

## Summary of Preliminary Assessment on Structural, Fire and Electrical Safety

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Name of the Factory	: <b>TEB Fashions International Ltd (9265)</b>
Address of the Factory	: 99, Hazi Afazuddin Bhuiyan Plaza, Mollartek, Dakkinkhan, Dhaka, Bangladesh.
Present Status of the Factory	: <b>Under Operation</b>
Structural assessment conducted by	: Accord (Full report available at <a href="http://bangladeshaccord.org">bangladeshaccord.org</a> )
Date of Structural Inspection	: 30, March, 2014
Fire & Electrical assessment conducted by:	Accord (Full report available at <a href="http://bangladeshaccord.org">bangladeshaccord.org</a> )
Date of Fire & Electrical Inspection	: February 28, 2014

**Basic Information:** The present garment factory is a commercial building with beam-column frame system. The following general information was noted:

i.	Building Usage Type	: Garments Factory
ii.	Structural System	: R.C Framing, Beam slab
iii.	Floor System	: Beam slab
iv.	Floor Area	: Unavailable
v.	No. of Stories	: 6 Storey
vi.	Construction Year	: 2005
vii.	Foundation Type	: Not applicable
viii.	Design Drawings	: Unavailable
ix.	Soil investigation Report	: Unavailable
x.	Construction Materials	: Unavailable
xi.	Generator	: Ground floor

**Recommendations for Corrective Action:** The recommendations of corrective action for both Structural and Fire & Electrical Safety are as follows:

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

**Immediate:**

- Redistribute fabric rolls around the floor area to ensure that no stack exceeds 300kg/m<sup>2</sup>
- Factory Engineer to review design, loads and columns stresses in all areas
- Verify insitu concrete stresses either by 100mm dia. cores or existing cylinder strength data.

**Mid Term (Within 6 Weeks):**

- Implement loading plan and oversee that storage of finished goods and raw materials are stored in accordance with the loading plan.
  - A full structural survey of the building is to be carried out using intrusive and non-intrusive methods to ascertain the overall accuracy of the existing record drawings.
  - All roof activities and buildings are to be terminated and demolished respectively.
  - In accordance with the actions in Item 2, terminate all activities on the roof, and demolish the existing buildings to free up loads from the roof.
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## **Long Term (Within 6 Months):**

- Maintain loading plan.
- Prepare new as-built drawings and a new loading plan for each floor which should be maintained and monitored regularly.
- Apply waterproof treatment to the roof to ensure no water seepage to the floor below.

## **The recommendations for Fire Safety corrective actions are:**

### **Immediate:**

1. Remove all storage from exit stairs and egress paths.
2. Completely remove intermediate gates in all three stairways.
3. Remove locking features from all egress doors / gates. If locks are required for security reasons, utilize special door locking features complying with NFPA 101.
4. Regularly test the emergency lighting system on each floor and replace/repair lights as needed.

### **Short Term (Within 3 Months):**

1. Provide a minimum 2-hr fire rated shaft to separate the utility risers from each floor level.
  2. Provide dedicated storage rooms separated by minimum 1-hr fire-rated construction.
  3. Provide dedicated storage rooms separated by minimum 1 hr fire-rated construction on all production floors where transient storage is required for operations. Where separate storage rooms are not feasible, provide defined storage areas and limit the storage arrangement as follows:
    - Maximum height of 2.4 m and maximum area of 23m<sup>2</sup>
    - Separate areas of unenclosed combustible storage by a minimum clear distance of 3m.
  4. 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.
  5. Inspect, test and maintain the fire alarm system, and keep written records on-site, in accordance with NFPA 72.
  6. Provide exit signs above all exits to the exterior, all doors to the exit stairs and along egress routes. If signs are not visible remove obstructions or provide additional exit signs.
  7. Inspect, test and maintain the emergency lighting system in accordance with The ACCORD standard. Keep written records on-site.
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### **Mid Term (within 6 Months):**

1. Provide 2-hr fire-rated exit passageway leading directly outside (vestibules to separate any storage areas).
2. Remove single-station smoke alarms. Provide automatic smoke detection throughout the building in accordance with NFPA 72.

### **Long Term:**

1. Replace the fire alarm system with a new, listed addressable fire alarm system in accordance with NFPA 72.

### **The recommendations for Electrical Safety corrective actions are:**

#### **Immediate:**

1. The HT supporting frames and pole structures must be earthed.
2. Power transformer must be separated with barrier wall from the electrical panels for sufficient working space around it.
3. Arrange the cables and provide full protection by laying it in proper cable trenches.
4. The cable size of incoming side of the MCCB must always be equal or larger than the load side.
5. Replace silica gel and fill the oil cup with appropriate transformer oil as per the manufacturer's requirement.
6. Phase barriers between different phases must be installed to avoid arc flashing.
7. Control panels must be cleaned as part of regular maintenance and all openings in panel must be sealed.
8. Support the cables entering/exiting the panel with proper sized cable glands.
9. Floor penetration around the cable raceway must be sealed with fire rated materials.
10. Install proper and adequate lightning protection system on the roof.
11. Distribution panel surroundings must remain clear at all time.
12. Isolated earthing system must be provided for transformer neutral which must be separated from equipment earthing system.
13. Install proper and adequate lightning protection system on the roof.

#### **Short Term (Within 3 Months):**

1. Maintain sufficient working space around the power transformer
  2. Cables must be supported on trays /raceways / risers and protected against possible stress/damages throughout its length.
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**Mid Term: NA**

**Long Term: NA**

