

2024

# Inspection of Automatic Sprinkler System

**ASIB**



## Inspection of Automatic Sprinkler System

Automould - ELIDZ - East London

Complete

### Client/Site Name

Automould - ELIDZ - East London

### Billing Address

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

### Attention:

Mteteleli Zantsi  
Camagwini Ngxokolo-Nomatye

### Document No

UNC.8484

### Prepared by

Keith van Onselen

### Conducted on

09.05.2024 08:00 SAST

### Site Location

East London Industrial  
Development Zone (ELIDZ) East  
London

## 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

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CNR LOUIS BOTHA AND  
TUDHOPE AVENUES  
BEREA  
JOHANNESBURG  
2198

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E-MAIL: [asib@asib.co.za](mailto:asib@asib.co.za)  
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P O BOX 3139  
HOUGHTON  
2041

INDEPENDENT  
THIRD PARTY  
INSPECTION AND  
ADVISORY  
SERVICE SINCE  
1970

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#### Code

C - Full Protection, Clearance  
Certificate not Issued

Clearance certificate withheld due to the following:

#### Water Supplies - See Report



The flow test arrangement is not calibrated to read the flow indicated on the blockplan

#### Storage - See Report



#### Standard

10th Edition

#### ASIB Contract No

UNC.8484

#### Client Order No

PO-004203

#### Was the sprinkler system design in order

No

The block plan must be updated to include all of the relevant design requirements

#### Was the water supplies in order

Yes

Refer to report UNC9004 Estate Pump House conducted on 08/05/2024

#### Was the pump room in order

No

Refer to report UNC9004 Estate Pump House conducted on 08/05/2024

#### Was the installation control valves in order

No

Refer to Installation Control Valves - Section 7.

**Was the storage in order**

No

- Refer to Occupancy & Storage Guidance - Section 3.
  - Refer to Storage - Section 8.
-

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:

99/2023

Are the hand fire appliances due for their service.

No

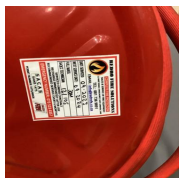


Photo 1

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

### 3. Occupancy & Storage Guidance

Percentage Hazard.

**% Ordinary Hazard**

0  
From 0 to 100

**% High Hazard**

100  
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**

Injection Moulding

**Category**

CAT II

**Design Density (mm/min)**

7,5 mm/min

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**

Plastic injection moulded automotive parts

**Category**

CAT III

Storage

Method

Method 1

**Storage Method**

Free Standing / Block Storage

|                            |                               |
|----------------------------|-------------------------------|
| <b>Design Density (mm)</b> | 7,5 mm/min                    |
| <b>Roof Height (m)</b>     | 12,5                          |
| <b>Storage Height (m)</b>  |                               |
| 2,9                        |                               |
| Method 2                   |                               |
| <b>Storage Method</b>      | Free Standing / Block Storage |
| <b>Design Density (mm)</b> | 15 mm/min                     |
| <b>Roof Height (m)</b>     | 12,5                          |
| <b>Storage Height (m)</b>  |                               |
| 4,7                        |                               |
| Method 3                   |                               |
| <b>Storage Method</b>      | Shelving                      |
| <b>Design Density (mm)</b> | 15 mm/min                     |
| <b>Roof Height (m)</b>     | 12,5                          |
| <b>Storage Height (m)</b>  |                               |
| 3,7                        |                               |
| Method 4                   |                               |
| <b>Storage Method</b>      | Shelving                      |
| <b>Design Density (mm)</b> | 7,5 mm/min                    |
| <b>Roof Height (m)</b>     | 12,5                          |
| <b>Storage Height (m)</b>  |                               |
| 2,2                        |                               |



4. Sprinkler System Design

Building

Building 1

Building Name

Automould - ELIDZ - East London

Date of First Inspection

Unkown

Original Installer

Fire Sprinkler Installations

Extension By

Fire Suppression Solutions

Building Area m<sup>2</sup>

5600

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

800

Calculations

Hydraulic Calculations

Area of Operation

Area of Operation 1

|  |  |
|--|--|
| ► Area of Operation  | Pump Duty                              |
| <b>Flows &amp; Pressures</b><br>9000 l/min @ 1000 kPa      |  |
| Area of Operation 2  |  |
| ► Area of Operation  | Roof Most Remote Area of Operation     |
| <b>Flows &amp; Pressures</b><br>V1<br>2430 l/min @ 325 kPa |  |
| Area of Operation 3  |  |
| ► Area of Operation  | Roof Most Favourable Area of Operation |
| <b>Flows &amp; Pressures</b><br>V1<br>2285 l/min @ 245 kPa |  |
| Area of Operation 4  |  |
| ► Area of Operation  | Roof Most Remote Area of Operation     |
| <b>Flows &amp; Pressures</b><br>V2<br>7620 l/min @ 875 kPa |  |
| Area of Operation 5  |  |
| ► Area of Operation  | Roof Most Favourable Area of Operation |
| <b>Flows &amp; Pressures</b><br>V2<br>6650 l/min @ 515 kPa |  |
| Additional Sprinkler System Designs Required               | No                                     |

5. Water Supplies

► Water Stored on Site.

Yes

Refer to report UNC9004 Estate Pump House conducted on 08/05/2024

Add Water Storage Tanks



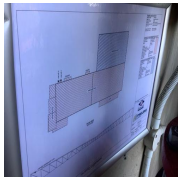
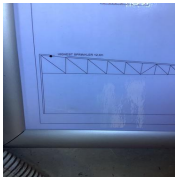
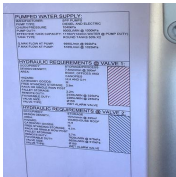
6. Pump Room

Pump Installed on Site

Yes

Refer to report UNC9004 Estate Pump House conducted on 08/05/2024

Add Pump House

|  |           |
|--|-----------|
| <b>7. Installation Control Valve(s)</b>  |           |
| <b>7.1 Sprinkler control valves accessible</b>   | Yes       |
| Valve Cabinet  |           |
| Valve Cabinet 1  |           |
| <b>Location:</b>   |           |
| Loading yard   |           |
| <div>   </div> <div> <div>Photo 2</div> <div>Photo 3</div> </div>  |           |
| <b>Number of Alarm Valves Installed</b>  | 2 x 150mm |
| <b>7.2 Sprinkler Valve Location Plate Installed</b>  | Yes       |
| <b>7.3 Fire Brigade Booster Pressure Limitation Plate</b>  | Yes       |
| <b>7.4 Block Plan Installed</b>  | Yes       |
| <b>7.4.1 Is the block plan labelled in accordance with the areas fed by the sprinkler control valve assemblies</b>   | Yes       |
| <b>7.4.2 Are the correct installation details recorded on the block plan</b>   | Yes       |
| <div>    </div> <div> <div>Photo 4</div> <div>Photo 5</div> <div>Photo 6</div> </div> |           |
| <b>7.5 Sprinkler Valve Instruction Chart</b>   | Yes       |
| <b>7.6 Is a sprinkler spares box present</b>   | Yes       |
| <b>7.6.1 Was the spares box contents accessible</b>  | Yes       |
| <b>7.6.2 Are the spares quantities correct</b>   | Yes       |
| <b>7.7 By Pass Arrangement Installed</b>   | Yes       |

## 7.8 Fire Brigade Booster Connections Installed Correctly and Accessible

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.

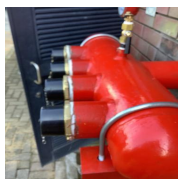


Photo 7

## 7.9 Are the Installation Control Valves Housed within an Approved Valve Cabinet

Yes

## 7.10 Flow Switch Installed Correctly

Yes

## 7.11 Manifold Correctly Supported

Yes

## 7.12 Riser Mains Correctly Supported

Yes

## 7.13 Riser Mains Externally Located

No

## 7.14 Flow Measuring Device Installed.

Yes

## Flow Test Results

Fail

## Recorded Flow and Pressure

The flow test arrangement is not calibrated to read the flow indicated on the blockplan

## 7.15 Correct Pressure Gauges Installed

Yes

## 7.16 Correct Gauge Cocks Installed

Yes

## 7.17 Flanges Short Bolted

Yes

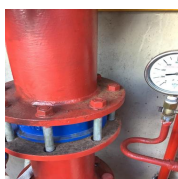


Photo 8

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)**

100

**7.23 Installation Pressure (kPa)**

1280

**7.24 ASIB Overhaul Date Tag No**

Yes

**Last Overhaul Date**

2024

**Next Overhaul Date**

2027

**The next valve overhaul is now overdue. This must be carried out immediately and once every 3 years thereafter. A new ASIB overhaul date tag must be attached after each valve overhaul.**



**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

Item

Item 1

Non Compliance Items

► **Description**

Other

Maximum 1200 kPa

The system pressure has exceeded the maximum allowable pressure of 1200 kPa, this must be investigated and rectified by your installer.



Photo 9



Photo 10

Item 2

Non Compliance Items

► **Description**

Other

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



Photo 11

Recommendation Items



## 8. Storage

### High Hazard ☒

In all High Hazard areas a clear space of not less than 1,0 metre must be maintained between top of stored goods and sprinkler deflector.

### Free Standing Block Storage and aisle widths are not being maintained. ☒

No block of storage shall exceed 150 m<sup>2</sup> of floor area and shall be surrounded by aisle widths of not less than 2,4 m.



Photo 12

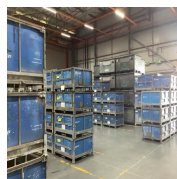


Photo 13

### Are the required clearances being maintained.

Yes

### Are the storage heights exceeded.

Yes

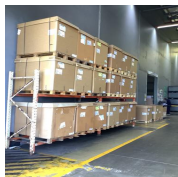


Photo 14



Photo 15

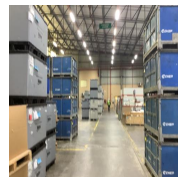


Photo 16

The storage heights must be maintained in accordance with the maximum allowable stack heights as detailed in this report. Should this not be possible, intermediate level protection is deemed to be mandatory.

### Are Excessive Height Conditions Applicable

Yes

### Does the system design cater for the excessive height condition.

No

Full scale fire testing has shown that there is a direct relationship between the response time of sprinklers operation and the height of the sprinklers positioned above the source of the fire.

In control mode applications the system design parameters of design density of discharge OR Assumed Maximum Area of Operation, whichever is applicable must be addressed.

### 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.

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Photo 17

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## 9. Sprinkler System

Sprinkler System

Area

Area 1

**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.**

Hangers are rusted



Photo 18

Area 2

**Specified Area.**

Warehouse

New warehouse

System Issue

Issue

Issue 1

**Finding**

Pipe Support

**Additional range pipe hangers must be installed to support**



the range pipe lengths extending between the first sprinkler and the main distribution pipe.

Location of Finding.

Production side of main between second and third sprinklers

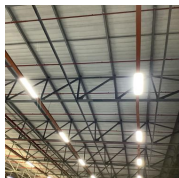


Photo 19

Issue 2

Finding

Sprinkler Heads

Distribution pattern of sprinklers affected.



Location of Finding.

Second Sprinkler from east wall

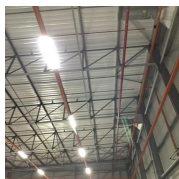


Photo 20

Area 3

Specified Area.

Warehouse

Original warehouse

System Issue

Issue

Issue 1

Finding

Exposure Hazards

Storage too close to building.



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.

### Location of Finding.

Between loading canopies



Photo 21



Photo 22



Photo 23

### Issue 2

#### Finding

Sprinkler Spacing

**Sprinklers are out of effective working distance.**



### Location of Finding.

Last range

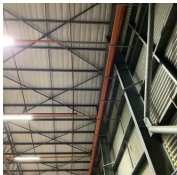


Photo 24

### Issue 3

#### Finding

Pipe Support

**Hangers have come adrift and must be re-fixed to their original positions.**



**The sprinkler pipe work must be correctly supported.**



### Location of Finding.

Back right. Last range

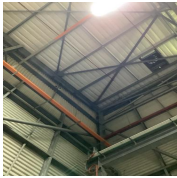


Photo 25

#### Issue 4

#### Finding

Sprinkler Heads

**Sprinklers installed beneath open cell surfaces / translucent sheeting.**



All sprinklers located beneath open celled floors or stairwells and translucent sheeting must have approved water shields fitted above the sprinklers.

#### Location of Finding.

Under extraction vents

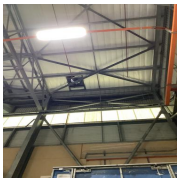


Photo 26

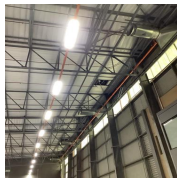


Photo 27

#### General Notes

No

New extension:

Spray pattern sprinklers installed at roof with exposed steel has been accepted due to the maximum K-factor available for conventional pattern sprinklers being exceeded.

## 10. Proof of Inspection

Proof of inspection.

For and on behalf of client:

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Camagwini Ngxokolo-Nomatye  
09.06.2024 23:00 SAST

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Proof of inspection.

ASIB Inspector:

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Keith van Onselen  
10.05.2024 11:44 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

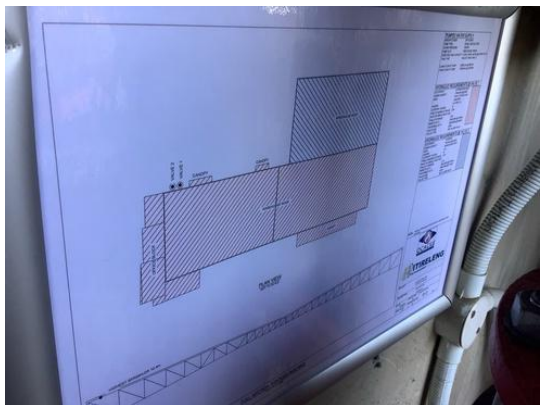


Photo 4

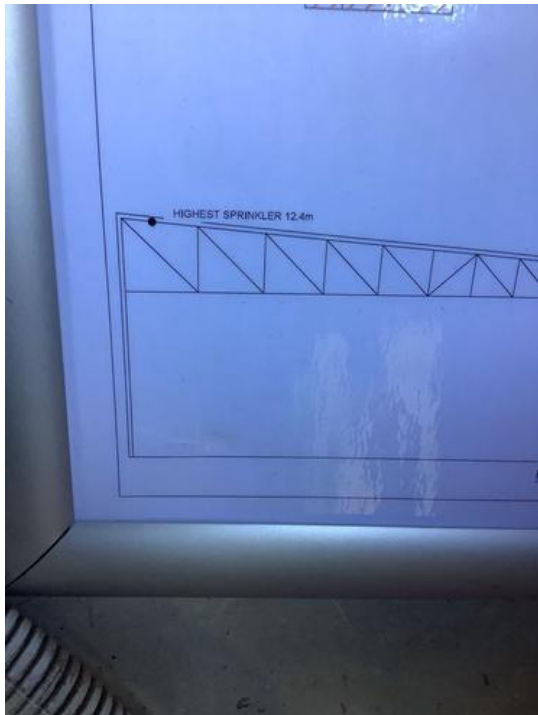


Photo 5

| PUMPED WATER SUPPLY:              |   |
|-----------------------------------|---|
| MANUFACTURER:                     | SPP PUMPS                                     |
| PUMP TYPE:                        | DIESEL AND ELECTRIC                           |
| CHURN PRESSURE:                   | 1040kPa                                       |
| PUMP DUTY:                        | 9000L/MIN @ 1000kPa                           |
| EFFECTIVE TANK CAPACITY:          | 1116m <sup>3</sup> (124min WATER @ PUMP DUTY) |
| TANK TYPE:                        | ROUND TANKS 50% X2                            |
| Q MAX FLOW AT PUMP:               | 9990L/min @ 992kPa                            |
| P MAX FLOW AT PUMP:               | 5165L/min @ 1025kPa                           |
| HYDRAULIC REQUIREMENTS @ VALVE 1: |   |
| OCCUPANCY:                        | STORAGE/PROCESS                               |
| DESIGN DENSITY:                   | 7.5mm/min @ 260m <sup>3</sup>                 |
| AREA:                             | ROOF, OFFICES AND CANOPIES                    |
| HAZARD:                           | H.H AND O.H                                   |
| CATEGORY GOODS:                   | III   |
| FREE STANDING STORAGE:            | 2.9m  |
| RACK OR SINGLE ROW POST:          |   |
| PALLET STORAGE:                   | 2.2m  |
| REMOTE DUTY:                      |   |
| FAVORABLE DUTY:                   | 2430L/MIN @ 325kPa                            |
| VALVE SIZE:                       | 2280L/MIN @ 245kPa                            |
| VALVE TYPE:                       | Ø150 WET ALARM VALVE                          |
| HYDRAULIC REQUIREMENTS @ VALVE 2: |   |
| OCCUPANCY:                        | STORAGE                                       |
| DESIGN DENSITY:                   | 16mm/min @ 325m <sup>3</sup>                  |
| AREA:                             | WAREHOUSE ROOF                                |
| HAZARD:                           | H.H   |
| CATEGORY GOODS:                   | III   |
| FREE STANDING STORAGE:            | 4.7m  |
| RACK OR SINGLE ROW POST:          |   |
| PALLET STORAGE:                   | 3.7m  |
| REMOTE DUTY:                      |   |
| FAVORABLE DUTY:                   | 7620L/MIN @ 575kPa                            |
| VALVE SIZE:                       | 6650L/MIN @ 515kPa                            |
| VALVE TYPE:                       | Ø150 WET ALARM VALVE                          |

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



Photo 21



Photo 22



Photo 23



Photo 24





Photo 25



Photo 26



Photo 27