

Summary of Preliminary Assessment on Structural, Fire and Electrical Safety

Name of the Factory	: BRITEK SPORTSWEAR LTD.
Address of the Factory	: Parijat, Konabari, 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	: 8 March, 2014
Fire & Electrical assessment conducted by	: Accord (Full report available at bangladeshaccord.org)
Date of Fire & Electrical Inspection	: 21 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 Framing structural system
iii.	Floor System	: Beam slab
iv.	Floor Area	: The floor area of the building is 50220 sq ft.
v.	No. of Stories	: 7 storied
vi.	Construction Year	: 2012
vii.	Foundation Type	: Unavailable
viii.	Design Drawings	: Available (Permit drawing)
ix.	Soil investigation Report	: Unavailable
x.	Construction Materials	: Unavailable
xi.	Generator	: Ground floor, north stairwell

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 fabric and yarn or stock items to ensure total load does not exceed 3.0kPa.

Mid Term (Within 6 Weeks):

1. Mark the maximum allowable height of fabric stacking to ensure full compliance.

Long Term (Within 6 Months):

1. Factory Engineer to review design, loads and columns stresses in entire building.
2. Verify insitu concrete stresses either by 100mm dia. cores or existing cylinder strength data.
3. Produce and actively manage a loading plan for all floor plates within the factory giving consideration to floor capacity and column capacity.

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.
4. 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.

Short Term (Within 3 Months):

1. Separate the boiler, generator, and transformer rooms by a minimum 2-hr fire-rated construction. Seal and/or protected all openings to maintain the required fire separations.
2. 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.
3. Inspect, test and maintain the fire alarm system, and keep written records on-site, in accordance with NFPA 72.
4. Inspect, test and maintain the emergency lighting system in accordance with The ACCORD standard. Keep written records on-site.
5. 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.

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):

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. Install panel base plate and make circular hole at the base plate and install cable gland according to the respective cable size for cable entry and exit so that the cables are not stressed on the sharp edges of the hole of panels. Provide covers (of noncombustible material) if any additional gap remains after installing cable glands.
2. Base-plate and gland for cable entry must be installed to make the panel dust and vermin proof. Establish routine cleaning program to keep all the panels neat and clean.
3. Construct a cable trench to route the HT cable safely inside the substation room or install cable-tray or duct to provide mechanical protection to the cable to prevent any physical damage to cable.
4. Construct a proper sized cable trench and arrange cables inside it in such a way that all cables can be easily identified. Provide metallic cover on cable trench. Establish a cleaning program to keep the cable trench dust- proof.

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5. Install separators between different phases of MCCB to prevent flashover. Standard separators provided by the MCCB manufacturer must be used.
6. Use steel pipe/tray for carrying cable with cover (metallic) instead of using flexible pipes.
7. Install separators between different phases of MCCB to prevent flashover. Standard separators provided by the MCCB manufacturer must be used.
8. 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.
9. 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.

Short Term (Within 3 Months):

1. Install cable tray or ladder or conduit to support the main service cables throughout its whole length.
2. Arching horns must be properly aligned (straight).
3. Cables terminating at distribution boards must be supported in risers and protected throughout its length till the panel base or top plate. Re-arrange the cables to avert acute bend.
4. The temporary connections connected to the change-over bus bar should be removed as soon as possible.
5. Cables/wirings passing through permanent wall must be protected and remaining gaps must be sealed with fire resistant materials.
6. Use rigid PVC pipe for surface and exposed wiring throughout the whole lengths. Flexible conduit must not be used for long point wiring (except for special wirings).
7. Install covered cable tray or ladder to pass cables from one floor to another floor. Seal the openings with fire rated materials after passage.
8. Arrange periodic inspection & thermal scan to identify the overloading, loose connection, unbalanced load which may cause the excessive heat-rise and take action accordingly.

Mid Term (Within 6 months):

1. Install a cable tray (instead of using flexible pipes) or duct ranging from generator terminal (output) box to panel to provide support to the generator output cables.

Long Term (More than 6 months): NA