

Summary of Preliminary Assessment on Structural, Fire and Electrical Safety

Name of the Factory	: CROSSLINE KNIT FABRICS LTD
Address of the Factory	: 3/C, Vadam, NishatNagar, Tongi, Gazipur
Dhaka Present Status of the Factory	: Under Operation
Structural assessment conducted by	: Accord (Full report available at bangladeshaccord.org)
Date of Structural Inspection	: 29 March, 2014
Fire & Electrical assessment conducted by	: Accord (Full report available at bangladeshaccord.org)
Date of Fire & Electrical Inspection	: 11 April, 2014 & 13 April, 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	: Total floor area is 75773sqft
v.	No. of Stories	: 7 storied
vi.	Construction Year	: 2006
vii.	Foundation Type	: Pad foundation
viii.	Design Drawings	: Available
ix.	Soil investigation Report	: Available (2003 & 2006)
x.	Construction Materials	: Stone aggregated
xi.	Generator	: Separate from building accessed externally

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): NA

Mid Term (Within 6 Weeks): NA

Long Term (Within 6 Months):

1. Locations of loading noted to be surveyed and capacity of floor and roof structures to be assessed by the Building Engineer to confirm that the floor and roof structures are designed to carry these loads.
2. Produce and actively manage a loading plan for all floor plates within the factory giving consideration to floor and column structural capacity.
3. Building Engineer to confirm the capacity of the slab to support the combination of the floor loading and the façade loading.
4. Steel and bamboo roofed structures should be reviewed by the Building Engineer for wind loading forces and any strengthening works deemed necessary should be implemented.
5. Building Engineer to do a design check and produce calculations on the stairs to confirm their structural adequacy.

The recommendations for Fire Safety corrective actions are:

Immediate (Within 1 month):

Summary of Preliminary Assessment on Structural, Fire and Electrical Safety

1. Remove all lockable gates and doors at exits and along the means of egress. If locks are required for security reasons, utilize special door locking features complying with NFPA 101.
2. Regularly test the emergency lighting system on each floor and replace/repair lights as needed.

Short Term (Within 3 Months):

1. Seal all penetrations and openings in exit stair enclosure walls to maintain the fire separation.
2. 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.

3. 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.
4. Separate the boiler room by a minimum 2-hr fire-rated construction. Seal and/or protected all openings to maintain the required fire separations.
5. Separate the generator outbuilding by a minimum 2-hr fire-rated construction. Seal and/or protected all openings to maintain the required fire separations.
6. Provide a minimum 2-hr fire-rated exit corridor between the day-care room and exit stair. Or relocate day-care room to ground floor with maximum travel distance of 9m (30 ft).
7. Modify the egress door to swing in the direction of egress travel.
8. Provide minimum aisle widths of 36-in.
9. Inspect, test and maintain the fire alarm system, and keep written records on-site, in accordance with NFPA 72.

Mid Term (within 6 Months):

1. Modify stair to discharge directly outside. Or provide 2-hr fire-rated exit passageway leading directly outside (vestibules to separate any storage areas). Or provide sprinkler protection for discharge floor in accordance with NFPA 13.
2. Replace the single-station smoke alarms with automatic smoke detectors tied into the fire alarm system. Configure the fire alarm system to initiate occupant notification upon activation of any two smoke detectors in addition to the manual fire alarm stations.

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:

Immediate (Within 1 month):

Summary of Preliminary Assessment on Structural, Fire and Electrical Safety

1. Panel door should be fixed.
2. Hinge of the panel door should be fixed.
3. The opening should be sealed.
4. All the electrical distribution panel should be free of any kind of obstructions.
5. The conduit must be fixed properly on wall guided by the clamps.
6. All opening must be sealed for vermin proof.
7. PVC flexible conduit must be reorganized and fixed firmly using saddle/clamps.
8. Ceiling rose may be use for tapping/connection of points (light/fan).
9. Cable must be protected using proper industrial conduit.
10. All the cable ends may be put together using appropriate insulation tape to make sure the cable is not in use.
11. All the entry and exit holes must be sealed.
12. All cable ducts must be covered with non-flammable material.
13. Proper cable insulation must be provided at both ends.
14. Conduit may be fixed firmly using clamps.
15. Use proper protected cable terminals for tapping or terminations.

Short Term (Within 3 Months):

1. Base plate may be provided and the holes opening after cable passage has to be sealed with non-inflammable material.
2. Wires should be protected by using proper industrial conduits.
3. Using of any kind of flammable material should be avoided. Use steel door.
4. Mid joining of cable/wires must be avoided. Cable/wires should always terminate inside the BD or switch box.
5. Multiple cables must not be connected in a single terminal. Circuits may be distributed from bus bar with control device.
6. The cable conduit must be fixed on the wall using clamp/saddle or use ladder.
7. All the entry and exit point inside the panel board should be sealed for vermin proof.

Mid Term (Within 6 months):

1. Wires must be drawn through conduit for its protection.
2. Cable ladder may be provided to protect the cable and the opening in the ceiling must be sealed.

Summary of Preliminary Assessment on Structural, Fire and Electrical Safety

3. Communication cable must be laid separately using proper conduit.

Long Term (More than 6 months): NA