

Summary of Preliminary Assessment on Structural, Fire and Electrical Safety

Name of the Factory	: ZAARA COMPOSITE TEXTILES LTD.
Address of the Factory	: Surabari, Kashimpur, Gazipur, Bangladesh
Dhaka Present Status of the Factory	: Under Operation
Structural assessment conducted by	: Accord (Full report available at bangladeshaccord.org)
Date of Structural Inspection	: 4 May, 2014
Fire & Electrical assessment conducted by	: Accord (Full report available at bangladeshaccord.org)
Date of Fire & Electrical Inspection	: 4 May, 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	: Garment factory
ii.	Structural System	: R.C Beam and column frame with a 2-way solid slab
iii.	Floor System	: Beam slab
iv.	Floor Area	: Unavailable
v.	No. of Stories	: 6 storied
vi.	Construction Year	: 2007
vii.	Foundation Type	: Unavailable
viii.	Design Drawings	: Available (Permit drawing)
ix.	Soil investigation Report	: Unavailable
x.	Construction Materials	: Unavailable
xi.	Generator	: No generator

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 (Now):

1. No persons or loading be allowed on the 1st, 2nd, 3rd or roof levels.
2. A Detail Engineering Assessment be carried out on the entire building to assess the structural design.
3. A Detail Engineering Assessment be carried out to determine the cause and effect of the excessive vibration.

Mid Term (Within 6 Weeks):

1. Carry out any recommendations mentioned in the DEA.
2. Update structural drawings.
3. Prepare loading plans based on the load carrying capacity of each floor, as specified by the original designer, for the main factory and generator building.
4. Produce structural drawings for the above listed buildings.
5. Engineering assessment is required on the various bamboo and steel roof structures.

Long Term (Within 6 Months):

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1. Post load carrying capacity of each floor and manage loading for the main factory and generator building.
2. Repair and maintain structures based on engineering assessment recommendations.

The recommendations for Fire Safety corrective actions are:

Immediate (Within 1 month):

1. Replace all roll-up doors along the means of egress with side-hinged, swinging egress doors. If locks are required for security reasons, utilize special door locking features complying with NFPA 101.
2. Remove covers from existing smoke alarm.

Short Term (Within 3 Months):

1. 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.
2. Separate the storage room by a minimum 1-hr fire-rated construction. Seal and/or protected all openings to maintain the required fire separations.
3. Provide dedicated storage rooms separated by minimum 1-hr fire-rated construction. Where separate storage rooms may not be feasible, provide defined storage areas and limit the storage arrangement as follows:

-Maximum height of 2.4m and maximum area of 23m²

-If sprinkler protected: maximum height of 3.66m and maximum area of 93m².

Separate areas of unenclosed combustible storage by a minimum clear distance of 3m.

4. Separate the hazardous materials / flammable liquid storage room by a minimum 2- hr fire-rated construction. Seal and/or protected all openings to maintain the required fire separations.
5. Modify the egress door to swing in the direction of egress travel.
6. Inspect, test and maintain the fire alarm system, and keep written records on-site, in accordance with NFPA 72.
7. Inspect, test and maintain the emergency lighting system in accordance with The ACCORD standard. Keep written records on-site.

Mid Term (within 6 Months):

1. Provide additional remote exit or provide sprinkler protection in accordance with NFPA 13.

Long Term (More than 6 months):

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:

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Immediate (Within 1 month):

1. Clean the earth bus bar and put a protective cover for the bus bar.
2. Remove all the combustible materials from electrical panel .Establish a periodic cleaning program and maintain records of the activities and also proper mechanical support should be used for CT connection.
3. Wiring in PVC flexible conduit entering panels must be firmly fixed at the panel (base / Top) using gland fixations. Remove the fabric cover put on the panel which may spread the fire due to short circuit.
4. Cables must be terminated providing individual lug according to the respective cable-size for termination at bus bar.

Short Term (Within 3 Months):

1. Missing pairs of arcing horn must be installed during routine maintenance. Make sure power is switched off before maintenance.
2. Cable trench should be properly covered and cables arranged and latched on the tray at regular interval.
3. Replace silica gel and must include in routine maintenance to check and maintain.
4. All conduits and cables must be supported on cable trays and ladders with cover. Flexible conduit must not be used for long point wiring (except for special wirings).
5. Terminate each cable individually on the bus bar. Multiple cables shall not be terminated on same point of bus bar.

Mid Term (Within 6 months):

1. Disconnect the power source of the cable laid into channel and clean dust and debris of all interior components. Establish a periodic cleaning program and maintain records of the activities. Provide cover made of noncombustible material on the channel for preventing ingress of dust and debris in future.

Long Term (More than 6 months): NA