

2024

# Inspection of Automatic Sprinkler System

**ASIB**



## Inspection of Automatic Sprinkler System

AW4 Molan Pino East London Industrial Development Zone

Complete

### Client/Site Name

AW4 Molan Pino East London Industrial Development Zone

### Billing Address

East London Industrial Development Zone SOC Ltd P O Box 5458  
GREENFIELDS  
5208

### Attention:

Mteteleli Zantsi  
Camagwini Ngxokolo-Nomatye

### Document No

UNC8473

### Prepared by

Keith van Onselen

### Conducted on

09.05.2024 08:00 SAST

### Site Location

Ikhala Road  
East London  
EC  
5201  
South Africa

## Disclaimer

We have pleasure in attaching our inspector's report.

Whilst every care is taken in the preparation of the report which describes the conditions as found, such report is not a guarantee carrying responsibility for results and neither this Company nor any of its employees or agents shall be liable for any loss or damage of whatsoever nature and howsoever caused, (whether by actual or alleged negligence or otherwise), in any way arising out of the acts or omissions of the Company and/or its employees or agents aforesaid.

The report is based upon the visual inspection of the external condition of the equipment where accessible without having to provide scaffolding, ladders, staging, lighting and not requiring the removal or displacement of any temporary or permanent structure, fitting or fixture.

If there are any points arising on which you require clarification, kindly communicate with the undersigned. Assuring you of our best attention at all times.

### Confidentiality

In order to maintain the integrity and credibility of the inspection processes and to protect the parties involved, it is understood that the inspectors will not divulge to unauthorized persons any information obtained during this inspection unless legally obligated to do so.

Yours faithfully,

THE AUTOMATIC SPRINKLER INSPECTION BUREAU (PTY) LIMITED



Nico van Loggerenberg  
Managing Director

## 1. Report Summary

### THE AUTOMATIC SPRINKLER INSPECTION BUREAU (PTY) LIMITED



REGISTRATION NUMBER: 1970/010833/07

1407 IMBALI  
CNR LOUIS BOTHA AND  
TUDHOPE AVENUES  
BEREA  
JOHANNESBURG  
2198

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P O BOX 3139  
HOUGHTON  
2041

INDEPENDENT  
THIRD PARTY  
INSPECTION AND  
ADVISORY  
SERVICE SINCE  
1970

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#### Code

PC - Partial Protection, Clearance  
Certificate not Issued

Partial clearance certificate withheld due to the following:

#### Storage - See Report



#### Sprinkler System - Excessive Fault



This in relation to the ESFR protection installed for this facility

#### Standard

10th Edition

11th Edition

#### ASIB Contract No

UNC8473

#### Client Order No

PO-004203

#### Was the sprinkler system design in order

No

It must be noted that the ESFR sprinklers installed in this facility are not correct for the storage of expanded plastics.

#### Was the water supplies in order

No

Refer to report UNC.9478 conducted on 08/05/2024

#### Was the pump room in order

No

Refer to report UNC.9478 conducted on 08/05/2024

#### Was the installation control valves in order

Yes

Refer to Installation Control Valves - Section 7.

**Was the storage in order**

No

- Refer to Storage - Section 8.
  - Refer to Sprinkler System - Section 9 - Area 1 - Issue 4.
- The shelve storage in this facility is not permitted under the ESFR protection installed.

2. Hand Fire Appliances

Hand Fire Appliances - One unit per 100 m<sup>2</sup> of floor area.

Hand fire appliances date of the last service:

05/2023

Are the hand fire appliances due for their service.

No



Photo 1

Clear access to the hand fire appliances must be maintained at all times.

### 3. Occupancy & Storage Guidance

Percentage Hazard.

**% Ordinary Hazard**

10  
From 0 to 100

**% High Hazard**

90  
From 0 to 100

Stack height signs not less than 500 mm by 500 mm in size must be prominently displayed at the maximum level of the allowable storage height in all storage and process risk areas.

Occupancy / Process Risk

Occupancy/Risk

Occupancy/Risk 1

► **Ordinary Hazard / High Hazard**

High Hazard

► **Select Occupancy / Process Risk**

Process Risk

Storage Risk

#### **Specify Process**

Moulding of Expanded Polypropylene Products

**Category**

CAT III

**Design Density (mm/min)**

ESFR

Where goods of differing categories are stored within the same area, it is the stack height limitations of the goods with the highest category that will apply.

► **Product Stored**

Expanded Polypropylene Products  
Production Moulds

**Category**

CAT III

Storage

Method

Method 1

<b>Storage Method</b>	Free Standing / Block Storage
<b>Design Density (mm)</b>	ESFR
<b>ESFR K-Factor</b>	
36	
As taken from previous report	
<b>Roof Height (m)</b>	12,5
<b>Storage Height (m)</b>	
10,6	
As taken from previous report. The table show's maximum height to be 7,5m	
Method 2	
<b>Storage Method</b>	Shelving
<b>Design Density (mm)</b>	ESFR
<b>ESFR K-Factor</b>	
36	
As taken from previous report	
<b>Roof Height (m)</b>	12,5
<b>Storage Height (m)</b>	
7,6	
As taken from previous report. The table show's maximum height to be 7,5m	



4. Sprinkler System Design

Building

Building 1

Building Name

AW4 Molan Pino East London Industrial Development Zone

Date of First Inspection

Unknown

Original Installer

Unknown

Extension By

Unknown

Building Area m<sup>2</sup>

1970

Height of Building in meters

12,5

Sprinkler Detail

Area

Area 1

► Area & Type of Sprinklers

Roof Sprinklers

Ceiling Sprinklers

Canopy Sprinklers

Number of Sprinklers

Approximately 350

Calculations

Hydraulic Calculations

Area of Operation

Area of Operation 1

► Area of Operation	Pump Duty
<b>Flows &amp; Pressures</b> 7500 l/min @ 960 kPa	
Area of Operation 2	
► Area of Operation	Roof Most Remote Area of Operation
<b>Flows &amp; Pressures</b> 7580 l/min @ 585 kPa	
Area of Operation 3	
► Area of Operation	Roof Most Favourable Area of Operation
<b>Flows &amp; Pressures</b> 7380 l/min @ 480 kPa	
Additional Sprinkler System Designs Required	No

5. Water Supplies

► Water Stored on Site.

Yes

Refer to report UNC.9478 conducted on 08/05/2024

Add Water Storage Tanks

6. Pump Room

Pump Installed on Site

Yes

Refer to report UNC.9478 conducted on 08/05/2024

Add Pump House

## 7. Installation Control Valve(s)

### 7.1 Sprinkler control valves accessible

Yes

Valve Cabinet

Valve Cabinet 1

#### Location:

South side of building



Photo 2

### Number of Alarm Valves Installed

1 x 200 mm

### 7.2 Sprinkler Valve Location Plate Installed

Yes

### 7.3 Fire Brigade Booster Pressure Limitation Plate

No

The fire brigade booster pressure limitation plate must be affixed to an external wall as close to the inlets as possible.

### 7.4 Block Plan Installed

Yes

#### 7.4.1 Is the block plan labelled in accordance with the areas fed by the sprinkler control valve assemblies

Yes

#### 7.4.2 Are the correct installation details recorded on the block plan

Yes



Photo 3

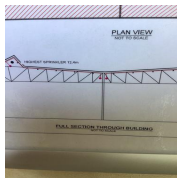


Photo 4



Photo 5

### 7.5 Sprinkler Valve Instruction Chart

Yes

### 7.6 Is a sprinkler spares box present

Yes

#### 7.6.1 Was the spares box contents accessible

Yes

#### 7.6.2 Are the spares quantities correct

Yes

<b>7.7 By Pass Arrangement Installed</b>	Yes
<b>7.8 Fire Brigade Booster Connections Installed Correctly and Accessible</b>	No

Installations must be fitted with fire brigade booster connections which will enable the fire brigade to pump water into the installation using their own equipment.

**It appears that the booster connection piping to the main distribution riser is too long, which may restrict the opening of the booster plunger into the main distribution riser, this will prevent effective boosting of the sprinkler system and must be revised.**

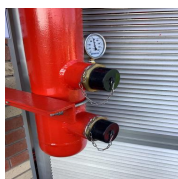


Photo 6

<b>7.9 Are the Installation Control Valves Housed within an Approved Valve Cabinet</b>	Yes
<b>Sprinkler protection is required within the valve cabinet</b>	<input checked="" type="checkbox"/>
<b>7.10 Flow Switch Installed Correctly</b>	Yes
<b>7.11 Manifold Correctly Supported</b>	Yes
<b>7.12 Riser Mains Correctly Supported</b>	Yes
<b>7.13 Riser Mains Externally Located</b>	No
<b>7.14 Flow Measuring Device Installed.</b>	Yes



Photo 7



Photo 8

<b>Flow Test Results</b>	Pass
<b>Recorded Flow and Pressure</b>	8000 l/min @ 900 kPa
<b>7.15 Correct Pressure Gauges Installed</b>	Yes
<b>7.16 Correct Gauge Cocks Installed</b>	Yes

### 7.17 Flanges Short Bolted

Yes



Photo 9

The bolts for these flanges must be removed and replaced with the correctly sized bolts so as to ensure that at least two full thread pitches past the chamfer protrude beyond the nut.

### 7.18 Loose / Missing Bolts, Nuts & Washers

No

### 7.19 False Alarm Prevention Pump Installed

N/A

### 7.20 Drain & Test Pipes Installed Correctly

Yes

7.21 Weekly tests of the installation control valves alarm bell must be carried out with the alarms sounding for at least thirty seconds.

All water pressure gauge readings must be checked and recorded.

The testing and records should be carried out by a member of staff delegated to do this.

### 7.22 Trunk Main Pressure (kPa)

780

### 7.23 Installation Pressure (kPa)

900

### 7.24 ASIB Overhaul Date Tag No

Yes

### Last Overhaul Date

2021

### Next Overhaul Date

2024

### 7.25 Alarm Motor & Gong Test

Passed

### 7.26 Are All Valves in the Correct Positions

Yes

### 7.27 Are All Valves Secured

Yes

Non Compliance - Items

Recommendation Items

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8. Storage

Are the required clearances being maintained.

Yes

Are the storage heights exceeded.

No

At the time of inspection the storage heights were being adhered to and found to be in order.

Shelves exceed 1,0 metre in width.



The shelves must be reduced to a maximum width of 1,0 metre or intermediate sprinkler protection will be mandatory at each shelf tier level.

Location:

Solid shelving is not permitted under ESFR Protection

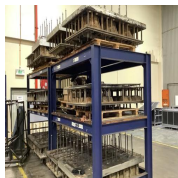


Photo 10



Photo 11

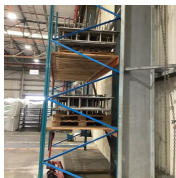


Photo 12

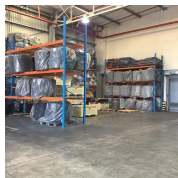


Photo 13

## 9. Sprinkler System

Sprinkler System

Area

Area 1

**Specified Area.**

Warehouse

System Issue

Issue

Issue 1

**Finding**

Other

**Specify Other.**



ESFR Mechanical Ventilation

Ventilation has been installed in conjunction with ESFR sprinkler protection.

It is important that the mechanical vents be manually operated and that the Fire Chief in charge of operations during a fire be able to make the decision whether it should be opened or remain closed.

The effect of the ventilators installed in the roof may be considered as open ventilation. Their effect on the operation of the installed ESFR installation would be unknown. In order to have the finding satisfied, the OEM would need to be contacted and asked to define the ventilators in respect of ESFR operation and confirm them as an acceptable roof ventilation service. Any Clearance ASIB awards the site would exclude the potential negative impact the ventilators may have on the protection installed.

**Location of Finding.**

Roof monitor

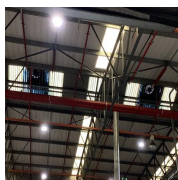


Photo 14

Issue 2

**Finding**

Other

**Specify Other.**



Maximum roof angle exceeded.  
The maximum roof angle of 9,5 degrees for effective ESFR protection appears to have been exceeded, this must be investigated and addressed by your installer.

Location of Finding.

Roof monitor

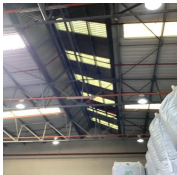


Photo 15

Issue 3

Finding	Other
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Specify Other.	<input checked="" type="checkbox"/>
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Combustible roof insulation or sheeting may not be used in conjunction with ESFR protection

ESFR sprinklers can only be located beneath non-combustible surfaces. Combustible translucent sheeting, may in the event of a fire negatively impact the operation of the ESFR installation. Heads or sheets would require to be relocated appropriately in order to satisfy this item.

Location of Finding.

Roof

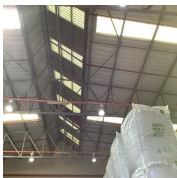


Photo 16

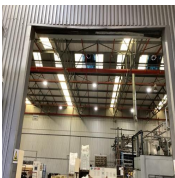


Photo 17

Issue 4

Finding	Exposure Hazards
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Storage too close to building.	<input checked="" type="checkbox"/>
--------------------------------	-------------------------------------

Drencher heads required which are purpose made sprinklers designed to spray water over a surface to provide protection against fire exposure. It is not acceptable to use standard sprinkler heads with the fusible elements removed for the purpose of providing wall or face wetting. The drencher system must extend along the walls of the protected building to a distance of 15.0 metres beyond each end of the stored goods. The feed for the drenchers must be taken from the underside of the valves and not from the downstream side of the installation. The stop valve controlling the drencher installation shall be located near to the sprinkler control valves, but must be at least 10,0 metres from the goods stored or from the area where they are expected to operate.



Photo 18



Photo 19



Photo 20

## Area 2

### Specified Area.

External Canopies

### System Issue

#### Issue

#### Issue 1

### Finding

Other

### Specify Other.



Corrosion is evident on the sprinkler pipe work and must be addressed by your installer.

### Location of Finding.

Canopies

### General Notes

No

## 10. Proof of Inspection

Proof of inspection.

For and on behalf of client:

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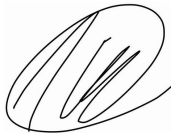
Camagwini Ngxokolo-Nomatye  
10.05.2024 13:58 SAST

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Proof of inspection.

ASIB Inspector:

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Keith van Onselen  
10.05.2024 13:59 SAST

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### WARNING

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The primary function of the ASIB is to protect the interests of the end user and as a result, we constantly update the list of registered suppliers and installing companies.

These companies have proven that they are capable of installing, extending and servicing fire sprinkler systems to the correct standards.

We have had occasion to remove companies for valid reasons which are not confidential and include, but are not limited to, poor workmanship, design, fabrication, incorrect advice, lack of skilled staff, fraudulent quotations and financial instability.

It is important to note that if a company is not listed with the ASIB and carries out work on a sprinkler system we will not be in a position to issue a Clearance Certificate for the premises which, in turn, may place you at risk.

In selecting your service provider, it is important to appreciate that the ASIB is not seeking to infer that a non-listed service provider is necessarily not capable of offering the required service to an appropriate standard. What the ASIB is saying, is that the ASIB is not in a position to give you the assurance that a non-listed provider concerned has demonstrated that it complies with the ASIB standards. In addition, because the ASIB is unable to fully inspect an installation (which by its nature has many inaccessible components), you will appreciate that the ASIB is also unfortunately not in a position to issue a Clearance Certificate in relation to an installation done by a non-listed company.

We advise you to check the listing status of the service provider you choose especially if there is any uncertainty.

You can access our website at <http://www.asib.co.za> which is current or phone our offices at 011 642 1703 for verification.

Email:

Email: 1

**Recipient**

Mteteleli@elidz.co.za

Email: 2

**Recipient**

camagwini@elidz.co.za

Media summary



Photo 1



Photo 2

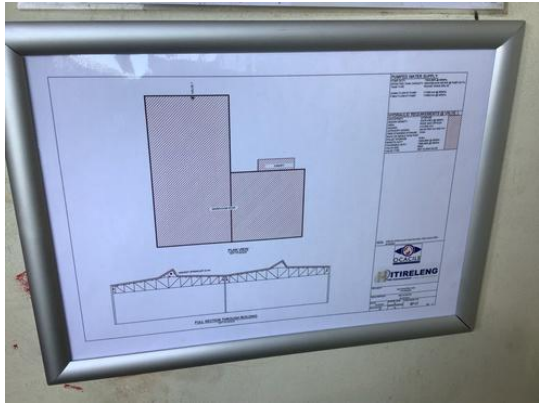


Photo 3



Photo 4



<b>PUMPED WATER SUPPLY:</b>	
PUMP DUTY:	7500L/MIN @ 960kPa
EFFECTIVE TANK CAPACITY:	650m <sup>3</sup> (86.6min WATER @ PUMP DUTY)
TANK TYPE:	ROUND TANKS 50% X2
Q MAX FLOW AT PUMP:	11700L/min @ 995kPa
P MAX FLOW AT PUMP:	11365L/min @ 995kPa
<b>HYDRAULIC REQUIREMENTS @ VALVE 1:</b>	
OCCUPANCY:	STORAGE
DESIGN DENSITY:	ESFR K36.3 @ 280kPa
AREA:	ROOF AND OFFICES
HAZARD:	H H AND O H
CATEGORY GOODS:	M III AS PER 312 AND 313
FREE STANDING STORAGE:	10.6m
RACK OR SINGLE ROW POST:	
PALLET STORAGE:	10.6m
REMOTE DUTY:	7560L/MIN @ 965kPa
FAVORABLE DUTY:	7360L/MIN @ 460kPa
VALVE SIZE:	8200
VALVE TYPE:	WET ALARM VALVE

Photo 5



Photo 6



Photo 7



Photo 8





Photo 9



Photo 10



Photo 11



Photo 12



Photo 13



Photo 14



Photo 15



Photo 16





Photo 17



Photo 18



Photo 19



Photo 20