

# FIRE SAFETY INSPECTION REPORT

**Factory Name: Flaxen Dress Maker Ltd.-1**

**ACCORD ID: 23532**

**ADDRESS: 40, Meghdubi, Pubail, Hydrabad, Gazipur City, Gazipur**



**Inspected By: Mohammad Anayet Hossain & Md. Hasibur Rahman Abir**

**Date: 14 November, 2018**

## Fire Safety Inspection Report

Factory Name: Flaxen Dress Maker Ltd.-1

### Introduction:

Flaxen Dress Maker Ltd.-1 complex was surveyed for fire safety on 14 November, 2018 by The Accord Inspection Team. The purpose of the survey was to identify significant fire safety issues and to provide recommendations for remediation based on applicable standards specified by the Accord. The scope of this initial fire safety inspection was limited to the review and identification of major fire safety issues. The inspection did not include identification of minor deficiencies, which will be further addressed as part of follow-up inspections.

### Limitations

The information in this fire safety inspection report was obtained during a visit to the facility and during interviews with local factory management. It has not been possible to provide independent verification for all the information and data collected, and, therefore, The Accord cannot accept general responsibility for omissions or errors arising from inaccuracies in this report from the information obtained.

The findings and recommendations in this report are not intended to imply, guarantee, ensure or warrant compliance with any government regulations. Additionally, the results do not imply in any way that compliance with the findings or recommendations as stated in this report will eliminate all hazards, risks or exposures or that hazards, risks or exposures not referred to in this report do not exist. Compliance with the findings and recommendations stated in this report does not relieve the factory owner from obligation to comply with specific project requirements, industry standards, or the provisions of any local government regulations.



## General Factory Information

Factory Building name(s): Main Building

Factory Address: Meghdubi, Ward-40, Gazipur City Corporation, Gazipur-1710

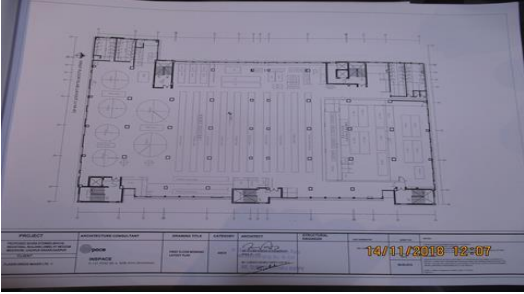
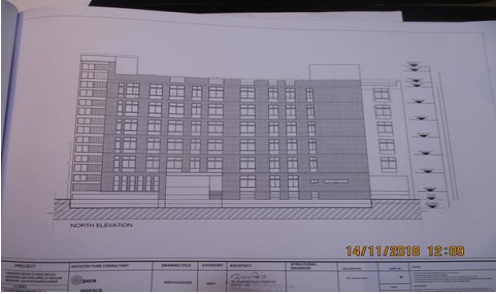
### Points of contact:

Name: Wahid Kamal,  
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Name: Monjur Kamal ,  
Designation: Director,  
Contact No: +8801730013498  
Email: monjur@flaxengroup.com



### General Building Information- Main Building

Number of Stories Below / Above Grade	1/6 storey
Highest Occupied Floor Level / Height	62 ft
High Rise (Accord 3.2.1)	No
Occupiable Roof (Accord 3.2.2)	No
Occupiable Roof Provided with Adequate Parapets / Guards (Accord 6.12.2.4)	Yes
Occupancy Classifications	G2, H2
Floor Plans Available	Yes
	
<b>Typical Floor Plan</b>	<b>Elevation</b>
Date Of Construction	2015



Major Renovations / Additions	No
Other Tenants In Building	No
Floors Occupied By Factory	Yes

#### Occupant load by floor

Floor	Use	Occupant Load
Basement	Storage, Fabric Inspection, Finished Goods	10
G	Sample, CAD, Cutting, Store Accessories, Office	185
1	Printing, Embroidery, Sublimation Printing	138
2	Sewing, Finishing, Inspection Room	636
3	Sewing, Finishing, Inspection Room	287
4	Idle machine	Empty
5	Temporary dining	200

#### Construction Features:

Non-Combustible Construction	Yes
Fire-Resistive Construction	Yes

#### Building Exposures:

North	Approx. 33 ft road than Medical & Child Care
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South	Approx. 30 ft road than garden
East	Approx. 30 ft road than garden
West	Approx. 20 ft road than boundary

**Vertical Openings:**

Stairs Enclosed in Fire-Rated Construction?	Yes
Unsealed Penetrations in Stairs	Yes
Unprotected Openings From Stairs	Yes
Shafts Enclosed in Fire-Rated Construction	Yes
Floors with Openings/Penetrations	No
Other Vertical Openings	No



**Egress Features:**

Five (5) exits serve the building on 1st floor to 5th floor having sufficient exit capacity based on occupant load. Ground floor have nine (9) and basement have four (4) exits also having sufficient exit capacity based on occupant load. All exits were remotely located and travel distance requirements were met. All exits discharged to the exterior of the building. All exit stairs were open on all floors due to unprotected openings. Fire door was installed on most of the doors without interfacing. All doors were open and unlocked during the inspection. There were electrical riser located in the exit stair-5 at ground level. Handrails were not present on both sides of the exit stairs on top floor. Emergency evacuation plans were located most of the required location. Occupant load signs, floor level signs and stair designation signs were not located at all exits.

Floor	Occupant load	Nos of. Exit	Exit Capacity
Basement	10	4	1447
Ground	185	9	2920
1	138	5	1079
2	636	5	1079
3	287	5	1079
4	Empty	5	1079
5	200	5	1079



**General:**

Number of Exits Per Floor is Compliant (Accord 6.6)	Yes
Capacity of Exits Per Floor Is Compliant (Accord 6.5.3)	Yes
Exits Remotely Located (Accord 6.6.6)	Yes

**Exit Doors:**

Egress Doors are Side Hinged (Accord 6.8.1)	No
Egress Doors Swing Correctly (Accord 6.8.1)	No
Egress Doors Without Locking Hardware in Direction of Travel (Accord 6.8.2)	No

**Exit Stairs:**

All Exit Stairs Discharge Directly to the Exterior (Accord 6.17)	Yes
Handrails Provided on Both Sides (Accord 6.9.2.4)	No
Exit Stairs Free of Storage and Obstructions (Accord 6.3.8, 6.3.9)	No
Electrical Panels Located Outside of Exit Stairs	Yes
Exit Stairs Serving More than 5 Stories Provided with Re-Entry (Accord 6.8.3)	No



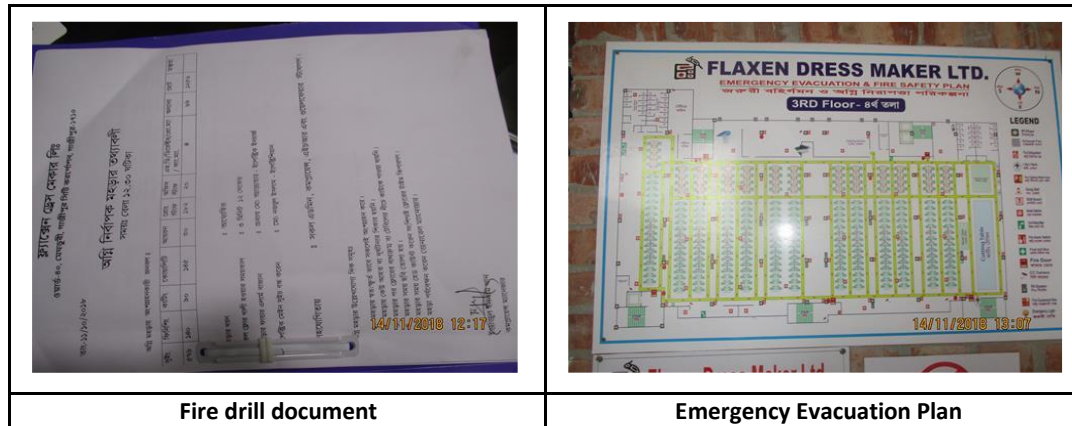
**Exit Access & Arrangement:**

Means of Egress Free of Storage & Obstructions (Accord 6.3.8, 6.3.9)	No
Means of Egress of Adequate Width (Accord 6.5)	Yes
Travel Distances, CPT, DE's Within Limits (Accord 6.13)	Yes
Exit Access Corridors Provided with Proper Fire Protection / Separation (Accord 6.3.1.1)	Yes
Daycare Within Limits (Accord 3.4.2.1.1)	Yes
Egress Court Provided With Adequate Fire Rated Separation (Accord 6.17.2)	Yes
Utility / Storage Rooms Adequately Separated from Exit Enclosures (Accord 6.14.3)	No

**Emergency Planning :**

Emergency Evacuation Plans Provided (Accord 13.3)	Yes
Fire Drills Conducted & Records Maintained (Accord 13.2)	Yes
Smoking Prohibited (Accord 13.5)	No





Fire drill document

Emergency Evacuation Plan

## Fire Protection Features:

### Fire Alarm System

#### Current System Overview:

The building had an addressable fire alarm system built around a alarm panel. The system supported smoke detectors, heat detectors, manual pull stations, horn and strobe units installed throughout the building. Functional test was not conducted on the system during the inspection. Records of regular testing or maintenance of the fire alarm system were not provided in accordance with NFPA 72.



Type of System	Addressable
Fire Panel Location	Security building (ground floor)
Visible Notification Per NFPA 72	To be verified during functional test
Audible Notification Per NFPA 72	To be verified during functional test
Alarm Annunciation	To be verified during functional test
ITM per NFPA 72	No
Functional Test Conducted	No



Fire Alarm control panel



## Fire Detection System

### Current System Overview:

Interconnected smoke and heat detectors are located in various places throughout the factory. These detectors are tied into the fire alarm system. In the event they detect smoke and heat, they will send a signal to the fire alarm control panel to activate the fire alarm. Records of regular testing or maintenance of the fire detection system were not provided in accordance with NFPA 72.

Type of Detector	Addressable
Smoke Detection Per NFPA 72	No



## Standpipe System

### Current System Overview:

The factory building height was more than 10 m (33 ft) at the highest occupied floor and it requires a standpipe system, however Class-III standpipe system was provided in the factory. Hose reels with 1.5 in. hoses were provided on the factory floor located adjacent to egress doors and 2.5 in landing valves were provided on the exit stairs.

Standpipe System Required	Yes
Type of System Installed	class-III
Hose Connection Locations	Stair enclosure
ITM Per NFPA 25	No



### Sprinkler System

#### Current System Overview:

No automatic sprinkler protection was provided in the building. Based on the height of the highest occupiable floor, sprinkler protection is not required.

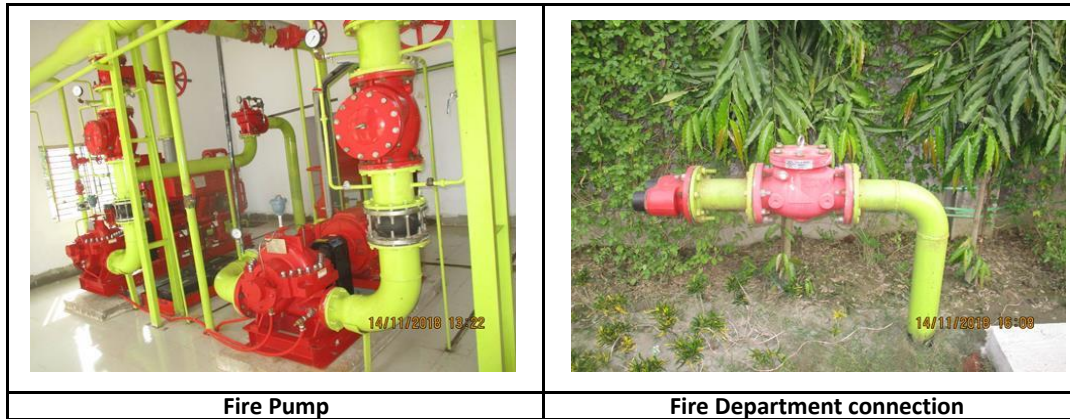
### Fire Water Supply

#### Current System Overview:

The fire pump is supplied from three underground reservoir having capacity 47100, 25470 and 21712 US gallon (reportedly). The fire pump was installed in negative suction.

Source, Location, & Capacity	Underground reservoir having total capacity 94,282 US gallon
Fire Pump Provided	Yes
Fire Department Inlet & Outlet Connections Provided (Accord 5.5.4)	To be verified during functional test
Fire Pump Adequate (Accord 5.5.1)	To be verified during functional test
Fire Pump Room Provided With Adequate Fire Rated Separation (NFPA 20)	Yes
Fire Pump ITM Per NFPA 25	No





### Portable Fire Extinguishers

#### Current System Overview:

Portable fire extinguishers, consisting of a mix of CO2 and dry chemical were provided throughout the building. Inspection tags show recent and up-to-date inspections. Records of regular testing or maintenance of the portable fire extinguishers were not provided as per NFPA10.

Types Provided	CO2 & dry chemical extinguishers.
Adequate Number/Spacing	Yes
ITM Per NFPA 10	Yes





Portable Fire Extinguisher

### Manual Fire Fighting Equipment

#### Current System Overview:

Each floor had firefighting equipment staged inside the stair enclosure. Types of manual firefighting equipment provided included: buckets, escape hoods, bolt/lock cutters, shovels, stretchers and personal protection equipment.

Types Provided	Buckets, escape hoods, bolt/lock cutters, shovels, stretchers and personal protection equipment.
Location of Equipment	Stair landing





## Other Features

### Emergency Lighting & Exit Signs

#### Overview:

Emergency lighting appliances were located inside the production floor and exit stairs. There were multiple CFL lights that had an alternate “Instant Power Supply” (IPS). Illuminated exit signs, located at exits. The factory management reported that these are all serviced by normal electricity as well as by multiple “Instant Power Supply” (IPS) units. Manual on-off switch were found on all emergency lights & exit signage units. They were keeping records or assertions of regular testing or maintenance of the emergency lighting system which is in accordance with Accord standard.

Exits and Exit Access Properly Marked with Exit Signage	No
Emergency Power	Yes
Adequate Emergency Lighting for Exits & Exit Access	No
Adequate Inspection / Testing (Accord 10.12)	Yes





### Elevator

#### Overview:

There is provision for elevators but not installed yet.



## Generator

### Overview:

A single 340 kva generator that serves the building is located in the ground floor of a separate (utility) building. Fuel storage was not present. The building have proper fire-rated separations.

Location(s)	Utility Building
Fire Rated Separation	Yes
Generator Area Free of Additional Fuels	Yes



## Boiler & Furnace Equipment

### Overview:

A one (1) ton and a 500 kg boiler that serves the building are located in the utility building with proper fire-rated separation.

Location(s)	Utility building
Fire Rated Separation (Accord 3.4.2.1.5)	Yes



**Boiler Room**

**Boiler**

### Transformer/Substation

Location(s)	Utility building
Fire Rated Separation (Accord 3.4.2.1.5)	Yes



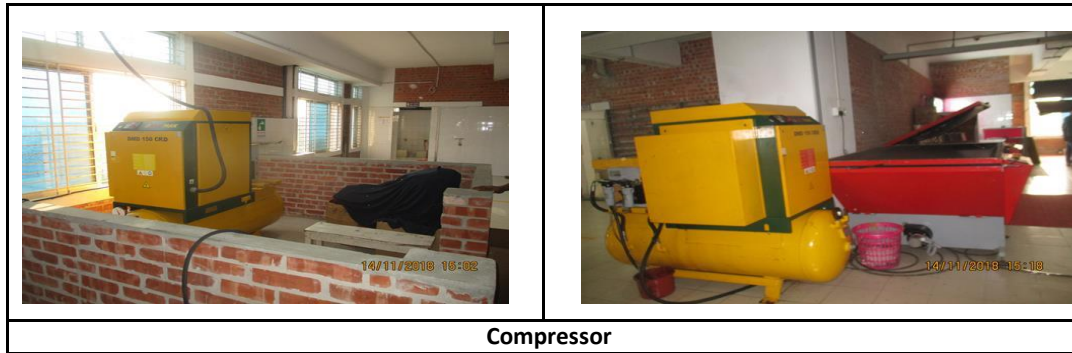


### Compressor

Seven (7) 11 kw compressors serve the factory at various floor without having proper fire separation.

Location(s)	Various floor
Fire Rated Separation (Accord 3.4.2.1.5)	No





### Storage Areas

Storage of combustible materials at basement and ground floor was not separated from other occupancies. Hazardous material /flammable liquid storage was not found in the factory building. Additional fuel was not present in the generator area.

Fire Rated Separation (Accord 3.4.2.1.5)	No
Open to Factory Floors?	Yes
Open to Exit Discharge?	Yes





**Storage with production (Basement)**



**Accessory Store (Ground Floor)**

**Additional Information: None**





## Findings & Recommendations :

Table-1:

SI No.	Category	Findings	Required Action	Remediation Time Frame
1	Fire Rated construction	The exit stairs are not separated from [work areas, other spaces] on each floor by fire-rated construction.	Provide minimum 1.5-hr fire rated doors and seal all unprotected openings to separate the exit stairs from work areas and other building spaces on all floor levels. Ensure that the fire doors are self-closing and positive latching and that they are provided with fire exit (panic) hardware where serving production floors. If fire doors are required to be held open for functional reasons, provide automatic closing devices tied to the fire alarm system.	Within 3 months
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2	Fire Rated construction	Rooms on the basement and ground floor used for combustible storage are not separated by a minimum 1-hr fire-rated construction.	Rooms used for storage of combustible materials shall be separated from the surrounding occupancy with a minimum 1 hour construction.	Within 3 months
				
3	Fire Rated construction	Unsealed penetrations (BBT) and openings are located in exit stair enclosures. Location(s): Ground floor, stair-5	Remove/separate the electric riser (BBT) from exit stair enclosure & Seal all penetrations and openings in the wall of exit enclosure walls (full thickness of the wall) by fire rated materials to maintain the fire resistance rating.	Within 3 months





4	Fire Rated construction	Dining area is not separated from other occupancies with fire rated assemblies	Re-locate the dining area or separate the dining area from other occupancies with 2-hr fire rated construction	Within 2 months
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5	Egress	Collapsible/sliding/shutter type doors have provided along means of egress [building exits, exit stairs, along egress routes, exit discharge].	<p>Replace all collapsible/sliding/shutter type doors &amp; gates by the side-hinged swinging type doors.</p> <p>If locks are required for security reasons, utilize special door locking features complying with NFPA 101.</p>	Immediate
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6	Egress	Doors along means of egress are provided with non compliant locking system.	<ol style="list-style-type: none"> <li>1. Remove all non compliant locking features from egress doors.</li> <li>2. If locks are required for security reasons, utilize special door locking features complying with NFPA 101.</li> <li>3. Doors may be locked where the latch and lock are disengaged with one motion where the occupant load does not exceed 49 persons.</li> <li>4. Doors may be provided with locking hardware from the ingress side provided that a panic bar is installed on any door with an occupant load exceeding 49 persons.</li> </ol>	Immediate





7	Egress	Storage and obstructions was located in the exit stair enclosure.	Remove all storage and obstructions from exit stairs and stair enclosure.	Immediate
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8	Egress	Building did not have stair designation signs and occupant load signs at required locations.	Provide stair designation signs and occupant load signs at required locations.	Within 1 month
9	Egress	Handrails are not provided on both sides of each exit stairs on all floors. Having handrails on one side of said staircase, may pose as a falling hazard during evacuation. Or, Handrails are not provided at exit stairs.	Provide handrails on both sides of the exit stair. New handrails shall have a minimum height of 865 mm (34 in.) and a maximum height of 965 mm (38 in.) as measured from the leading edge of the tread. Intermediate handrails shall be provided when the stair width exceeds 2.2 m (87 in.).	Within 1 month



10	Detection and Protection	The required no smoking signs are not present in the factory.	Smoking is prohibited in any garment factory building or separate storage building. Signs shall be posted in Bengali and English at all building entrances. If the factory creates a designated smoking area outside the building, information of these areas will be posted on the signs.	Within 1 month
11	Detection and Protection	Fire alarm system installation requires detailed review to confirm compliance with NFPA 72 and ACCORD standards.	Submit as-built drawings, testing records, equipment certification and other relevant documentation to the ACCORD for review and approval.	Design within 1 month and installation within 4 months
12	Detection and Protection	Inspection, testing, and maintenance for the fire alarm system is not in accordance with NFPA 72 or as per Accord standard.	Inspect, test and maintain the fire alarm system, and keep written records on-site, in accordance with NFPA 72 or as per Accord standard.	Within 1 month
13	Detection and Protection	The existing factory building with an occupiable floor greater than 10 m (33 ft.) above the finished grade is not protected with an approved standpipe system.	Submit the as-built design of standpipe system throughout the building in accordance with NFPA 14.	Design within 1 month and installation within 4 months



14	Detection and Protection	Inspection, testing and maintenance of the fire pump system is not in accordance with NFPA-20.	Inspect, test and maintain the fire pump system and keep written records on-site, in accordance with NFPA 20.	Within 3 months
15	Detection and Protection	Fire Protection : Inspection, testing and maintenance of the standpipe system is not in accordance with NFPA 14.	Inspect, test and maintain the standpipe system and keep written records on-site, in accordance with NFPA 14.	Within 3 months
16	Egress lighting	Directional signs are not provided where direction of the path of travel to an exit has changed.	Test the emergency lighting system on each floor and provide additional emergency fixtures to provide adequate illumination along the means of egress. Provide a minimum illumination of 10 lux at the floor level within exit stairs and exit discharge paths and minimum 2.5 lux along exit access aisles.	Within 1 month
17	Egress lighting	Exit sign not provided at exit.	Lighted exit signs shall be placed at entrance to an exit. Additional exit signs shall be placed throughout the facility anywhere the continuation of the egress is not obvious. Lighted exit signs shall be provided with either battery backup or uninterruptable power supply systems and shall be continuously illuminated.	Within 1 month



18	Egress lighting	Manual on-off switch is provided for emergency lighting / exit signage units.	Remove manual on/off switches from emergency lighting / exit signage units to prevent them from being switched off.	Within 1 month
