

2024

Inspection of Automatic Sprinkler System

ASIB



Inspection of Automatic Sprinkler System

East London Industrial Development
Zone - SOS Cheese Factory

Complete

Client/Site Name

East London Industrial Development Zone - SOS Cheese Factory

Billing Address

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

Attention:

Mteteleli Zantsi
Camagwini Ngxokolo-Nomatye

Document No

UNC.10601

Prepared by

Keith van Onselen

Conducted on

20.06.2024 08:46 SAST

Site Location

East London IDZ 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

TELEPHONE: +27 11 642 1703
FACSIMILE: +27 11 642 1019
E-MAIL: asib@asib.co.za
WEB SITE: www.asib.co.za

P O BOX 3139
HOUGHTON
2041

INDEPENDENT
THIRD PARTY
INSPECTION AND
ADVISORY
SERVICE SINCE
1970

© 1970 - 2024 AUTOMATIC SPRINKLER INSPECTION BUREAU ALL RIGHTS RESERVED

Code

C - Full Protection, Clearance
Certificate not Issued

Clearance certificate withheld due to the following:

Sprinkler System - Excessive Fault



This is in relation to the adjacent cold room that is unprotected

Standard

12th Edition

ASIB Contract No

UNC.10601

Client Order No

004203

Was the sprinkler system design in order

No

####See below as taken from previous report for Sundale dairy. The new block plan does not show any allowances for excessive clearance

Please verify the following:

Why excessive clearance was calculated to design density as well as increasing the AMAO to 325 m

What the "pump test duty" is as reflected on the first inspection request and the drawings?The pump duty as reflected on previous reports is 9000 l/ min @ 1000 kPa.

Grid system AMAO remote positions are determined within the grid using the required formula for heads along along a range. This has not been calculated as such for the warehouse.

The factory grid is short but the remote AMAO will still be rectangular in shape and would probably take into account the total factory roof width.

Why factory favourable is not at the start of the warehouse roof, closer to the ICV. Why calculate it at the back with the remote?

It appears that too few heads in operation (36) have been used in both hydraulic calculations.

The hydraulic drawings have a blue pump test curve which runs lower than the pump red endurance curve, why? Calcs are based on the curve generated from the site test not pump red curve, why?

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	Yes
-----------------------------------	-----

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	Yes
---------------------------------	-----

2. Hand Fire Appliances

Hand Fire Appliances - One unit per 100 m² of floor area.

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

0
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.

4. Sprinkler System Design

Building

Building 1

Building Name

East London Industrial Development Zone - SOS Cheese Factory

Date of First Inspection

2022

Original Installer

Fire Suppression Solutions

Extension By

NA

Building Area m²

2000

Height of Building in meters

12

Sprinkler Detail

Area

Area 1

► Area & Type of Sprinklers

Roof Sprinklers

Ceiling Sprinklers

Mezzanine Sprinklers

Cold Room Sprinklers

Number of Sprinklers

Approximately 300

Calculations

Hydraulic Calculations

Area of Operation

Area of Operation 1

► Area of Operation

Pump Duty

Flows & Pressures

9000 l/min @ 1000 kPa

Area of Operation 2

► Area of Operation

Roof Most Remote Area of Operation

Flows & Pressures

V4 void and SOS cheese slices
2430 l/min @ 420 kPa

Area of Operation 3

► Area of Operation

Roof Most Favourable Area of Operation

Flows & Pressures

V4 void and SOS cheese slices
2360 l/min @ 195 kPa

Additional Sprinkler System Designs Required

Yes

####See below as taken from previous report for Sundale dairy. The new block plan does not show any allowances for excessive clearance

Please verify the following:

Why excessive clearance was calculated to design density as well as increasing the AMAO to 325 m

What the "pump test duty" is as reflected on the first inspection request and the drawings?The pump duty as reflected on previous reports is 9000 l/ min @ 1000 kPa.

Grid system AMAO remote positions are determined within the grid using the required formula for heads along along a range. This has not been calculated as such for the warehouse.

The factory grid is short but the remote AMAO will still be rectangular in shape and would probably take into account the total factory roof width.

Why factory favourable is not at the start of the warehouse roof, closer to the ICV. Why calculate it at the back with the remote?

It appears that too few heads in operation (36) have been used in both hydraulic calculations.

The hydraulic drawings have a blue pump test curve which runs lower than the pump red endurance curve, why? Calcs are based on the curve generated from the site test not pump red curve, why?

The following documentation is required and must be submitted to the ASIB

As the majority of the required documentation for the sprinkler system has yet to be submitted, we are unable to comment on the accuracy of the design.

5. Water Supplies

► Water Stored on Site.

Yes

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

Add Water Storage Tanks


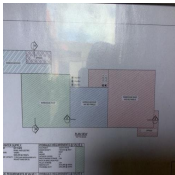
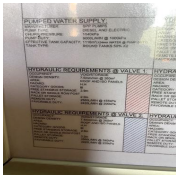
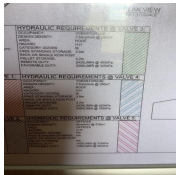
6. Pump Room

Pump Installed on Site

Yes

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

Add Pump House



7. Installation Control Valve(s)	
7.1 Sprinkler control valves accessible	Yes
Valve Cabinet	
Valve Cabinet 1	
Location:	
Opposite right of security gate	
Number of Alarm Valves Installed	2 x 150mm. Valve 4 feeds SOS
7.2 Sprinkler Valve Location Plate Installed	Yes
7.3 Fire Brigade Booster Pressure Limitation Plate	Yes
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
<div>     </div> <div> <div>Photo 1</div> <div>Photo 2</div> <div>Photo 3</div> <div>Photo 4</div> </div>	
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
7.7 By Pass Arrangement Installed	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 is recommended that the fire brigade pressure booster



inlets must be repositioned so that they are located external to the installation control valve cabinet and easily accessible.

7.9 Are the Installation Control Valves Housed within an Approved Valve Cabinet	Yes
Sprinkler protection is required within the valve cabinet	<input checked="" type="checkbox"/>
7.10 Flow Switch Installed Correctly	No
The flow switch must be fitted downstream from the alarm valve with a 25mm test pipe installed at least 2 pipe diameters downstream of the flow switch.	
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
 	
Photo 5	Photo 6
Flow Test Results	Pass
Recorded Flow and Pressure	2700 l/min @ 900 kPa
7.15 Correct Pressure Gauges Installed	Yes
7.16 Correct Gauge Cocks Installed	Yes
7.17 Flanges Short Bolted	No
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)

1200

7.23 Installation Pressure (kPa)

1200

7.24 ASIB Overhaul Date Tag No

New Installation

Due in 2025

The installation control valves must be overhauled three years after date of installation by an ASIB approved and registered installer, and once every 3 years thereafter. An ASIB valve overhaul date tag must be attached to the valve set after completion of the overhaul.

7.25 Alarm Motor & Gong Test

Passed

7.26 Are All Valves in the Correct Positions

Yes

7.27 Are All Valves Secured

No

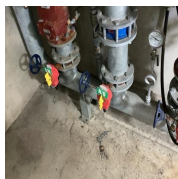


Photo 7



Photo 8

All valves must be secured in their correct operative positions with light chains and padlocks that are keyed alike.

Non Compliance - Items

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 m² of floor area and shall be surrounded by aisle widths of not less than 2,4 m.

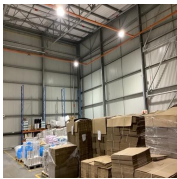


Photo 9

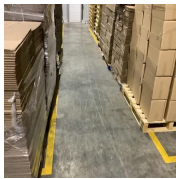


Photo 10

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.

Are Excessive Height Conditions Applicable

Yes

Does the system design cater for the excessive height condition.

No

See notes on page 3 of this report under " Was the sprinkler system design in order "

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.

9. Sprinkler System

Sprinkler System

Area

Area 1

Specified Area.

Other

Specify Area

Void above cheese factory

System Issue

Issue

Issue 1

Finding

Pipe Support

Terminal range pipe hangers are exceeding the maximum distance of 750 mm from the end of the range pipe.



Location of Finding.

Roof

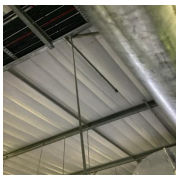


Photo 11

Issue 2

Finding

Other

Specify Other.



Cold and freezer room composite panel

Pipe work must be supported independently from the composite panel, and the dry dropper must not be attached to the fabric of the cold room with mastic or insulating material that permanently bonds the dropper to the refrigerated structure.

In the event of collapse of the cold room, the cold room material must drop away from the sprinkler system.



Photo 12



Photo 13



Photo 14



Photo 15

Issue 3

Finding

Pipe Support

The sprinkler pipe work must be correctly supported.



Location of Finding.

Roof mains

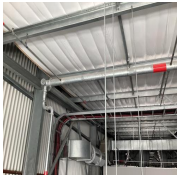


Photo 16

Issue 4

Finding

Sprinkler Spacing

The sprinklers are spaced too far from roof/ceiling level.



Combustible maximum 300 mm / Non-combustible maximum 450 mm.

Location of Finding.

Roof

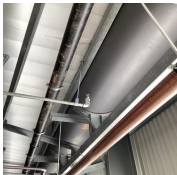


Photo 17

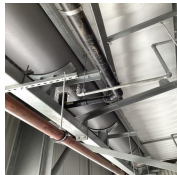


Photo 18

Issue 5

Finding

Other

Surfaces exceeding 1,0 metre in width.



Surfaces which exceed 1,0 metre in width will obstruct the water discharged from the sprinklers above which could result in an ignition beneath these surfaces not being controlled or

extinguished.

The general obstruction is classed as 1,000 mm therefore sprinkler protection is required beneath any such obstruction which includes, but is not limited to;



Walkways, solid or open grid, and Work tables.

Location of Finding.

Control platform



Photo 19

Area 2

Specified Area.

Other

Specify Area

Factory

System Issue

Issue

Issue 1

Finding

Other

Surfaces exceeding 1,0 metre in width.



Surfaces which exceed 1,0 metre in width will obstruct the water discharged from the sprinklers above which could result in an ignition beneath these surfaces not being controlled or extinguished.

The general obstruction is classed as 1,000 mm therefore sprinkler protection is required beneath any such obstruction which includes, but is not limited to;



Walkways, solid or open grid, and Work tables.

Location of Finding.

Start of casting line



Photo 20

Issue 2

Finding

Sprinkler Spacing

Sprinklers exceed 600 mm from walls of a cold room or freezer (11th Edition).



Location of Finding.

Various ground floor



Photo 21

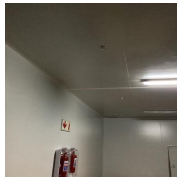


Photo 22

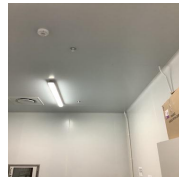


Photo 23

Issue 3

Finding

Partial Protection /
Communicating Areas

Portion of premises sprinkler protected with communicating sections that are not.



Partial protection can lead to a fire originating in the protected area radiating heat into the unprotected portion of the premises and starting secondary fires. The heat from these fires radiates or spreads back into the protected area causing excessive sprinkler operation.

Conversely, a fire originating in the unprotected portion will radiate heat or spread into the protected portion rapidly causing unnecessary sprinkler operation and overwhelming the sprinkler system installed.

Location of Finding.

Adjacent cold room

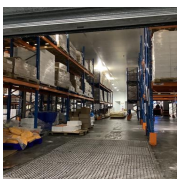


Photo 24

General Notes

Yes

10. Proof of Inspection

Proof of inspection.

For and on behalf of client:



Camagwini Ngxokolo-Nomatye
20.06.2024 12:47 SAST

Proof of inspection.

ASIB Inspector:



Keith van Onselen
20.06.2024 12:47 SAST

WARNING

© The Automatic Sprinkler Inspection Bureau (Pty) Ltd 1970-2024 All rights reserved.

Copyright subsists in this work. All information contained in this report is the property of The Automatic Sprinkler Inspection Bureau (Pty) Ltd. No part of this report may be reproduced, published, performed, broadcast, transmitted or adapted in any form or by any electronic, mechanical or other means without the written permission of the copyright holder. Any unauthorised reproduction, publishing, performance, broadcasting, transmission or adaption of this work will constitute copyright infringement and render the doer liable under both civil and criminal law.

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

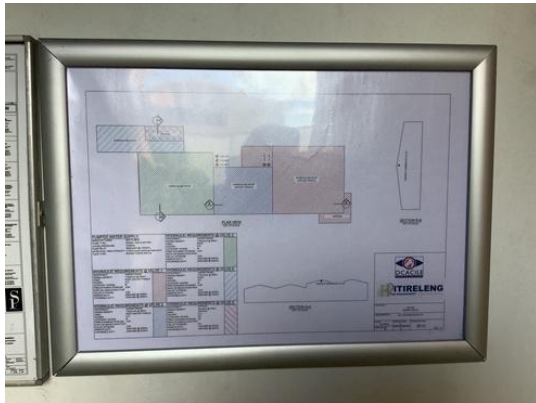


Photo 1

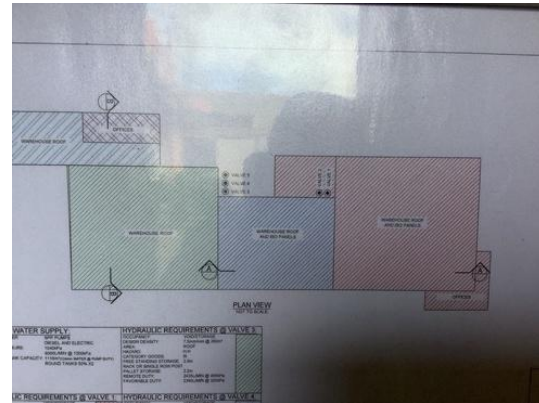


Photo 2

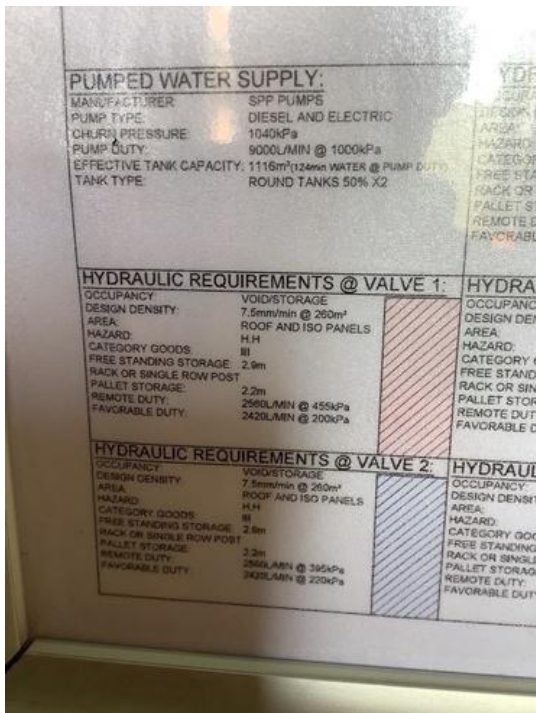


Photo 3

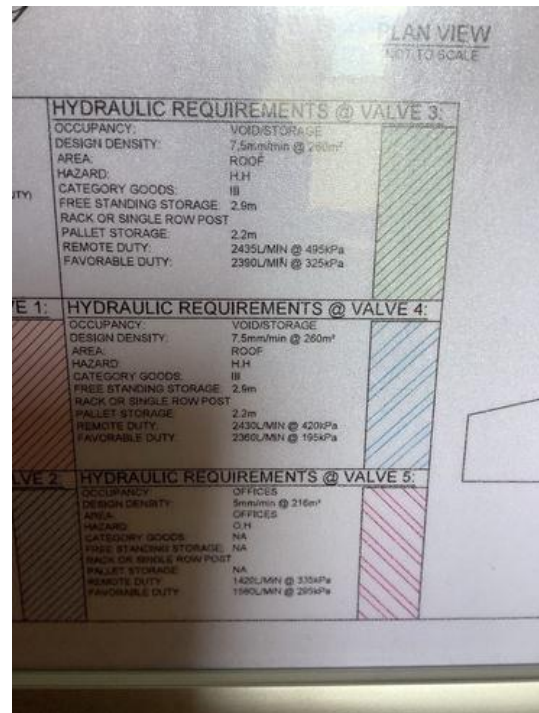


Photo 4



Photo 5



Photo 6



Photo 7



Photo 8



Photo 9



Photo 10



Photo 11



Photo 12



Photo 13



Photo 14



Photo 15

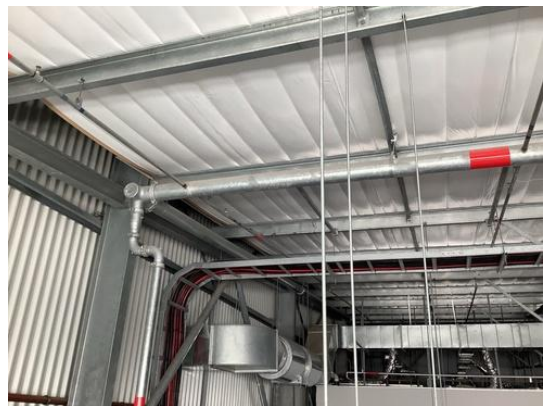


Photo 16



Photo 17

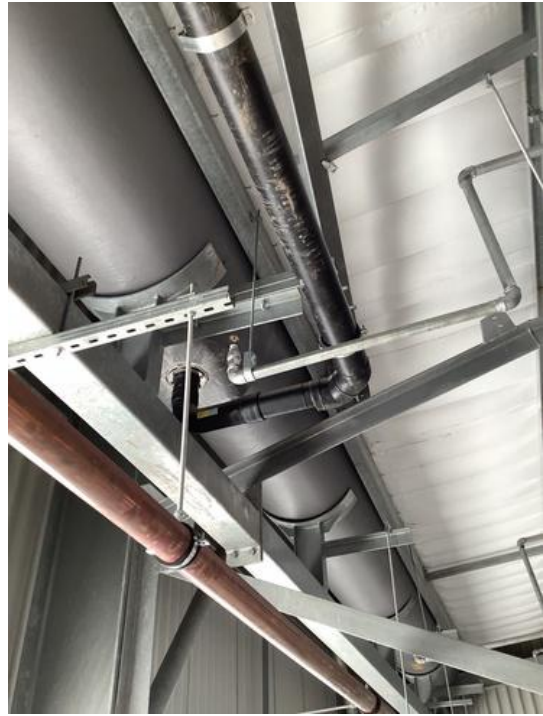


Photo 18



Photo 19



Photo 20



Photo 21

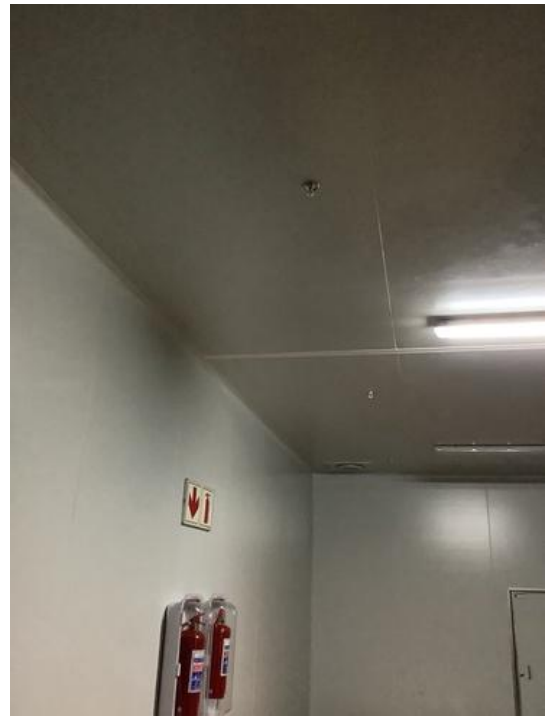


Photo 22



Photo 23



Photo 24