

FIRE SAFETY INSPECTION REPORT

FACTORY: Epyllion Style Limited (Extension Project)

ACCORD ID: 12768

ADDRESS: Nayapara, Vhawal Mirzapur, gazipur Sadar, Gazipur- 1703

Other Factories: Epyllion Fabrics Limited



Inspected By: Raju Ahmed & Muzaddir Alfi Sani

Date: 23/04/2017

Fire Safety Inspection Report

Factory Name: Epyllion Style Limited (Extension Project)

Introduction:

Epyllion Style Limited (Extension Project) complex was surveyed for fire safety on 23/04/2017 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

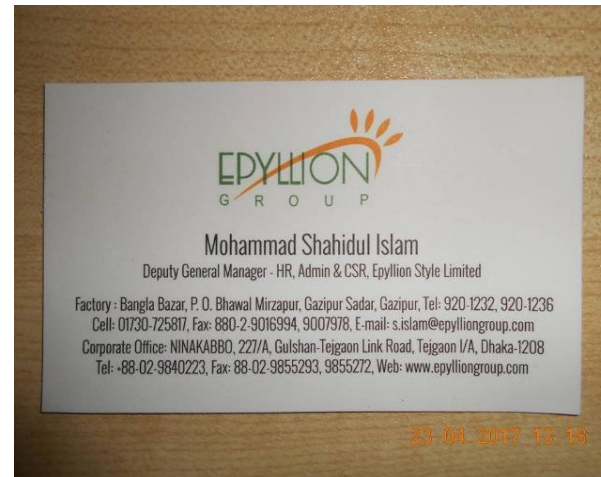
Factory Building name(s): Epyllion Style Limited (Extension Project)

Factory Address: Nayapara, Vhawal Mirzapur, gazipur Sadar, Gazipur- 1703

Points of contact:

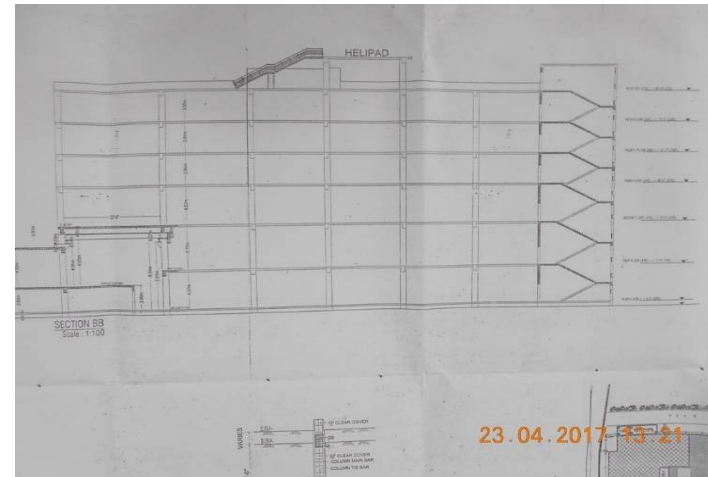
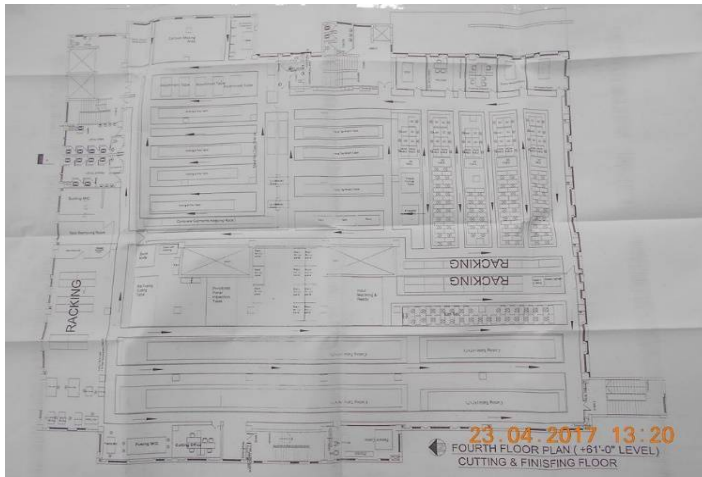
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General Building Information- Epyllion Style Limited (Extension Project)

Number of Stories Below / Above Grade	0/5
Highest Occupied Floor Level / Height	71 ft.
High Rise (Accord 3.2.1)	NO
Occupiable Roof (Accord 3.2.2)	YES
Occupiable Roof Provided with Adequate Parapets / Guards (Accord 6.12.2.4)	Yes (45")
Occupancy Classifications	G2 (Industrial), F (Business/Office), E (Assembly), H (Storage), B2 (Day-care).
Floor Plans Available	YES



Date Of Construction	Start- December, 2013.
Major Renovations / Additions	No
Other Tenants In Building	Yes
Floors Occupied By Factory	3rd floor, 4th floor, 5th floor

Occupant load by floor

Floor	Use	Occupant Load	Comments
GF	Yarn Dyeing, Store, Medical, Day Care, Winding, Office	97	
1	Laboratory, Yarn Dyeing, Store, Winding, Office	180	
2	Knitting, Office	111	
3	Sewing, Office, Idle Machine Room	700	
4	Cutting, Finishing, Office	500	
5	Warehouse, Dining, Prayer Room, Inspection Room	350	Dining capacity = 300 occupants
Roof	Helipad, Water Treatment Room	0	



Construction Features:

Non-Combustible Construction	Yes
Fire-Resistive Construction	Yes

Building Exposures:

North	Utility Building
South	Washing building around 20 feet away
East	38 feet wide road
West	15 feet wide road

Vertical Openings:

Exit Stairs Enclosed in Fire-Rated Construction (Accord 6.14)	No	
Exit Stair Penetrations are Fire Rated (Accord 6.14)	No	
Exit Stair Openings are Fire Rated (Accord 6.14)	No	
Exterior Exit Stairs Separated From Building (Accord 6.3.1.3)	N/A	
Shafts Enclosed in Fire Rated Construction (Accord 4.5.7)	No	



Openings / Penetrations in Fire-Rated Floors are Protected (Accord 4.5.3)	No	
Atrium Protected As Required (Accord 3.7)	No	

Egress Features:

Existing 05 storey main production building provided with 04 exits and another exit is under construction. All the exits were remotely located and also travel distance requirements were met . Maximum exit capacity is 1275 and maximum occupants at third floor found are 700.

Doors along means of egress in the building provided with sewing types doors . Locking features were found compliant. All doors were open and unlocked during the inspection.

No storage was located in the egress path. Emergency Evacuation Maps have been posted near all exit stair. Also occupant load sign & stair designation signs were posted near exit doors at all levels of the building. The factory authority informed, all the doors of exit stairs along egress routes will be open till working hour.

Floor	Occupant load	Nos of. Exit	Exit Capacity
GF	97	4	1275
1	180	4	1275
2	111	4	1275
3	700	4	1275
4	500	4	1275
5	50	4	1275
Roof	0	3	956



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)	Yes	
Egress Doors Swing Correctly (Accord 6.8.1)	Yes	
Egress Doors Without Locking Hardware in Direction of Travel (Accord 6.8.2)	Yes	

Exit Stairs:

All Exit Stairs Discharge Directly to the Exterior (Accord 6.17)	Yes	
Handrails Provided on Both Sides (Accord 6.9.2.4)	Yes	
Exit Stairs Free of Storage and Obstructions (Accord 6.3.8, 6.3.9)	Yes	



Electrical Panels Located Outside of Exit Stairs	No	
Exit Stairs Serving More than 5 Stories Provided with Re-Entry (Accord 6.8.3)	Yes	

Exit Access & Arrangement:

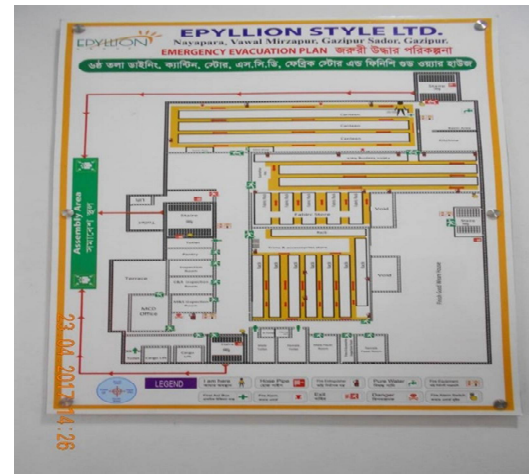
Means of Egress Free of Storage & Obstructions (Accord 6.3.8, 6.3.9)	Yes	
Means of Egress of Adequate Width (Accord 6.5)	Yes	
Travel Distances, CPT, DE's Within Limits (Accord 6.13)	Yes	
Exit Access Corridors Provided with Proper Fire Protection / Separation (Accord 6.3.1.1)	N/A	
Day-care Within Limits (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)	Yes	

Emergency Planning :

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



Smoking Prohibited (Accord 13.5)	Yes	
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Fire Protection Features:

Fire Alarm System

Current System Overview:

The factory has started installation of addressable fire alarm system without approval from AHJ. It consisted of manual alarm switches and siren units installed near the entrances. Visible alarms have been provided in production areas. The activation switches reportedly triggered the fire alarm for the entire building. No functional test was conducted on the system during the inspection. No records or assertions of regular testing or maintenance of the fire alarm system was provided.



Type of System	Addressable	
Fire Panel Location	Ground Floor Fire Control Room	
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	Not found any	
Functional Test Conducted	No	





Fire Detection System

Current System Overview:

The factory has started installation of addressable fire detectors without approval from AHJ.

Type of Detector	Addressable	
Smoke Detection Per NFPA 72	Yes	





Standpipe System

Current System Overview:

Based on highest occupied floor level (71 ft.) , class III standpipe system is required. The factory has installed standpipe system without approval from AHJ. Hose connections were found inside the staircase and inside production floor which is not as per standard.

Standpipe System Required	Yes	



Type of System Installed	Class III	
Hose Connection Locations	Inside the staircase & inside the production floor.	
ITM Per NFPA 25	Not found any	
Comments	As-built drawing shall be submitted to Accord for verification.	



Sprinkler System

Current System Overview:

Based on highest occupied floor level (43 ft. 9 in) sprinkler system is not required.

Sprinkler Protection Required	No	
Type of System Installed	N/A	



Location/Coverage	N/A	
ITM Per NFPA 25	N/A	
Comments	N/A	

Fire Water Supply

Current System Overview:

Currently the hoses are connected with under ground water reservoir. Capacity of under ground water reservoir is 400000 Ltd which is located under pump room. The factory has already installed fire pump and capacity is 1250 GPM @ 10 BAR.

Source, Location, & Capacity	Underground, Near Pump Room, 400,000 litre.	
Fire Pump Provided	Yes	
Fire Department Inlet & Outlet Connections Provided (Accord 5.5.4)	Yes	
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	Not found any	
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Portable Fire Extinguishers

Current System Overview:

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

Types Provided	CO ₂ & Dry Chemical.	
Adequate Number/Spacing	Yes	
ITM Per NFPA 10	No	





Manual Fire Fighting Equipment

Current System Overview:

Manual firefighting equipment's staged near the floor exits. 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	Inside staircase.	





Other Features

Emergency Lighting & Exit Signs

Overview:

Emergency lights have been provided in the production floor and above exits. There were multiple florescent lights that had an alternate “Instant Power Supply” (IPS) and battery back up. They are not keeping records or assertions of regular testing or maintenance of the emergency lighting system & exit signage units as per standard.

Exits and Exit Access Properly Marked with Exit Signage	Yes	
Emergency Power	Yes	
Adequate Emergency Lighting for Exits & Exit Access	Yes	
Adequate Inspection / Testing (Accord 10.12)	Not found any	





Elevator

Overview:

Three nos elevator has been installed.

Elevator Opens Into Exit Enclosure	Yes	
Elevator Shaft/Doors Fire-Rated	Yes	Need to verify
Automatic Recall	Yes	Need to verify





Compressor Equipment

Overview:

6 nos. compressors were found inside utility building.

Location(s)	Utility Building	
Fire Rated Separation	No	



Boiler & Furnace Equipment

Overview:

1 nos boilers were housed in a separate utility building having more than 38ft. distance from main production building and with proper fire separation whose capacity were 500 kg/hr each.

Location(s)	Utility Building	
Fire Rated Separation (Accord 3.4.2.1.5)	N/A	
Open Storage Within Limits (Accord 3.4.2.1.6)	N/A	
Storage Areas Separated from Exit Stairs & Discharge Paths	Yes	
Storage / Use of Liquefied Gas Cylinders Prohibited Within Building (Accord 3.4.2.1.11)	No	
Hazardous Materials / Flammable Liquid Storage Area Provided With Adequate Fire Rated Separation (Accord 3.4.2.1.10)	N/A	
Generator Area Free of Additional Fuels	Yes	





Boiler Room



Generator Room

Additional Information:

Few more facilities and some views surrounding the factory are provided below.



Sub-station room



Sub-station room





North Side of The Factory Building



West Side of The Factory Building



South Side of The Factory Building



East Side of The Factory Building





Medical Room



Child-care Room (Under Construction)



Findings & Recommendations :

Following table summarizes the major fire safety issues identified during the inspection. Recommendations have been provided to address each issue. An implementation schedule shall be developed by the factory to remediate each of the findings. The specific timing of improvements, including any requested extensions due to design / installation constraints, shall be submitted to the Accord for approval.

SI No.	Category	Findings	Required Action	Remediation Time Frame	Pictorial Evidence
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SI No.	Category	Findings	Required Action	Remediation Time Frame	Pictorial Evidence
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1 Fire Rated Construction

The exit stairs are not separated from [work areas, other spaces] on each floor by fire-rated construction.
 Fire doors were found open by non-mechanical means during working hour but those are not tied with fire alarm system by automatic closing devices.

Stair shall be enclosed with a minimum 2-hr fire-rated construction. Seal all unprotected openings and provide minimum 1.5-hr fire rated doors to separate the exit stairs from work areas and other building spaces on all floor levels. Ensure that the fire doors are self-closing, 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



SI No.	Category	Findings	Required Action	Remediation Time Frame	Pictorial Evidence
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2	Fire Rated Construction	Rooms used for storage of combustible materials are not separated from the surrounding occupancy/areas.	Rooms used for storage of combustible materials shall be separated from the surrounding occupancy with a minimum 1 hour construction.	Within 3 Months	
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SI No.	Category	Findings	Required Action	Remediation Time Frame	Pictorial Evidence
3	Fire Rated Construction	Penetrations through floor/ceiling assemblies are found unsealed.	<p>Seal all penetrations and openings in floor/ceiling (full thickness of the floor/ceiling) assemblies by fire rated materials to maintain the fire resistance rating.</p> <p>Or</p> <p>Provide a minimum 2-hr fire rated shaft to separate the utility risers from each floor if required.</p>	Within 3 Months	 



SI No.	Category	Findings	Required Action	Remediation Time Frame	Pictorial Evidence
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4 Fire Rated Construction

Generator and Compressor room is not properly separated by fire rated construction. Fire doors were found open during working hour but those are not tied with fire alarm system by automatic closing devices.

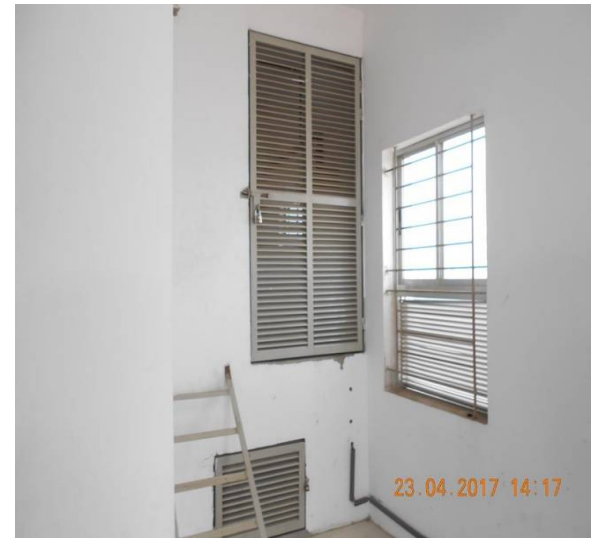
Generator, Compressor or other heat producing equipment shall be separated from other occupancies by a minimum 2-hr fire rated construction (wall, floor, slab etc). Seal all penetrations and openings (door, window etc.) should be protected by 1.5 hr fire rated materials to maintain the fire separation if required. All exhaust systems shall discharge to the exterior of the building in a safe location.
Or
Relocate it to exterior of the building and maintain a minimum 3m (10 ft.) spatial separation distance from the building.

Within 3 Months



SI No.	Category	Findings	Required Action	Remediation Time Frame	Pictorial Evidence
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5	Fire Rated Construction	All elevator machine rooms were not separated by fire rated construction. The elevator machine rooms in Building were not provided with fire rated doors .	Separate the elevator machine rooms. by a minimum 2-hr firerated construction. Seal and/or protected all openings to maintain the required fire separations	Within 3 Months	
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SI No.	Category	Findings	Required Action	Remediation Time Frame	Pictorial Evidence
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6	Fire Rated Construction	An atrium creates a vertical opening between floors.	Completely separate the atrium from adjacent areas of the building with 2-hr fire rated construction such that egress paths do not pass through the atrium and emergency workers are not required to access the atrium. Alternatively, design atrium in accordance with Accord Building Standard Section 3.7	Within 3 Months	
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7	Egress	Building did not have occupant load signs at required locations on all the floors	Provide occupant load signs at required locations.	within 1 month	
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SI No.	Category	Findings	Required Action	Remediation Time Frame	Pictorial Evidence
8	Fire Alarm & Detection System	The addressable fire alarm system installation is going on without design approval from AHJ.	Submit As-Built drawing to AHJ for approval and replace or modify the fire alarm system in accordance with NFPA 72.	Within 2 months (Design submission) & 6 months (Installation)	
9	Fire Alarm & Detection System	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 3 Months	



SI No.	Category	Findings	Required Action	Remediation Time Frame	Pictorial Evidence
10	Water Based Fire Protection System	The standpipe system installation is going on without design approval from AHJ.	Submit As-Built drawing to AHJ for approval and replace or modify the standpipe system in accordance with NFPA 14.	Within 2 months (Design submission) & 6 months (Installation)	
11	Water Based Fire Protection System	Inspection, testing, and maintenance for the standpipe system is not in accordance with NFPA 14 or as per Accord standard.	Inspect, test and maintain the standpipe system, and keep written records on-site, in accordance with NFPA 14 or as per Accord standard.	Within 3 Months	



SI No.	Category	Findings	Required Action	Remediation Time Frame	Pictorial Evidence
12	Water Based Fire Protection System	Inspection, testing, and maintenance for the fire pump is not in accordance with NFPA 20 or as per Accord standard.	Inspect, test and maintain the fire pump and keep written records on-site, in accordance with NFPA 20 or as per Accord standard.	Within 3 Months	
13	Portable Fire Protection System	Inspection, testing & maintenance of portable fire extinguisher is not in accordance with NFPA 10	Inspect, test & maintain the portable fire extinguishers & keep written records on site, in accordance with NFPA 10	Within 1 month	



SI No.	Category	Findings	Required Action	Remediation Time Frame	Pictorial Evidence
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14	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	
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15	Egress Lighting	Exit signage not illuminated.	Regularly inspect all exit signage as per Accord standard and replace/install lights as needed to illuminate signs.	Within 1 month	
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SI No.	Category	Findings	Required Action	Remediation Time Frame	Pictorial Evidence
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16	Egress Lighting	Inspection, testing, and maintenance for the exit sign and emergency lighting system was not in accordance with The ACCORD standard.	Inspect, test and maintain the exit sign and emergency lighting system in the accordance with The ACCORD standard. Keep written records on-site.	Within 1 Month	
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