

Summary of Preliminary Assessment on Structural, Fire and Electrical Safety

Name of the Factory	: Alfi Garments Ltd.
Address of the Factory	: 78, Digirchala, National University, Tongi, Gazipur
Present Status of the Factory	: Under operation.
Structural Assessment Conducted by	: VEC
Date of Structural Inspection	: 11 May, 2015
Fire Assessment Conducted by	: VEC
Date of Fire Inspection	: 11 May, 2015
Electrical Assessment Conducted by	: VEC
Date of Electrical Inspection	: 11 May, 2015
BGMEA Membership No.	: 5946

BASIC INFORMATION:

The factory building is a three storied RCC building with beam and column system and flat slab system. The following information was noted:

i. Building Usage Type	: Garment Factory.
ii. Structural System	: RCC beam column system.
iii. Floor System	: RCC Beam slab.
iv. Floor Area	: 12,200 sft
v. No. of Stories	: 4 storied
vi. Construction Year	: 2013 to present
vii. Foundation Type	: Isolated footing
viii. Design Drawings	: Available: Structural drawing, Approval plan Not Available: architectural design drawing, material test report floor load plan.
ix. Soil Investigation Report	: Available
x. Construction Materials	: Brick aggregate.
xi. Generator	: Ground Floor.

RECOMMENDATIONS FOR CORRECTIVE ACTION:

The recommendations of corrective action for both Structural and Fire & Electrical Safety comprises in Short Term, Mid Term and Long Term basis.

The recommendations for **Structural Safety** corrective action are:

Short Term (Immediate)	: NA
Mid Term (6-weeks)	: 1. Conduct soil test at the vicinity of the building and confirm load bearing capacity of the foundation system by qualified engineer.
Long Term (6-months)	: 1. Continue to monitor for corrosion on an on-going basis. Protective coating should be applied on the exposed rebar and steel frame to protect them from corrosion. 2. Develop set of as-built drawings showing structure details, loading, dimensions, levels, foundations and framing on Plan, Section and Elevation drawings.

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The recommendations for **Fire & Electrical Safety** corrective action are:

(A): Recommendations for Fire Safety Corrective Actions:

<p>Immediate</p> <p><i>(the factory should not continue to be occupied until these non-conformities have been rectified):</i></p>	<p>N/A</p>
<p>Short Term</p> <p><i>(Actions that must be incorporated into a Fire Safety Management Plan immediately (1 ~ 2 weeks) and should be a regular activity</i></p>	<p>Ensure adequate numbers of fire drills under the Fire Safety Plan.</p> <p>All the firefighting equipment need to be tested with proper documents.</p> <p>Factory needs to have sufficient number & width (0.9 m) of marked aisles</p> <p>Factory needs to have sufficient total width of marked aisles (5 mm per occupant)</p> <p>Lights in storage area need to be installed with protective covers and conduits.</p> <p>Combustibles are to be managed with good housekeeping.</p> <p>Storage facilities with no air-conditioning duct shall be minimum 2.9m and when used as a storage facility there shall be a minimum clearance of one third the floor height from the ceiling to the top of the storage stack.</p> <p>Ensure adequate illuminated emergency lighting in floors, exits and escape routes</p>
<p>Mid Term</p> <p><i>(The remedial works indicated must be carried out within a period of 6 weeks)</i></p>	<p>Factory needs to have as built drawing with proper dimensions showing all the means of escape.</p> <p>Factory safety Manager/Director needs to arrange fire safety training for the workers of the factory from proper authority time to time.</p> <p>All the exit doors need to be install side swinging so that unlockable doors can be opened easily in the direction of evacuation without the use of a key.</p> <p>Provide continuous guards and handrails on both sides of the stairways.</p> <p>Emergency back-up power needs to be connected for critical fire safety system and not less than 30 minutes in case of failure of power supply</p>
<p>Long Term</p> <p><i>(The remedial works indicated must be carried out within a period of 6 months)</i></p>	<p>Factory needs to have a proper pre-plan for fire department.</p> <p>Generator and boiler room need to be fire separated with 2 hours fire rated enclosure and 1.5 hours rated opening having direct access from outside.</p> <p>All the exits connecting to the staircases need to be protected with fire and smoke resistant enclosures and opening (2 hours rated enclosure and 1.5 hour rated door)and provide a protected route from all though the stairway to the final exits.</p> <p>Each bay shall be considered as separate compartment and detectors shall be installed considering each bay an independent compartment.</p>

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	<p>Automatic fire detection (AFD) and alarm system needs to be installed in all types of buildings.</p> <p>Factory needs to install control panel for detection and alarm system at required location.</p> <p>Install proper standpipe system having at least 75 mm diameter of standpipe. First aid hose system (38 mm nominal) shall be provided (Ref. Fire Service Standard # 9) in addition to Fire Aid Fire Fighting Appliances in existing high rise NTPA (20 m) buildings. In addition 50mm or larger hose connection facility shall be provided.</p> <p>Factory needs to install 1 riser per 1000 m2 of floor area and 38 mm diameter of hoses with variable nozzle.</p> <p>Factory needs to install standard standpipe, hose and fire pump system to ensure required hose pressure.</p> <p>Factory needs to install Siamese connection after installation of stand pipe system, hose system and fire pump.</p> <p>Factory needs to install dedicated fire pump with sufficient capacity and backup power.</p> <p>Factory needs to have sufficient water storage capacity to get adequate pressure to feed fire-fighting equipment.</p>
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(B): Recommendations for Electrical Safety Corrective Actions:

<p>Immediate</p> <p><i>(the factory should not continue to be occupied until these non-conformities have been rectified):</i></p>	
<p>Short Term</p> <p><i>(Actions that must be incorporated into a Fire Safety Management Plan immediately (a week) and should be a regular activity</i></p>	
<p>Mid Term</p> <p><i>(The remedial works indicated must be carried out within a period of 6 weeks)</i></p>	

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Long Term

(The remedial works indicated must be carried out within a period of 6 months)