

Summary of Preliminary Assessment on Structural, Fire and Electrical Safety

Name of the Factory : A.J. Super Garments Ltd.
Address of the Factory : Goshbag, Zirabo, Savar
Present Status of the Factory : Under Operation
Structural Assessment Conducted by : BUET
Date of Structural Inspection : 6th December 2014

BASIC INFORMATION:

The following information was noted:

- i. Building Usage Type : Garment factory building.
- ii. Structural System : RC Frame Building
- iii. Floor System : Edge supported RCC slabs.
- iv. Floor Area : Approximately 18063 sq. m (161553 +32735 sft) per floor
- v. No. of Stories : 6-Stories,
- vi. Construction Year : Phases(2005 & 2007-2010)
- vii. Foundation Type : Isolated individual footing
- viii. Design Drawings : Available (Undated)
- ix. Soil Investigation Report : Available(creative consultancy service.2003)
- x. Construction Materials : Reinforced Concrete, stone Chips (verified),
- xi. Generator : ground floor of the annex building

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) : 1.Factory is asked to shift the storage to ground floor immediately.
2. Loading intensity should be strictly maintained within 60 psf (3.0kn/m²) at any location of the building except ground floor which directly supported on soil.
- Mid Term (6-weeks) : None
- Long Term (6-months) : No vertical extension or increase in loading in any portion of the building is allowed.

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

Name of the Factory : A.J. Super Garments Ltd.
Fire & Electrical assessment conducted by : BUET
Date of Fire & Electrical Inspection : 14 January, 2014

(A): Recommendations for Fire Safety corrective actions:

Fire Safety Issues	
Immediate <i>(the factory should not continue to be occupied until these non-conformities have been rectified):</i>	N/A

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<p>Short Term (The remedial works indicated must be carried out within a period of 6 weeks)</p>	<p>N/A</p>
<p>Mid Term (The remedial works indicated must be carried out within a period of 6 weeks)</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Provide design drawings to demonstrate how designated storage areas, assembly areas, offices and work areas should be separated with fire-rated walls and doors According to the Guideline occupancy Separation will be achieved. <input type="checkbox"/> Retrofitting of internal layout needed with Appropriate drawings following guidelines. <input type="checkbox"/> Retrofitting drawing of internal layout needed as per guidelines. <input type="checkbox"/> Produce design drawings to demonstrate how stairways are to be made of adequate dimensions and appropriate specifications and to be converted into smoke-proof enclosures equipped with Fire-rated side swinging doors opening in the direction of travel at each floor. <input type="checkbox"/> Provide adequate number and type of illuminated exit signs so that exits can be seen from all corridors and evacuation paths. <input type="checkbox"/> Provide English and Bangla Exit instructions where necessary. <input type="checkbox"/> Post directional signs at appropriate locations. <input type="checkbox"/> Provide fire extinguishers that meet the requirements of the Guidelines. <input type="checkbox"/> Provide adequate number of additional fire-fighting equipment to meet the Factory Rules. <input type="checkbox"/> Produce design drawings to demonstrate the incorporation of fire rated enclosure from floor to ceiling and an approved fire rated self-closing swing door for the boiler room. <input type="checkbox"/> Install appropriate detectors.

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

- Mixed use buildings and Buildings housing RMGs, use some floors that fall under “Mixed Occupancy” (e.g. Storage, Office, Work areas, etc.). The designated storage areas, assembly areas, offices and work areas should be separated with fire rated walls and doors according to the Guidelines.
- Different occupancy in different floors should be separated with fire-rated construction according to the Guidelines.
- Provide fire-rated separation to prevent smoke and fire propagation through staircases and grills on the interior walls.
- Doors on all escape routes to open in the direction of travel
- Internal retrofitting needed to create safe passage, corridors and exits as per the guidelines.
- Ensure prevention of fire and smoke propagation through vertical shafts by providing fire rated enclosures around the openings along with seals in shafts and ducts at floor separations.
- Provide service duct for electrical cables.
- Convert all interior stairways into smoke proof enclosures equipped with Fire-rated side swinging doors opening in the Direction of travel at each floor.
- Close wall openings adjacent to the exterior staircases to prevent fire and smoke propagation.
- The ground floor exits should be enclosed so as to ensure safe pathway for escape from the premises.
- Provide continuous smoke-proof fire protected pathway along all the stairways from roof to the final exit.
- Provide stairways of adequate dimensions and of appropriate specifications according to the Guidelines as required for the occupancy load.
- Remove all collapsible security gates from all exit stairway access doors.
- Provide fire doors as approved by the Guidelines.
- Provide fire-rated solid walls from floor to ceiling to ensure fire separation of the storage area from others or maintaining proper storage size and distance between stored items as per the Guideline.
- Provide smoke and heat vents as required.
- Provide new Emergency Lighting system that meets the specified emergency lighting requirements of the Guidelines.

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	<ul style="list-style-type: none"> <input type="checkbox"/> Provide standard Standpipe& Hose system that complies with the Guidelines requirements for supply of water, Minimum pressure in the standpipe and size (diameter) of the standpipe. <input type="checkbox"/> Ensure that Siamese connections are available as specified by the Guidelines. <input type="checkbox"/> Provide Fire pump with specifications to meet the Guidelines requirements. <input type="checkbox"/> Provide fire rated enclosure from floor to ceiling and an approved fire rated self-closing swing door for the boiler room. <input type="checkbox"/> Provide fire rated enclosure from floor to ceiling and an approved fire rated self-closing swing door for the Transformer room. <input type="checkbox"/> Install appropriate detectors. <input type="checkbox"/> Provide two-point earthing for the generator frame. <input type="checkbox"/> Provide earth fault protection. <input type="checkbox"/> Provide fire rated enclosure from floor to ceiling and an approved fire rated self-closing swing door for the Substation room. <input type="checkbox"/> Install or replace panel doors <input type="checkbox"/> Provide indicating lamps in the panel <input type="checkbox"/> Install appropriate detectors. <input type="checkbox"/> Provide appropriate lightning protection System. <input type="checkbox"/> Install the fire detection and alarm systems in accordance with the Guideline requirements and hazard situation (based On appropriate specifications and drawings).
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(B): Recommendations for Electrical Safety corrective actions:

Electrical Safety Issues	
Immediate <i>(the factory should not continue to be occupied until these non-</i>	N/A
Short Term <i>(Actions that must be incorporated into a Fire Safety Management Plan immediately (a week) and should be a regular activity</i>	N/A

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<p>Mid Term <i>(The remedial works indicated must be carried out within a period of 6 weeks)</i></p>	<ul style="list-style-type: none"><input type="checkbox"/> Provide clear identification mark on MDB/DB/SDB and provide SLD.<input type="checkbox"/> Provide earthing to body and door of MDB/DB/SDB.<input type="checkbox"/> Provide earth bar and neutral bar in MDB/DB/SDB.<input type="checkbox"/> Provide earthing to motor body.<input type="checkbox"/> Repair broken/loose box or socket.<input type="checkbox"/> Provide duplicate earth leads for MDB.<input type="checkbox"/> Ensure all connections with lugs and Proper cable dressing.
<p>Long Term <i>(The remedial works indicated must be carried out within a period of 6 months)</i></p>	<ul style="list-style-type: none"><input type="checkbox"/> Provide two-point earthing for the Generator frame.<input type="checkbox"/> Provide earth fault protection.<input type="checkbox"/> Provide appropriate lightning protection System.