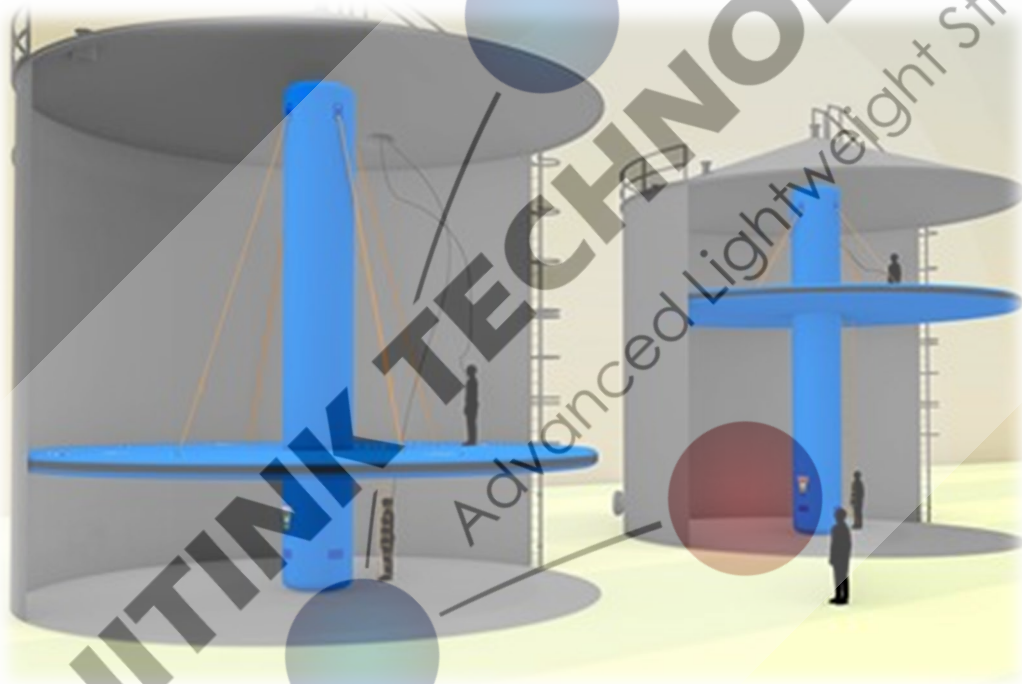


**BUITINK TECHNOLOGY**

Advanced Lightweight Structures



## Inflatable Work Platform

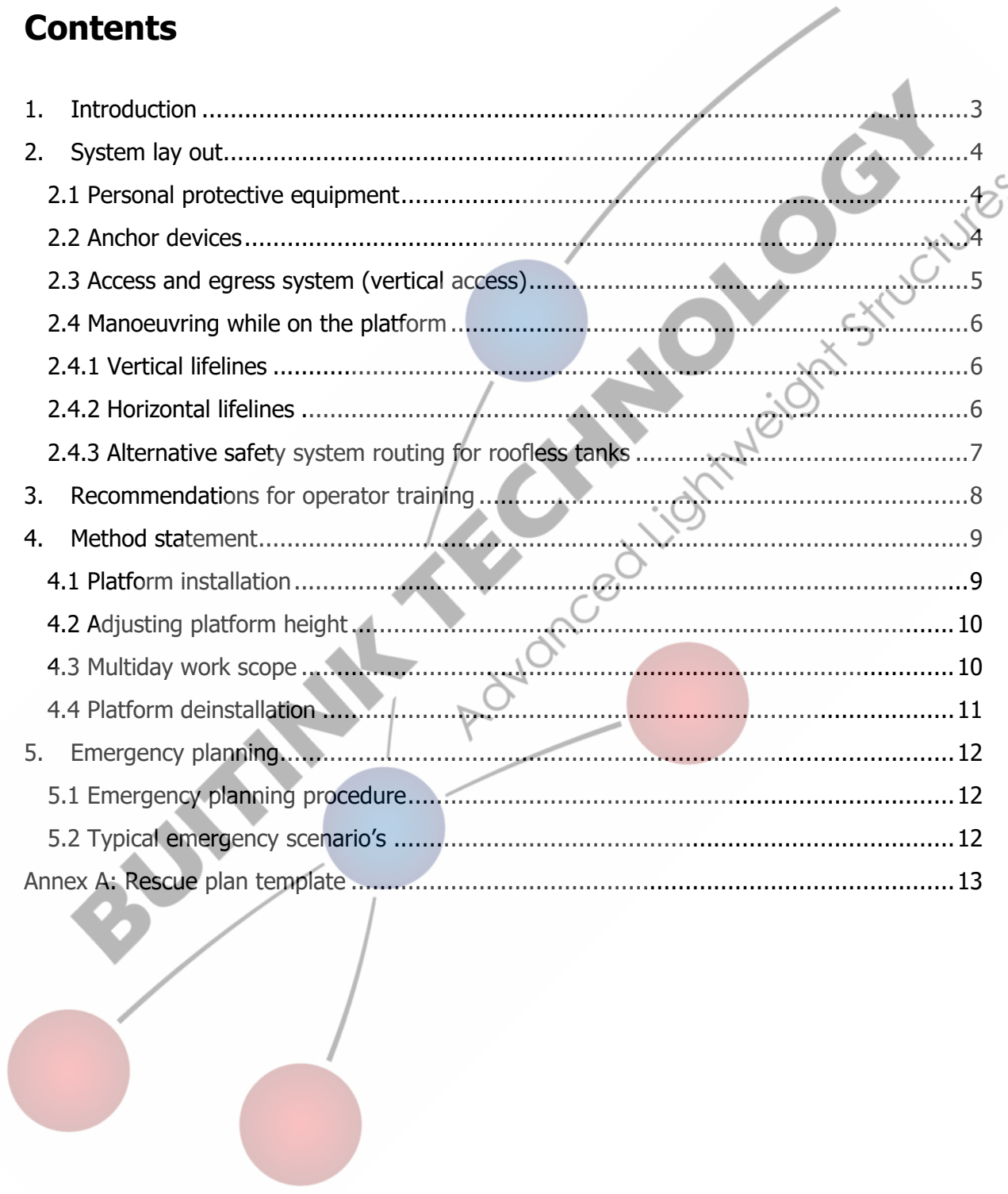
Work Plan/Method Statement

Written by:

**safety pro**

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## 1. Introduction

This work plan or method statement describe the requirements for safe installation, access and use the inflatable work platform designed by Buitink Technology.

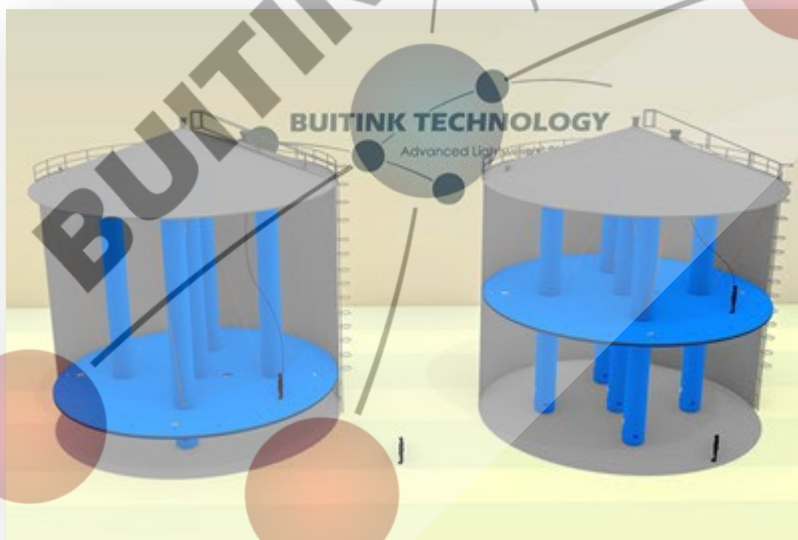
The inflatable work platform is an innovative and flexible access concept for execution of complex and intensive maintenance and repair scopes in silos, tanks and any other cylindrical space.

Use of the work platform should be seen as an advanced work at height operation which is only to be performed by suitably experienced and trained operators who are both physically and mentally fit and have a head for heights.

This method statement shall only be used in conjunction with product specific training on the safe use of the inflatable work platform, standard work and rescue at height safe practices and a job/site specific assessment.

These documents should be considered as guidance and is no substitute for a site/job specific risk assessment and or work plan/method statement to define site specific risks, safety and other issues and mitigating measures.

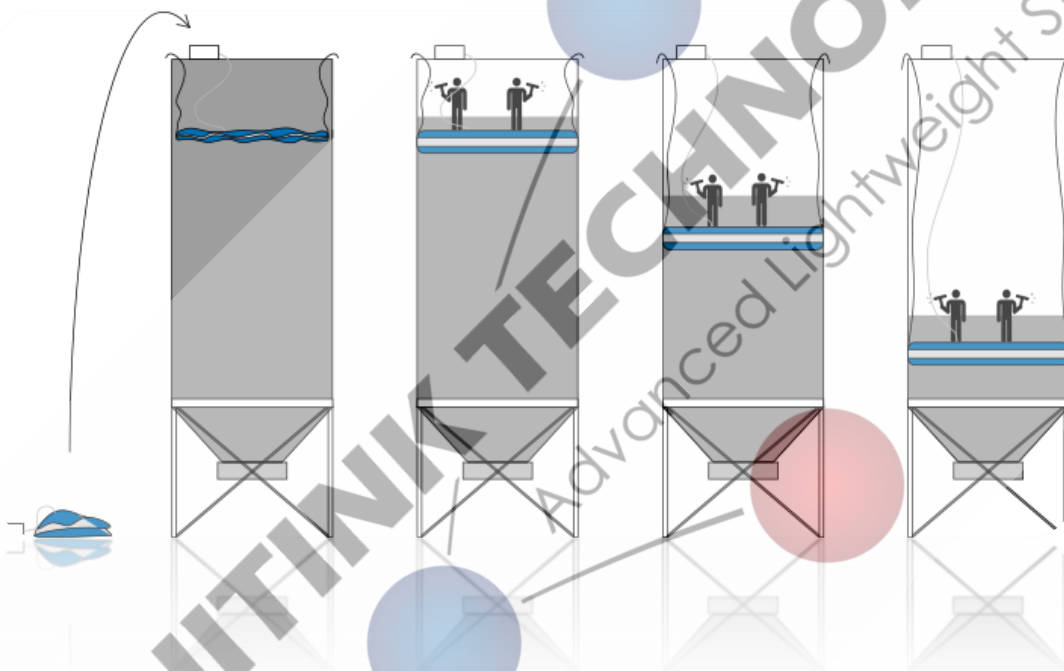
This document is to be read in conjunction with:  
RA-Buitink\_Technology-Inflatable\_work\_platform-2023.V1.0



## 2. System lay out

The Buitink technology inflatable work platform is a versatile work platform which can be positioned at any required height by friction to the tank walls. For larger diameter tanks the platform will be supported by inflatable supporting "poles". Although platform failure is highly unlikely personnel working from the platform should be attached to a separate, redundant safety system at all times. The safety system should always be independently attached from the work platform so that any platform issues won't compromise the safety system.

Safety systems can be "of-the-shelf" or self constructed from different suitable components when this is desired or demanded by a more complex layout of the workspace. When rope access based systems are used it is strongly recommended to work according to IRATA International standards.



### 2.1 Personal protective equipment

Required minimum personal protective equipment (PPE) for operators working from the platform;

#### Item:

Work at height helmet  
Work at height (fall arrest) arness

#### Suitable standard:

EN12492  
EN361

### 2.2 Anchor devices

Anchor devices used to attach the safety system shall meet the requirements of EN795 and have a minimum breaking strength of 12kN.

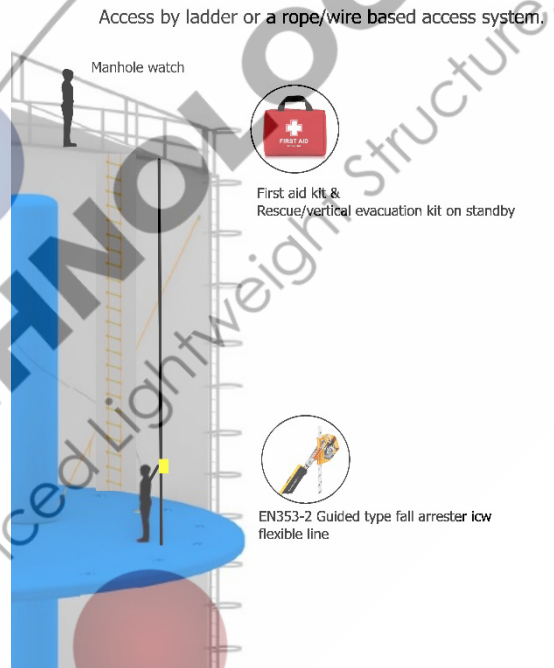
## 2.3 Access and egress system (vertical access)

Access and egress to the platform shall be by a suitable method that allows easy access to the work platform and has enough capacity to efficiently evacuate all personnel in case of an emergency. If direct access to the platform is not possible it is highly recommended to use a system where operators are secured against a fall at all times during access/egress.

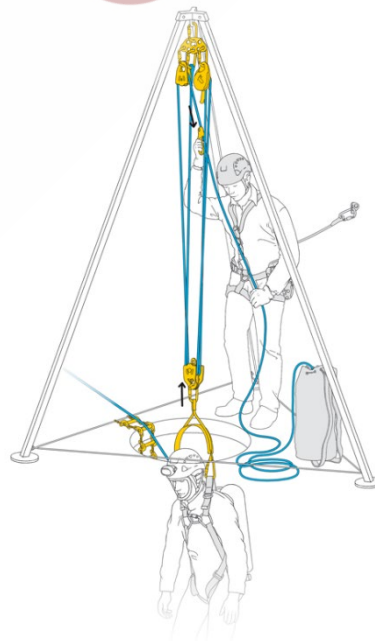
Examples of suitable access methods;

- A) Access ladder in combination with a separate fall arrest line.
- B) A rope access based lowering/climbing/hauling system.
- C) Confined space access winch.

Next to the access of operators a separate means for safe transportation of tools and equipment to the work platform will have to be established.



Rope access based lowering/hauling system in combination with a tripod anchor device.



## 2.4 Manoeuvring while on the platform

Operators working from the work platform shall be attached to the safety system at all times. Key features of the safety system;

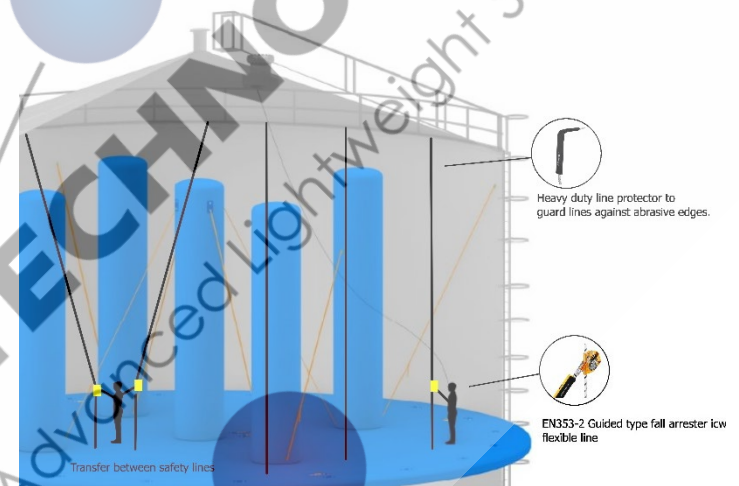
- A) Operators shall be able to manoeuvre freely around the platform.
- B) All required work areas shall be covered by the safety system.
- C) Platform failure shall not affect the working of the safety system.
- D) Safety system has enough capacity for the required amount of operators working simultaneously from the platform.

Different methods are acceptable;

### 2.4.1 Vertical lifelines

Operators are attached to their nearest lifeline with a suitable fall arrest device. Lifelines are attached to anchor points in or outside of the tank. Anchor devices will meet the requirement of EN795 and anchor points will have a minimum breaking strength of 12kN.

Lifeline system will meet the requirements of EN353-2, EN12841 (A) or an other suitable standard.

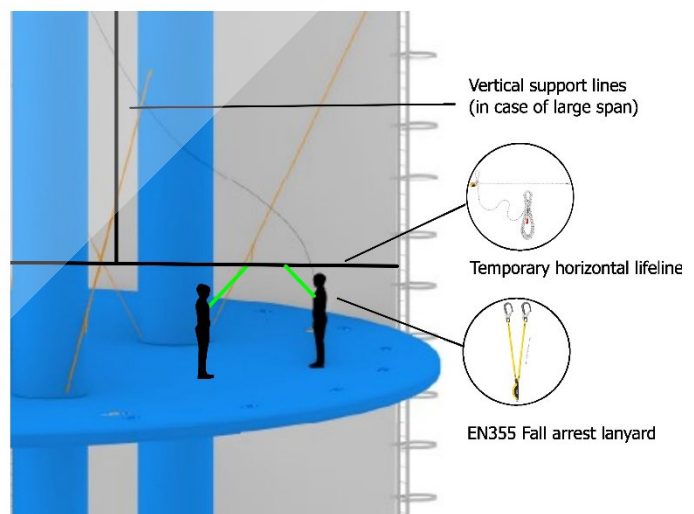


### 2.4.2 Horizontal lifelines

Operators are attached to horizontal lifelines which allow for horizontal movement.

Lifelines are attached to the tank wall and/or roof. Lifelines will typically meet the requirements of EN795. Depending on the required span and type of lifeline used vertical support lines might be required.

Lanyards used by operators will meet the requirements of EN355 or an other suitable standard.

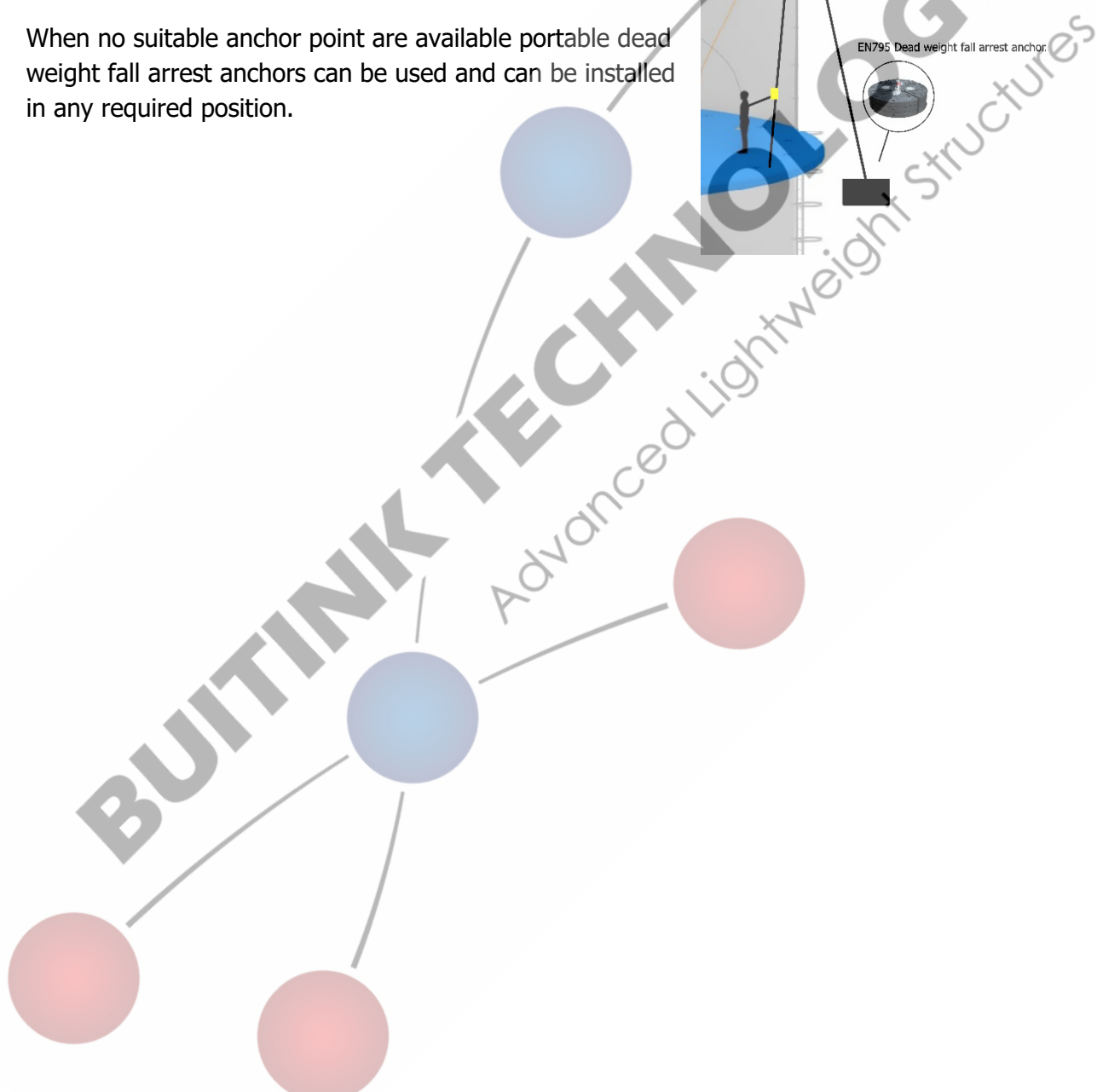
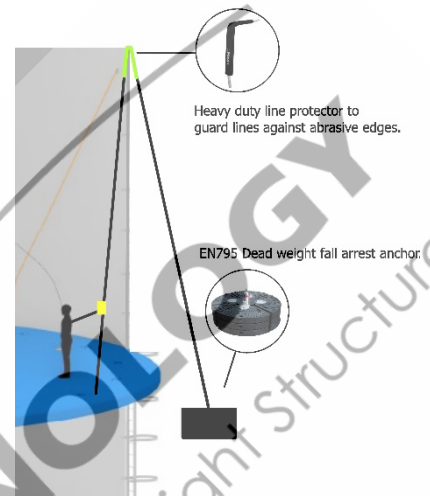


Anchor devices will meet the requirement of EN795 and anchor points will have a minimum breaking strength of 12kN.

### 2.4.3 Alternative safety system routing for roofless tanks

For tanks that are in the process of being build or don't have a suitable roof for anchoring, the vertical lifelines can be anchored outside of the tank to suitable anchor points (see 2.4.1 for guidance for anchor devices).

When no suitable anchor point are available portable dead weight fall arrest anchors can be used and can be installed in any required position.



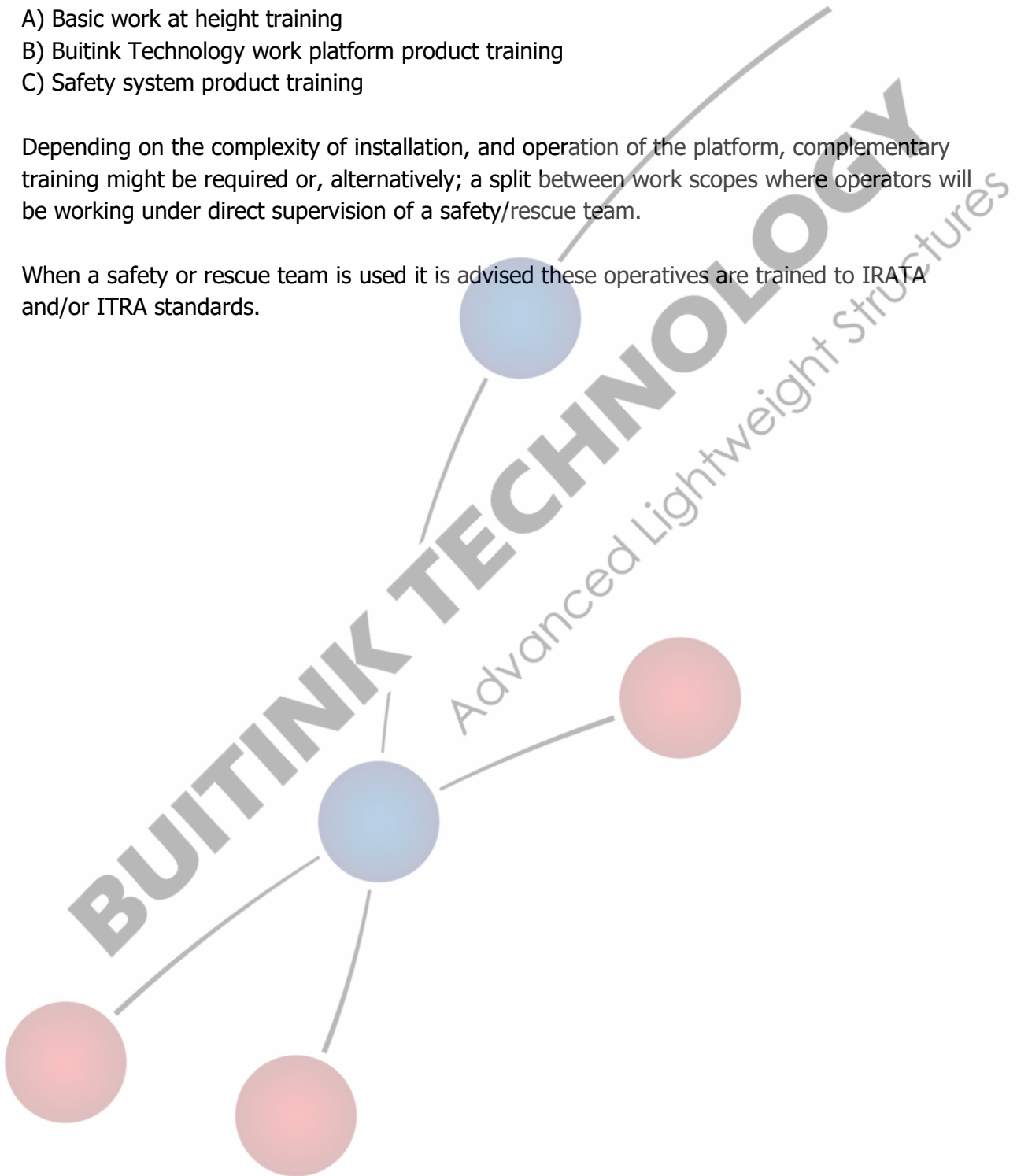
### 3. Recommendations for operator training

All operators working on/with the work platform shall have the following minimum training;

- A) Basic work at height training
- B) Buitink Technology work platform product training
- C) Safety system product training



Depending on the complexity of installation, and operation of the platform, complementary training might be required or, alternatively; a split between work scopes where operators will be working under direct supervision of a safety/rescue team.

When a safety or rescue team is used it is advised these operatives are trained to IRATA and/or ITRA standards.



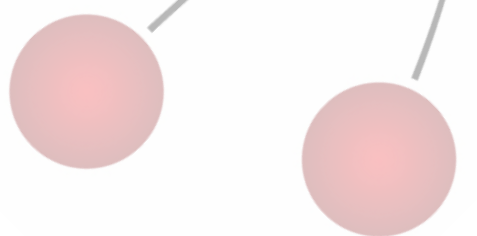


## 4. Method statement

4.1 Platform installation	
4.1.1	The work area shall be emptied, cleaned and rinsed and be free of any substances hazardous to health.
4.1.2	<p><b>Hold point</b></p> <p>The atmosphere shall be checked for substances hazardous to health, oxygen levels and explosive atmospheres (EX/OX/TOX).</p> 
4.1.3	Installation of the access and rescue/vertical evacuation system (if required).
4.1.4	Access the work area.
4.1.5	Transportation of the work platform.
4.1.6	<p>Installation/positioning of the platform.</p> 
4.1.7	Inflation of the platform.

		
4.1.8	<p><b>Hold point</b> Safety check on the correct installation of the platform.</p>  	
4.1.9	Install safety system.	
4.1.10	Start of work scopes.	
4.1.11	Respect the platforms maximum loading capacity. No storage of equipment on the platform!	
<b>4.2 Adjusting platform height</b>		
4.2.1	(Partially) deflate platform.	
4.2.2	Manoeuvre the platform to the new height.	
4.2.3	Adjust safety system if required.	
4.2.4	<p><b>Hold point</b> Safety check on the correct installation of the platform.</p>	
4.2.5	Start of work scopes.	
<b>4.3 Multiday work scope</b>		
4.3.1	<p><b>Hold point</b> The atmosphere shall be checked for substances hazardous to health, oxygen levels and explosive atmospheres (EX/OX/TOX).</p>	

	
4.3.2	<p><b>Hold point</b> Safety check on the correct installation of the platform.</p>
4.3.3	<p>Start of work scopes.</p>
<p><b>4.4 Platform deinstallation</b></p>	
4.4.1	<p>Empty platform of tools, equipment etc.</p>
4.4.2	<p>Deflate and lower platform.</p>
4.4.3	
4.4.4	<p><b>Hold point</b> Final check of the work area.</p>



## 5. Emergency planning

### 5.1 Emergency planning procedure

- A) Identify emergency and rescue scenario('s)
- B) Define suitable evacuation/rescue method(s)
- C) Define required equipment
- D) Define required team size and competence
- E) Define communication methods
- E) Define training/practice requirements

### 5.2 Typical emergency scenario's

#### A) External safety issue (example given: fire, power failure)

- Stop all work and evacuate the platform.

#### B) Medical issue

- Stop all work
- Treat and stabilise the injured person (IP).
- Assess injuries;
  - 1) Minor injuries: Self evacuate the injured person.
  - 2) Major/extensive injuries: Stabilise the injured person and alarm emergency services.

#### C) Platform issue

- Stop all work and evacuate the platform.

#### D) Fall of a operator

- Stop all work. Rescue the operator and evacuate him to a place of safety.

## Annex A: Rescue plan template

### Rescue

<input type="checkbox"/>	Hauling system	<input type="checkbox"/>	Upwards rescue (hauling)	<input type="checkbox"/>	Practice (dry)run required
<input type="checkbox"/>	Rescue winch	<input type="checkbox"/>	Small entrance hatch (<800mm)	<input type="checkbox"/>	Obstacle (re anchor/ deviation/rope change)
<input type="checkbox"/>	CRD (Milan)	<input type="checkbox"/>	Confined space	<input type="checkbox"/>	Rescue team on standby

### Rescue Equipment

<input type="checkbox"/>	minimum team size x persons	<input type="checkbox"/>	Rescue bag
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### Rescue Plan:

1)

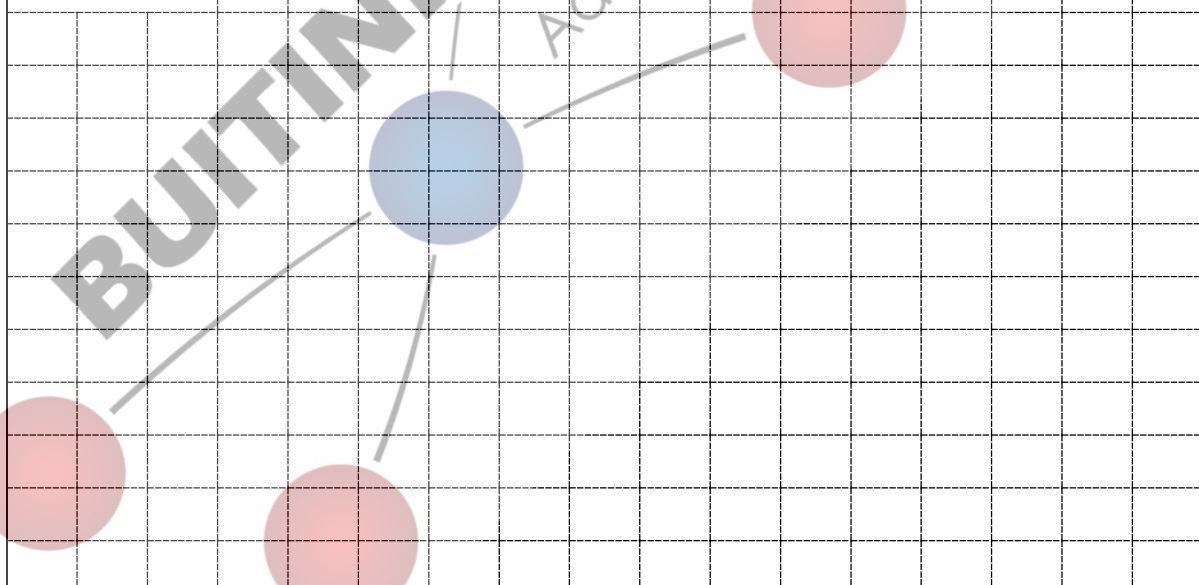
2)

3)

### Rescue Equipment:

### Communication:

### Sketch:



- |                        |                              |                     |                      |
|------------------------|------------------------------|---------------------|----------------------|
| 1) Hauling system (φ)  | 3) Direction of rescue (↑→↓) | 5) Anchor point (o) | 7) Safe Location (L) |
| 2) Lowering system (Q) | 4) Victim (X)                | 6) Rope(s) (ll)     | 8) Rescue bag (U)    |



# Risk Assessment



Version 2023.V1.0

Site / project name: Buitink Technology Inflatable working platform	Date: 07-06-2023
Organisation details: Buitink Technology, Typograaf 1, 6921VB, Duiven	Height: Not limited.
Details of work scope: Installation and use of the Buitink Technology inflatable work platform.	Duration of works: To be decided. Not limited.
Description of key risks: confined space entry, working at height, difficult access/egress, rescue from height, emergency first aid.	

Activity	Potential hazards	Initial Risk Low/Med/High	Persons -Property Affected	Control measures	Risk level with control measures	Acceptable Yes / No
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**General:**

Use of the work platform inside a confined space.	An hazardous atmosphere can exist, or be created, inside the confined space.	High	Persons working inside the confined space.	Atmosphere of the confined space to be sampled before first entry and monitored during the works according to site procedures.	Medium	Yes
	Poor communication with persons working inside the confined space.	High	Persons working inside the confined space.	Communication measures to be taken. Eg. alarm signal and/or watchman.	Low	Yes
Working inside a confined space.	Limited visibility due to darkness.	Medium	All personnel working from the work platform.	Central lighting system to be installed.	Low	Yes
	Failure of the primary light system.	Medium	All personnel working from the work platform.	All personnel to be equipped with personal	Low	Yes
Use of electrical tools & work equipment inside a confined space.	Electrocution.	High	All personnel working from the work platform.	Measures to be taken to mitigate the risk of electrocution (e.g.: use of pneumatic or battery driven equipment).	Low	Yes
Use of an inflatable platform for work support.	Failure of the platform or platform malfunction.	High	All personnel working from the work platform.	All personnel working from the platform will always be attached to a redundantly attached safety system so failure of the platform will not result in a fall.	Low	Yes
Working in a remote location.	Difficult assistance in case of emergencies.	High	All personnel working from the work platform.	A (minimum of) one first aid trained person will be part of the working team.  An first aid kit will be available on site.  A site specific rescue plan for evacuation of an injured person to the outside of the confined space will be defined before start of the work.	Low	Yes

**Installation of the work platform:**

Installing the platform.	Errors during installation of the work platform.	High	All personnel working from the work platform.	Personnel has been instructed in installation of the work platform.	Low	Yes
				Final check to be done on keys points before release of the platform for execution of the planned work scopes.	Low	Yes

**Use of the work platform:**

Use of the platform to support personnel and equipment.	Overloading of the platform.	High	All personnel working from the work platform.	Predefined maximum loading capacity to be respected.  No excessive storage/build up of materials/equipment to be allowed.	Low	Yes
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Leaving the platform for breaks/overnight.	(External) influences that affect the safe working of the platform (e.g.: leakage).	High	All personnel working from the work platform.	Operational inspection of the platform to be done before restarting the work scopes.	Low	Yes
Access and egress of the platform.	Obstruction of the access/egress route(s).	Medium	All personnel working from the work platform.	Access and egress are to be kept free at all times.	Low	Yes
Height differences during access and egress of the platform.	Falls from height.	Medium	All personnel working from the work platform.	Personnel will be secured during vertical access (e.g.: use of fall block, rope access etc.)	Low	Yes
<b>Working at height:</b>						
Working at height.	Falls from height.	High	All personnel working from the work platform.	All personnel working from the platform is trained and experienced in work at height.	Low	Yes
	Falls from height due to platform malfunction.	High	All personnel working from the work platform.	All personnel working from the platform will always be attached to a redundantly attached safety system so failure of the platform will not result in a fall.	Low	Yes
Anchoring the safety system.	Failure of anchor points.	High	All personnel working from the work platform.	Anchor points will be selected by team supervisor.  Anchor points to be able to withstand a minimum breaking strength of 15kN.	Low	Yes
Use of the safety system.	Overloading of the safety system.	High	All personnel working from the work platform.	Maximum number of simultaneous users on the safety will be predefined and adhered to.	Low	Yes
Use of work at height equipment (harness, helmet, lanyard, safety system).	Malfunction of the equipment.	High	All personnel working from the work platform.	All work at height equipment will meet relevant (EN) standards.  All equipment will periodically be inspected by a competent person.  All work at height equipment will receive a pre	Low	Yes
<b>Emergency and/or contingency planning:</b>						
Use of the platform.	External issue during use of the platform.	High	All personnel working from the work platform.	Evacuation of personnel by the predefined access/egress routes.	Low	Yes
Use of the platform.	Medical issue during use of the platform.	High	All personnel working from the work platform.	Treatment of the injured person by the teams first aider and stabilization of the injured person for medevac by emergency	Low	Yes
Use of the platform.	The platform structure is compromised (e.g.: leak, slippage etc.)	High	All personnel working from the work platform.	Personnel is always attached to the secondarily attached safety system.	Low	Yes
Use of the platform.	Fire on the platform.	High	All personnel working from the work platform.	The platform itself is made of inflammable material. No storage/build up of flammable material to be allowed inside the confined space. Fire extinguisher available on the platform.	Low	Yes
<b>General Comments:</b> This form is to be used in conjunction with Also relevant:						