

FIRE SAFETY INSPECTION REPORT

ALLIANCE GARMENTS LTD
HOUSE # 8 & 10, ROAD # 3, SECTION # 7, MIRPUR
INDUSTRIAL AREA, DHAKA-1216

Other Factories: None



ACC  **RD**
on Fire and Building Safety in Bangladesh

May 5, 2014

Fire Safety Inspection Report Alliance Garments Ltd

Introduction

Alliance Garments Ltd manufacturing complex was surveyed for fire safety on 5/5/2014 by Hughes Associates, Inc.

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, Hughes 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 name(s):

Alliance Garments Ltd

Factory Address:

House # 8 & 10, Road # 3, Section # 7, Mirpur Industrial Area, Dhaka-1216

Points of Contact:

Tarikul Islam Rajib, Managing Director

Alliance Garments Ltd

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Alliance Garments Ltd

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General Building Information - Alliance Garments Ltd

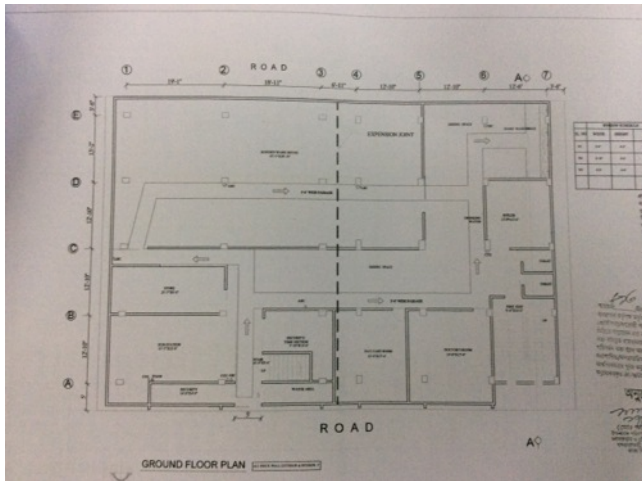
No. of Stories Below / Above Grade 0 / 6

High Rise No

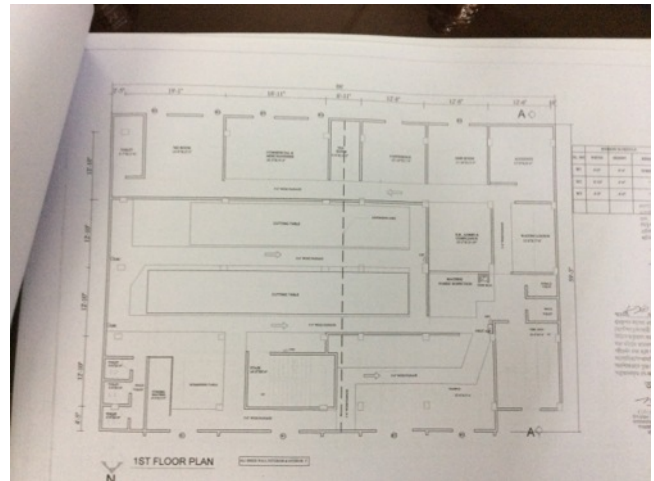
High Rise Comments: 15.25 meters height to highest occupiable floor.

Occupancy Classification G2 Industrial

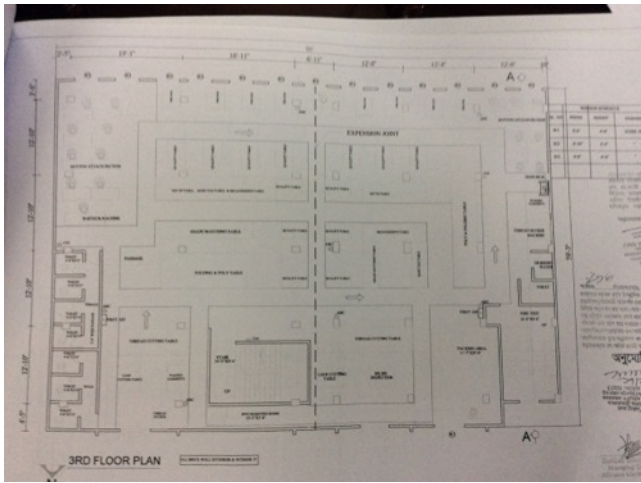
Floor Plans Available Yes



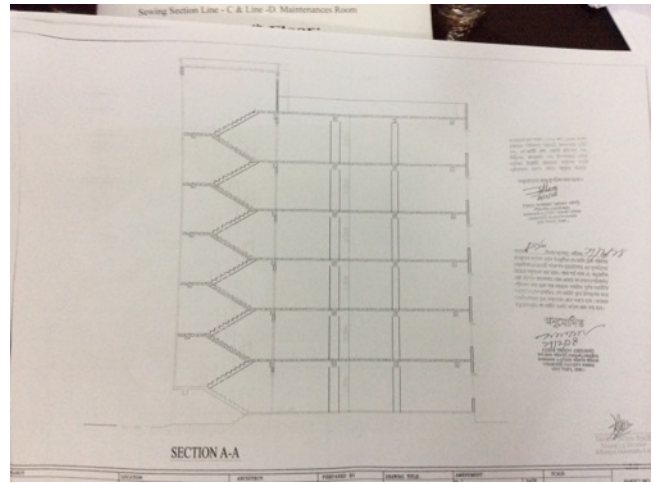
Ground Floor Plan



1st Floor Plan



3rd Floor Plan



Building Section

Date Of Construction	1996
Major Renovations	No
Other Tenants	No
Floors Occupied By Factory	All floors.

Floor	Use	Occupant Load
G	Storage/Day Care/Dining	15
1	Office/Cutting/Sample	68
2	Sewing	202
3	Finishing	147
4	Sewing	184
5	Sewing/Finish	91

Construction Features

Non-Combustible	Yes
Fire-Resistive	Yes

Building Surroundings

North	Open to road
South	Open to road
East	No separation to a building at all floors.
West	Approx. 5' separation to a building at all floors.

Vertical Openings

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

Egress Features

Two (2) exit stairs serve the building. Egress from the ground floor is provided by three (3) exits. Each floor had an adequate number of exits with sufficient exit capacity based on occupant load. All exit stairs were not remotely located. All exits discharge to the exterior of the building. All exit stairs are open to the floors due to unprotected openings.

Sliding gates or roll-up doors were used at building exits, exit stairs and exit discharge. Egress doors with locking features were present at exit stairs and exit discharge. All gates and doors were open and unlocked during the inspection. Emergency evacuation plans were located at exit stairs. Fire drills are conducted monthly and records were maintained.

Floor	Occupant Load	No. Exits	Exit Capacity
G	15	3	600
1	68	2	350
2	202	2	350
3	147	2	350
4	184	2	350
5	91	2	350

General

Number of Exits Adequate	Yes
Exits Remote	No

Exit Doors

Sliding Gates/Doors Used?	Yes
Egress Doors Swing Correctly?	Yes
Egress Doors Lockable?	Yes

Exit Stairs

All Stairs Discharge to the Exterior?	Yes
Handrails on at least One Side?	Yes
Storage Located in Stairs?	No

Exit Access From Factory Areas

Storage in Egress Paths? No

Egress Paths of Adequate Width? Yes

Excessive Travel Distances, CPT, DE's No

Emergency Planning

Emergency Evacuation Plans Provided? Yes

Fire Drills Conducted Yes

Records Maintained Yes



Sample of evacuation plan



Sample of evacuation map.

Fire Protection Features

Sprinkler System

No automatic sprinkler protection was provided in the building nor is it required.

Fire Hose System

Hose reels with 1 in. hoses were provided adjacent to the west stair.

Hose Size(s) Provided 1 in.

Locations Adjacent to west stair.



Example of fire hose

Fire Water Supply

The fire hose system is supplied by gravity from a roof tank having a reported capacity of 5,000 L. The tank is fed by an underground cistern (with reported capacity of 35,000 L.). There was no fire pump connected to the system.

Source(s) Tanks.

Location Roof.



Fire alarm switch



Sound notification.

Fire Detection System

Single station smoke alarms are located in various places throughout the factory. These smoke alarms are not tied into the fire alarm system. In the event they detect smoke, they will provide a local alert sound. There were no records or assertions of regular testing or maintenance of the fire detection system.

Type of Detectors Single Station Smoke Alarms

**Regular Inspection,
Testing, & Maintenance?** No



Single station smoke alarms

Portable Fire Extinguishers

Portable fire extinguishers, consisting of a mix of CO2 and dry chemical extinguishers, are provided throughout the building. Inspection tags show recent and up-to-date inspections.

Types Provided CO2, Dry chemical

Adequate Number/Spacing? Yes



Sample of Fire Extinguisher



Sample of Fire Extinguishers

Manual Fire Fighting Equipment

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

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

Location of Equipment Adjacent to stairs.

Other Features

Emergency Lighting & Exit Signs

Emergency lighting was located inside and outside the exit enclosure walls. Lighting consisted of multiple compact florescent lights that have an alternate "Instant Power Supply" (IPS). Each floor had a number of illuminated exit signs (a mix of directional and non-directional) located along the exit access and at exits on each floor. The factory reports that these are serviced by normal electricity as well as "Instant Power Supply" (IPS). There were no records or assertions of regular testing or maintenance of the emergency lighting system. Emergency lighting has on/off switches throughout the factory.

Exits and Exit Access Properly Marked with Exit Signage	Yes
Emergency Power	IPS Battery
Emergency Lighting for Exits & Exit Access	Yes
Regular Inspection, Testing, & Maintenance?	No



Sample of emergency light.



Sample of exit sign



Sample of emergency light

Elevators

No elevator was provided in the building.

Generators

One (1) diesel powered generator serves the building. These generator is located in a separate structure located north of the building. The roof structure is not fire rated.

Location(s) Ground floor

Inside Fuel Storage No

Fire Rated Separations Provided? Yes



Generator Room



Generator Room

Boilers

A boiler is located on the ground floor of the building. The boiler is surrounded by partial-height walls without full separation from the factory floor.

Location(s) Ground floor

Fire Rated Separations Provided? No



Boiler room open to floor



Boiler room open to floor

Transformers

A transformer is located on the ground floor of the building. The transformer is surrounded by partial-height walls without full separation from the factory floor.

Location(s) Ground Floor

Fire Rated Separations Provided? No



Transformer room



Transformer room

Storage Areas

A storage area was located in the 5th floor, fire rated separation to the factory floor was not provided.

The storage room on the ground floor had ventilation ports along the north wall that compromise the fire barrier; also the openings are unprotected.

Fire Rated Separations Provided? No

Open to Factory Floors? Yes

Open to Exit Discharge? No

Additional Information

Child care is provided and located next to an exit.

Findings & Recommendations

Table 1 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.

Table 1. Findings And Recommendations

No.	Category	Finding	Recommendation	Remediation Timeframe
F-1	Fire Rated Construction	<p>The boiler room is not separated by fire-rated construction.</p> <p>The boiler room is located in the ground floor next to the dining area.</p>	<p>Separate the boiler room by a minimum 1-hr fire-rated construction. Seal and/or protected all openings to maintain the required fire separations</p>	Within 3 months



F-2	Fire Rated Construction	The exit stairs are not separated from work areas, 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.	Within 3 months
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If fire doors are required to be held open for functional reasons, provide automatic-closing devices tied to the fire alarm system.





F-3	Fire Rated Construction	Areas used for combustible storage are not separated by fire-rated construction. Storage area is located in the 5th floor.	Provide dedicated storage rooms separated by minimum 1-hr fire-rated construction. Where separate storage rooms are not feasible, provide defined storage areas and limit the storage arrangement as follows: - Maximum height of 2.4m and maximum area of 23m ² - If sprinkler protected: maximum height of 3.66m and maximum area of 93m ² Separate areas of unenclosed combustible storage by a minimum clear distance of 3m.	Within 3 months
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F-4	Fire Rated Construction	<p>The transformer room is not separated by fire-rated construction.</p> <p>The transformer room is located in the ground floor next to the storage room.</p>	<p>Separate the transformer room by a minimum 2-hr fire-rated construction. Seal and/or protected all openings to maintain the required fire separations</p>	<p>Within 3 months</p>
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F-5	Fire Rated Construction	Storage rooms with combustible materials at ground floor were not fire separated or had unprotected openings.	Separate the storage rooms by a minimum 1-hr fire-rated construction. Provide minimum .75-hr fire rated doors and seal all unprotected openings to separate the storage rooms from work areas and other building spaces at the ground floor.	Within 3 months
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F-6 Egress

Egress doors / gates with locking features are provided at west exit stairs and exit discharge.

Remove locking features from all egress doors / gates.

Immediate

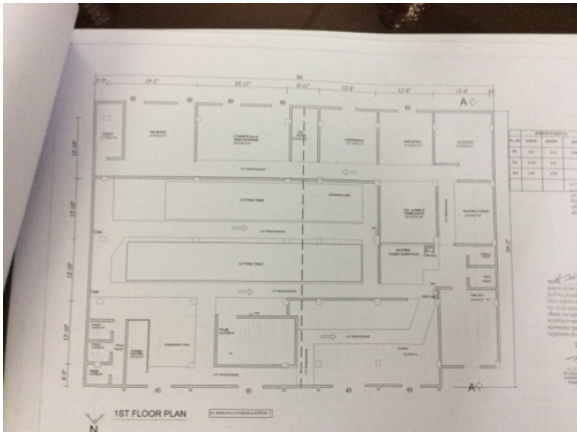
If locks are required for security reasons, utilize special door locking features complying with NFPA 101.



F-7	Egress	<p>Collapsible gates and roll-up doors are provided at building exits, exit stairs and exit discharge.</p> <p>Lockable sliding gates are provided at west stair and exit discharge and roll-up doors at east exit stair.</p>	<p>Replace all gates and roll-up doors along the means of egress with side-hinged, swinging egress doors.</p> <p>If locks are required for security reasons, utilize special door locking features complying with NFPA 101.</p>	Within 1 month
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F-8	Egress	<p>The exits are not remotely located from each other such that a single fire event could compromise both exits.</p> <p>At all floors the approx. separation of exit stairs is 46' and the minimum separation required based on the diagonal distance of the floors is approx. 52'.</p>	Modify exit arrangement.	Within 6 months
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F-9	Fire Protection	The fire alarm system is antiquated, not a listed system, and does not provide alarm and notification features consistent with acceptable standards.	Replace the fire alarm system with a new, listed addressable fire alarm system in accordance with NFPA 72.	Design within 4 months, install within 9 months
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F-10	Fire Protection	Inspection, testing, and maintenance for the fire alarm system was not in accordance with NFPA 72.	Inspect, test and maintain the fire alarm system, and keep written records on-site, in accordance with NFPA 72.	Within 3 months
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F-11	Fire Protection	The building is equipped with single-station smoke alarms. Smoke alarm activation sounds only a local alarm and does not provide automatic fire alarm notification of occupants.	Replace the single-station smoke alarms. Provide automatic smoke detection throughout the building in accordance with NFPA 72.	Within 6 months
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F-12	Egress Lighting	Inspection, testing, and maintenance records for the emergency lighting system were not available.	Inspect, test and maintain the emergency lighting system in accordance with The ACCORD standard. Keep written records on-site.	Within 3 months
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