

Summary of Preliminary Assessment on Structural, Fire and Electrical Safety

Name of the Factory	: CRYSTAL COMPOSITE LTD
Address of the Factory	: 629, Khejur Bagan, Ashulia, Savar
Dhaka Present Status of the Factory	: Under Operation
Structural assessment conducted by	: Accord (Full report available at bangladeshaccord.org)
Date of Structural Inspection	: 19 March, 2014
Fire & Electrical assessment conducted by	: Accord (Full report available at bangladeshaccord.org)
Date of Fire & Electrical Inspection	: 27 March, 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 with rectangular column frame with a 2-way solid slab with moment frame stability system
iii.	Floor System	: Beam slab
iv.	Floor Area	: Unavailable
v.	No. of Stories	: 6 storied
vi.	Construction Year	: 2006-2008
vii.	Foundation Type	: Pad foundation
viii.	Design Drawings	: Available (Dated 2013)
ix.	Soil investigation Report	: Available (Dated 2008)
x.	Construction Materials	: Unavailable
xi.	Generator	: Ground floor, Auxiliary building

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. Produce and actively manage a loading plan for all floor plates within the factory, giving consideration to floor capacity and column capacity.
2. Continue to implement loading plan.
3. Provide calculations showing the structural adequacy of the slab, verifying that the slab has been designed as a cantilever.
4. Building engineer to design adequate bracing for structure on northern face before removal of brick infill wall.

The recommendations for Fire Safety corrective actions are:

Immediate (Within 1 month):

1. Remove all storage from exit stairs and egress paths.
2. Keep egress paths and stairs clear of storage.

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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.

Short Term (Within 3 Months):

1. 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.
2. Separate the boiler, generator and transformer room by a minimum 2-hr fire-rated construction. Seal and/or protected all openings to maintain the required fire separations.
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. Provide handrails on both sides of exit stair.
5. Inspect, test and maintain the fire alarm system, and keep written records on-site, in accordance with NFPA 72.
6. Test the emergency lighting system on each floor and provide additional emergency fixtures to provide adequate illumination along the means of egress. Provide a minimum illumination of 10 lux at the floor level within exit stairs and exit discharge paths and minimum 2.5 lux along exit access aisles.
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. Replace the single-station smoke alarms. Provide automatic smoke detection throughout the building in accordance with NFPA 72.

Long Term (More than 6 months): NA

The recommendations for Electrical Safety corrective actions are:

Immediate (Within 1 month):

1. Use steel pipe/cable tray to ensure the mechanical protection of the cable laid on floor otherwise cable insulation may damage due to falling object or stepping of occupants onto it.
2. Install covered cable tray to provide the support to these noted cables.
3. Install separators between different phases of MCCB. Standard separators provided by the MCCB manufacturer must be used.
4. Cables must be supported in cable trays or laid in trenches. Cables must be protected against physical injury.
5. Wastage materials must be removed from room and kept it clean.
6. Flexible conduits must be supported on cable ducts, trays or ladders and must be securely clamped at regular intervals.

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7. Existing wiring in flexible PVC conduits fixed to wall must be additionally supported in tray or ducts. Flexible conduit must not be used for long point wiring (except for special wirings).
8. Cables/wirings passing through ceiling must be protected and remaining gaps must be sealed with fire resistant materials.

Short Term (Within 3 Months):

1. Wiring in PVC flexible conduit entering panels must be firmly fixed at the panel (base / Top) using socket and check nuts.
2. Cables behind panel must be supported and arranged on cable trays or ladder.

Mid Term (Within 6 months): NA

Long Term (More than 6 months): NA