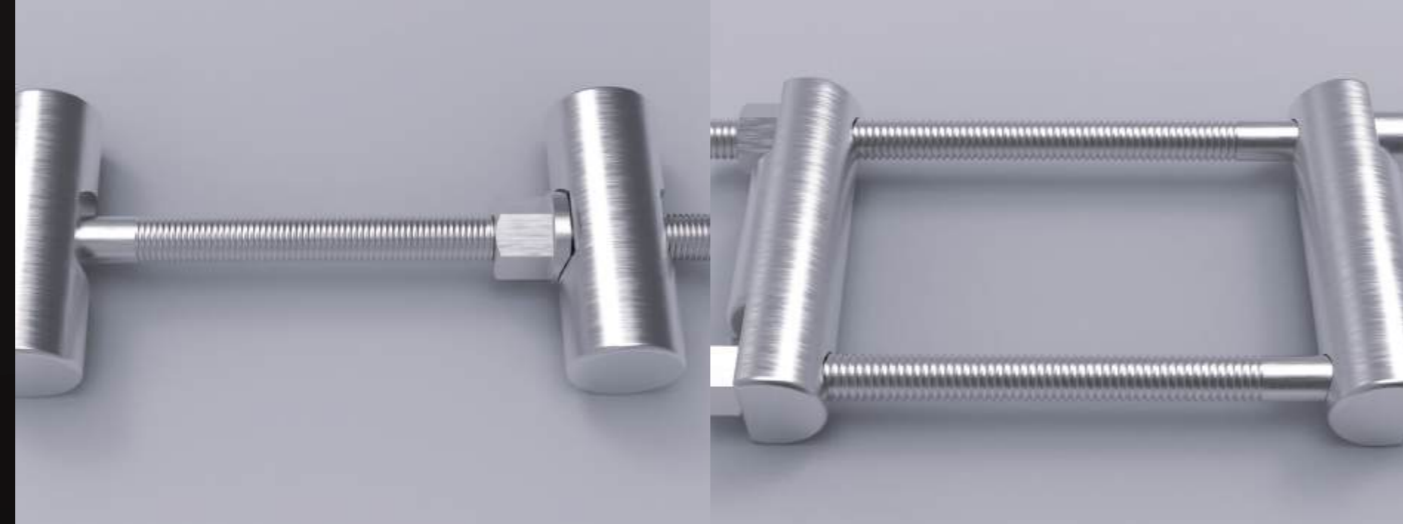
ProFloat are an OEM and suppliers of various auxiliary equipment required for dressing riser & specialized joints.

Riser Guards
(Riser joints, Telescoping joints) (OEM).

Stacking Shims
(Riser joints & Telescopic joints) (OEM).

Buoyancy and Riser Guard Retention
Kevlar straps
(Supplier).

Buoyancy and Riser Guard Bolting systems
(OEM).



(2 3/16 [56 mm])
MAX LINES
CUTOUT DEPTH

(3 3/16 [80 mm])
MAX LINES CUTOUT
DISTANCE TO OD PROFILE

(6 1/2 [149 mm])
MAX LINES
CUTOUT WIDTH

(13/16 [21 mm])
SPACING GAP

UPLIFT™

ProFloat provides critical information relating to the repairs or modifications undertaken. These aspects are critical to compliance with future regulation:



Readiness reporting:

This specialized reporting process gives Drilling Contractors insights into the depth readiness of their riser string's buoyancy, by detailing the number of elements requiring repair to fulfil contractual depth obligations.



Repair Reports:

Following repair, we provide detailed overview of the work scope conducted per buoyancy element, together with traceability management and COS.



Uplift Reports:

We provide detailed uplift reporting indicating weight, volume and expected uplift per buoyancy element following repair. This serves in calculating riser string hook loads – an important consideration during ambitious well depths.



UPLIFT™

Lifecycle Management for Buoyancy

1. DIMENSIONS IN INCHES TAKE PRECEDENCE OVER DIMENSIONS IN MILLIMETERS. DIMENSIONS IN MILLIMETERS ARE FOR REFERENCE ONLY AND ARE ROUNDED TO AN ACCURACY OF ONE MILLIMETER.

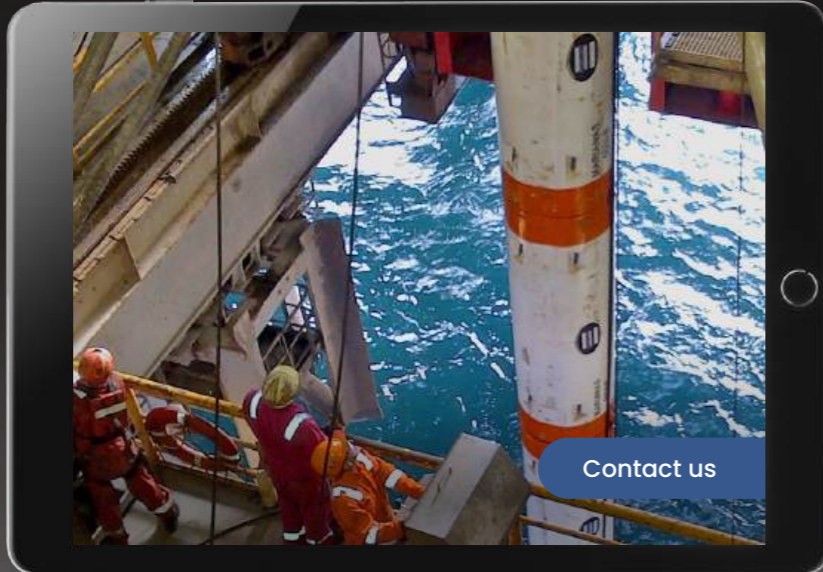
Welcome to UPLIFT

2. DIMENSIONS IN INCHES TAKE PRECEDENCE OVER DIMENSIONS IN MILLIMETERS. DIMENSIONS IN MILLIMETERS ARE FOR REFERENCE ONLY AND ARE ROUNDED TO AN ACCURACY OF ONE MILLIMETER.

3. ALL FASTENERS TO BE TORQUED TO

4. ALL FASTENERS TO BE LUBRICATED WITH MOLYKOTE D PASTE.

UPLIFT™
Lifecycle Management for Buoyancy



Drilling Contractor Name
Semi-Sub or Drillship Name
Uplift Report (Example)

Document No.	PRO-QC-085
Project	Drill Riser Buoyancy Repair
Customer	Drilling Contractor
Vessel	Your Rig
Location	Luanda, Angola

Version History	
1	Nevelle Wolmarans October 25, 2024
2	Adam van der Walt October 31, 2024


UPLIFT REPORT


Doc. No. PRO-QC-085 Rev. No. 2

1. Introduction

The customer has not provided a description of the subject rig or well, but will carry out a range of repairs. To accommodate the additional auxiliary line, the customer requires the modification of 36 existing buoyancy elements, which Profloat has completed, in conjunction with Deepwater Riser Services. The purpose of this report is to present the uplift data for the modified buoyancy elements.

2. Scope of Repair and Replacement

The following table indicates the details to be used for an element to fall into a Category 1 - Category 3 repair. The definitions below are extracted from the latest API RP 2A-2W Standard for Repair and Replacement of Marine Drilling Riser Equipment.



Category	Criteria
Category 1	Element exhibits damage to the exterior skin, covering no more than 20% of the outside area and with no damage to the underlying buoyancy material.
Category 2	Element exhibits damage to the exterior skin, and underlying buoyancy material with a damage depth of no more than 10mm and a surface area of no more than 0.10m ² .
Category 3	Element exhibits damage to the exterior skin, and underlying buoyancy material of a larger volume than a Category 2, without damage to the structural integrity of the buoyancy material. Category 3 repairs require the inclusion of future operational stress in the repair material.
Category 4	Element exhibits damage to the exterior skin, and underlying buoyancy material, with damage to the structural integrity of the buoyancy material. Category 4 repairs require the inclusion of structural support members in the repair material or parent material.
Category 5	Element exhibits damage to the exterior skin, and underlying buoyancy material and such that the buoyancy of multiple large elements greater than the repair class size defined in Category 4.

3. Customer Requirement Modification

The modifications involved an internal modification of 3 elements, followed by full scale static testing. The initial set of 3 elements were modified using 2 different and existing methods, with each being more workshopped from the last. Following modification of the 3rd element, an static stack testing was then conducted to measure the lift on the element with the least reinforcing members. It was observed that should the element not have passed the stack-testing, then the second of the three elements would be tested, and so on, until that method when passed static testing would be employed for the modification of the entire batch of 36.

As indicated in the Stack Test Report, the first element failed passed the test successfully, with no indication of near future. Accordingly, this method of modification was employed for the entire batch of 36 elements. Following the test period and stack testing, the modifications proceeded to the remainder of the batch. The modifications took place between August 2023 and January 2024, and followed the order in which the repair jobs were reported to be performed and tested out. Refer to Figure 1.1.2 showing completely modified elements being referred to as new job.

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UPLIFT REPORT



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4. Summary of Findings

Full findings are contained in related Inspection Report. The summary of findings are as follows:

Category	Minor	Major	Minor	Major
No.	Nil	Nil	Nil	Nil
Total	0	0	0	0

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UPLIFT REPORT


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5. Overview of Repair Process

The customer is going to modify 36 existing buoyancy to accommodate the additional 7" auxiliary line. The customer requires the modification of 36 existing buoyancy to accommodate the additional 7" auxiliary line. The customer requires buoyancy elements manufactured to accommodate a 6.5" auxiliary line has been provided.

The modifications involved an internal modification of 3 elements, followed by full scale static testing. The initial set of 3 elements were modified using 2 different and existing methods, with each being more workshopped from the last. Following modification of the 3rd element, an static stack testing was then conducted to measure the lift on the element with the least reinforcing members. It was observed that should the element not have passed the stack-testing, then the second of the three elements would be tested, and so on, until that method when passed static testing would be employed for the modification of the entire batch of 36.

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UPLIFT REPORT


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6. Calculation of Uplift

Although API RP 2A-2W is used and not yet in force, it provides helpful guidance on the method for calculating uplift using the weight of a repaired module. Section 15.2.2 Weight and Uplift Calculation, has specific reference, which states:



"For lift or a module shall be the lift provided by the repair calculated using the measured weight of the module and steel, the water weight of the attachment hardware, the original module volume of approximately atmospheric pressure, and the density of seawater with a specific gravity of 1.025. The repair facility shall document the details of the calculation method and data used for the lift calculation. Data if original manufacturer based module documentation is available, original module volume to lift equal uplift value can be provided if the equipment owner wishes a close repeat buoyancy calculation that is performed on the module."

Reaction to the above, we determined the lift of the modified buoyancy elements using the following formula:

Following modification, an selected batch of 12 elements out of the total batch of 36 (33.3%) the sample consisted of the lift ranges for which modifications were performed. Only 10,000 T elements were not a part of the batch. Each element in the sample was weighed using a calibrated Dynamometer Load Cell under no tension "N". Calibration Certificate issued on one end and an overhead crane or hoist and on the other end of the sling holding the buoyancy element. Refer to figures 2.4 & 4 below.

Note that the report only comments on the uplift values of the buoyancy elements, and does not account for auxiliary lines such as attachment hardware (pressure suits and wires).

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UPLIFT REPORT


Doc. No. PRO-QC-085 Rev. No. 2

7. Summary of Calculations

Starting volume / element	Flow	Orange	Red	Green
Volume (m ³)	27.0	27.0	27.0	27.0
Weight (kg) / element	27000	30000	34000	38000
Volume (m ³) / element	27.0	27.0	27.0	27.0
Uplift (kg)	800	800	800	800

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UPLIFT REPORT


Doc. No. PRO-QC-085 Rev. No. 2

8. Summary of Calculations

Flow	Orange	Red	Green	
Weight (kg) / element	27000	30000	34000	38000
Volume (m ³) / element	27.0	27.0	27.0	27.0
Uplift (kg)	800	800	800	800

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

UPLIFT REPORT


Doc. No. PRO-QC-085 Rev. No. 2

9. Summary of Calculations

Flow	Orange	Red	Green	
Weight (kg) / element	27000	30000	34000	38000
Volume (m ³) / element	27.0	27.0	27.0	27.0
Uplift (kg)	800	800	800	800

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UPLIFT REPORT


Doc. No. PRO-QC-085

Project: Drill Riser Buoyancy Repair

Customer: Drilling Contractor



Vessel: Your Rig

Location: Luanda, Angola

Version History

1	Nevelle Wolmarans	October 25, 2024
2	Adam van der Walt	October 31, 2024

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UPLIFT REPORT


Doc. No. PRO-QC-085 Rev. No. 2

4. Categories of Damage and Repair

The below table indicates the criteria to be used for an element to fall into a Category 1 - Category 3 repair. The definitions below are extracted from the latest API RP 2A-2W Standard for Repair and Replacement of Marine Drilling Riser Equipment.



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As indicated in the Stack Test Report, the first element failed passed the test successfully, with no indication of near future. Accordingly, this method of modification was employed for the entire batch of 36 elements. Following the test period and stack testing, the modifications proceeded to the remainder of the batch. The modifications took place between August 2023 and January 2024, and followed the order in which the repair jobs were reported to be performed and tested out. Refer to Figure 1.1.2 showing completely modified elements being referred to as new job.

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UPLIFT REPORT




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6. Overview of Modification Process

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UPLIFT REPORT


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7. Summary of Calculations

Flow	Orange	Red	Green	
Weight (kg) / element	27000	30000	34000	38000
Volume (m ³) / element	27.0	27.0	27.0	27.0
Uplift (kg)	800	800	800	800

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UPLIFT REPORT


Doc. No. PRO-QC-085 Rev. No. 2

8. Summary of Calculations

Flow	Orange	Red	Green	
Weight (kg) / element	27000	30000	34000	38000
Volume (m ³) / element	27.0	27.0	27.0	27.0
Uplift (kg)	800	800	800	800

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UPLIFT REPORT


Doc. No. PRO-QC-085 Rev. No. 2

9. Summary of Calculations

Flow	Orange	Red	Green	
Weight (kg) / element	27000	30000	34000	38000
Volume (m ³) / element	27.0	27.0	27.0	27.0
Uplift (kg)	800	800	800	800

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UPLIFT REPORT


Doc. No. PRO-QC-085 Rev. No. 2

10. Summary of Calculations

Flow	Orange	Red	Green	
Weight (kg) / element	27000	30000	34000	38000
Volume (m ³) / element	27.0	27.0	27.0	27.0
Uplift (kg)	800	800	800	800

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UPLIFT REPORT


Doc. No. PRO-QC-085 Rev. No. 2

11. Summary of Calculations

Flow	Orange	Red	Green	
Weight (kg) / element	27000	30000	34000	38000
Volume (m ³) / element	27.0	27.0	27.0	27.0
Uplift (kg)	800	800	800	800

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**ProFloat delivers industry-leading buoyancy support services
at a multitude of locations worldwide.**



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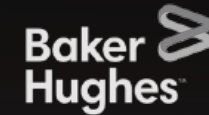
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Email: info@profloat.com
Website: www.profloat.com

Reg Nr: 2012/195682/07



(2 3/16 [56 mm])
MAX LINES
CUTOUT DEPTH
(3 3/16 [89 mm])
MAX LINES CUTOUT
DISTANCE TO TOP PROFILE
(R18 [457 mm])

SATISFIED CUSTOMERS



Email: info@profloat.com | Website: www.profloat.com