

Summary of Preliminary Assessment on Structural, Fire and Electrical Safety

Name of the Factory	: UNITRADE FASHIONS LTD
Address of the Factory	: 430/1, Tejgaon Industrial Area, Tejgaon, Dhaka, Bangladesh
Dhaka Present Status of the Factory	: Under Operation
Structural assessment conducted by	: Accord (Full report available at bangladeshaccord.org)
Date of Structural Inspection	: 24 May, 2014
Fire & Electrical assessment conducted by	: Accord (Full report available at bangladeshaccord.org)
Date of Fire & Electrical Inspection	: 5 June, 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	: 4 storied
vi.	Construction Year	: 1993
vii.	Foundation Type	: Unavailable
viii.	Design Drawings	: Available
ix.	Soil investigation Report	: Unavailable
x.	Construction Materials	: Unavailable
xi.	Generator	: Outbuilding (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 (Now):

1. Immediately reduce stacking height of box to ensure total load does not exceed 2.0kPa.

Mid Term (Within 6 Weeks):

1. Mark the maximum allowable height of box stacking to ensure full compliance
2. Building Engineer to reassess or justify the strengthening works as part of a Detailed Engineering Assessment.
3. Non-intrusive and intrusive site survey to be carried out to determine the actual extent of strengthening works.

Long Term (Within 6 Months):

1. Monitor storage areas to ensure that storage is loaded according to the loading plan.
2. The building needs to be repaired to prevent any further water penetration which could lead to the corrosion of reinforcement.
3. Apply new proper waterproof membrane and screed on the roof floor.

Summary of Preliminary Assessment on Structural, Fire and Electrical Safety

4. Carry out full survey of all structural elements to check for cracking and remove surface finishes to expose concrete.
5. Carry out repairs to the beams and slabs and monitor to ensure no repeat cracking over time.
6. If strengthening works are found to be unsatisfactory, the building to be assessed by the original design, and the remedial works for the strengthening works to be carried out.
7. Plans for further extension of the building should not be considered until the strengthening works are deemed to be safe.
8. Based on the results of the detailed structural survey in items 4 & 5, the building engineer and architect are to prepare accurate structural and architectural records for the building, reflecting accurately the as-built condition

The recommendations for Fire Safety corrective actions are:

Immediate (Within 1 month):

1. Replace all gates / 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.
2. Remove manual on/off switches from emergency lighting units to prevent them from being switched off.

Short Term (Within 3 Months):

1. Separate the boiler and generator room by a minimum 2-hr fire-rated construction. Seal and/or protected all openings to maintain the required fire separations.
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 combustibile 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. Seal all penetrations and openings in exit stair enclosure walls to maintain the fire separation.
5. Reconfigure the egress arrangement to reduce the maximum common path of travel to not more than 30 m.
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.

Summary of Preliminary Assessment on Structural, Fire and Electrical Safety

Mid Term (within 6 Months):

1. Provide 2-hr fire-rated exit passageway leading directly outside (vestibules to separate any storage areas). Or provide sprinkler protection in accordance with NFPA 13.
2. Provide additional exit. Or provide sprinkler protection in accordance with NFPA 13.
3. Remove single-station smoke alarms. Provide automatic smoke detection throughout the building, tied into the fire alarm system, in accordance with NFPA 72.

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):

1. Provide earth connection for body and doors of metallic distribution boards using green cables preferably braid so that the metallic door remains at zero potential all the time.
2. Control panel must be cleaned as part of regular maintenance and any combustible materials must be removed.
3. Provide covers on the trench made of non-combustible material preferably concrete slab to protect the cables' insulation from physical damage as well as prevent entering debris, dust and lint.
4. Earth wires running along the wall must be supported and protected throughout its length with rigid pipes.

Short Term (Within 3 Months):

1. Service cables/lines from the transformer till it enters the building must be protected and drawn in rigid pipes or cable trays.
2. Phase barriers between different phases supplied by the breaker manufacturer must be installed to avoid arc flashing.
3. Cable terminating at the panel must be firmly fixed with cable glands and gland plates.

Mid Term (Within 6 months): NA

Long Term (More than 6 months): NA