

Summary of Preliminary Assessment on Structural, Fire and Electrical Safety

Name of the Factory	: Crystal Industrial Bangladesh Private Ltd
Address of the Factory	: Sa plot 2013, Master Para, Kewa, Sreepur, Gazipur, Dhaka
Present Status of the Factory	: Under Operation
Structural assessment conducted by	: Accord
Date of Structural Inspection	: 5th March 2014
Fire & Electrical assessment conducted by:	Accord
Date of Fire & Electrical Inspection	: February 21, 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	: Steel
iii.	Floor System	: Supported by steel covered beams
iv.	Floor Area	: Unavailable
v.	No. of Stories	: Part 6 stories part 7 stories.
vi.	Construction Year	: 2009-10
vii.	Foundation Type	: Not Applicable
viii.	Design Drawings	: Permitted but no data available
ix.	Soil investigation Report	: Unavailable
x.	Construction Materials	: Unavailable
xi.	Generator	: Separated from main 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: Not Needed

Short Term (Within 6 Weeks): Not Needed

Mid Term (Within 6 Months):

1. Fix leaks on water tank to prevent further damage to concrete.
2. Slope stability to be assessed to prevent slippery of embankment.

Long Term: Not Needed

The recommendations for Fire Safety corrective actions are:

Immediate:

1. Remove locking features from all egress doors / gates. If locks are required for security reasons, utilize special door locking features complying with NFPA 101.
2. Keep egress paths and stairs clear of storage.
3. Replace all sliding 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.
4. Regularly test the emergency lighting system on each floor and replace/repair lights as needed.
5. Regularly inspect all exit signage and replace/install lights as needed to illuminate signs.

Short Term (Within 3 Months):

1. Provide dedicated storage rooms separated by minimum 1-hr fire-rated construction. Where separate storage rooms are not 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.
2. Separate the boiler/generator/ transformer structure and factory building from the diesel storage tank by a minimum 2- hr fire-rated construction. Ideally, a wall separation at a height equal to or greater than that of the tank to maintain the required fire separation. Design accordingly with an access hatch so that refilling of the tank is possible.
3. Separate the elevator machine area by a minimum 2-hr fire rated construction. Seal and/or protected all openings to maintain the required fire separations.
4. 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.
5. Seal all penetrations and openings in wall assemblies to maintain the fire separation.
6. Provide additional exits to the second story mezzanine at the northeast and northwest corners. At the current occupant load, an additional 80 in. of doors and 120 in. of stairs is required. If an increased occupant load is expected in the future, design the exits sizes accordingly (utilize a factor of 0.2 for stairs and 0.3 for doors).
7. Inspect, test and maintain the fire alarm system, and keep written records on-site, in accordance with NFPA 72.
8. Replace all intermediate exit signs with directional signage such that the most immediate exit egress path is known.