

Summary of Preliminary Assessment on Structural, Fire and Electrical Safety

Name of the Factory	: Bengal Knittex Ltd. (Building-02)
Address of the Factory	: 59/1, Atish Dipankar Road, Dhaka
Present Status of the Factory	: Under Operation
Structural Assessment Conducted by	: BUET
Date of Structural Inspection	: 2 nd December 2014

BASIC INFORMATION:

The whole garments factory is housed in a building complex consisting of two units of multistoried building connected together at the floor levels. The following important points were noted for the Second building.

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| (i) Building usage type: | Residential and garments factory |
| (ii) Structural system: | Column beam frame structure. |
| (iii) Floor system: | RC slab supported both on beam columns. Floor height varies from 9'-1" to 9'-4". |
| (iv) Floor area: | Building plan dimensions are Approx. 58'-2" × 46'-0". Approximate floor area is 2680 sft per floor with a total floor area of 18760 sft. |
| (v) No. of stories: | 6 (six) |
| (vi) Construction Year: | 1998 onwards |
| (vii) Design Drawings: | RAJUK approved drawing, Architectural, Structural & As-built drawing. |
| (viii) Foundation Type: | Isolated spread footing (7'-3" × 7'-3") |
| (ix) Soil Investigation Report: | Done by The Subsoil Engineers & Consultants, 1 Kallayanpur Main Road, Dhaka |
| (x) Construction Materials: | Reinforced Concrete. Concrete cylinder test and reinforcement bar test results of 2 nd stage construction (7 th to 9 th floors) were available. <ul style="list-style-type: none">• Coarse Aggregate Stone chips• Reinforcement 40-grade plain & 60 grade deformed steel rods |
| (xi) Generator: | Outside the building |

RECOMMENDATIONS FOR CORRECTIVE ACTION:

The recommendations of corrective action for both Structural and Fire & Electrical Safety comprises in Short Term, Mid Term and Long Term basis.

The recommendations for **Structural Safety** corrective action are:

Short Term (Immediate) : The live load, temporary or long term duration, must be restricted within 40 psf (2.0 kN/m²) at all the places of the building. Proper measures should be taken to eradicate dampness of the building walls.

Mid Term (6-weeks) : The factory owner has been instructed to prepare and submit a load plan of the factory building.

Long Term (6-months) : None.

The recommendations for **Fire & Electrical Safety** corrective action are:

Name of the Factory	: Bengal Knittex Limited
Fire & Electrical assessment conducted by	: BUET
Date of Fire & Electrical Inspection	: 21 st October 2014

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(A): Recommendations for Fire Safety corrective actions:

Fire Safety Issues	
<p>Immediate <i>(the factory should not continue to be occupied until these non-conformities have been rectified):</i></p>	N/A
<p>Short Term <i>(Actions that must be incorporated into a Fire Safety Management Plan immediately (a week) and should be a regular activity)</i></p>	<p>Remove obstructions from all escape routes, aisles and passageways.</p> <p>Remove all combustible materials from transformer, substation, boiler and generator room, if exists.</p> <p>Maintain minimum effective width of corridors, passageways and aisles.</p> <p>Confirm adequate numbers of fire drills.</p> <p>Make sure that portable extinguishers are easily accessible, monitored and maintained at regular interval as per the Guidelines.</p> <p>Provide proper directional signs and exit signs in Bangla and English as per the Guidelines.</p>
<p>Mid Term <i>(The remedial works indicated must be carried out within a period of 6 weeks)</i></p>	<p>Remove temporary structures from roof top.</p> <p>Prepare drawings to ensure adequate horizontal and vertical fire-rated separation inside one floor and between different floors, e.g. separation with stairways, storage, assembly areas, basement, offices, and work areas. Also show methods to ensure proper separation of high risk areas (e.g., generator, boiler and substation rooms) as per the Guidelines.</p> <p>Prepare plans to ensure all exit access doors are side-swinging type and open to the direction of traffic flow.</p> <p>Provide design to install standard standpipe, hose and fire pump system.</p> <p>Provide design to install proper detection and alarm system. Establish command station as per the Guidelines.</p>
<p>Long Term <i>(The remedial works indicated must be carried out within a period of 6 months)</i></p>	<p>Ensure adequate horizontal and vertical fire-rated separation inside one floor and between different floors, e.g. separation with stairways, storage, assembly areas, basement, offices, and work areas.</p> <p>Ensure all exit access doors are side-swinging type and open to the direction of traffic flow.</p> <p>Ensure proper separation of high risk areas (e.g., generator, boiler and substation rooms) as per the Guidelines.</p> <p>Install standard standpipe, hose and fire pump system. Install proper detection and alarm system.</p> <p>Provide fire rated enclosure, install self-closing fire rated door as per guidelines.</p>

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(B): Recommendations for Electrical Safety corrective actions:

Electrical Safety Issues	
<i>Immediate</i> (the factory should not continue to be occupied until these non-conformities have been rectified):	N/A
<i>Short Term</i> (Actions that must be incorporated into a Fire Safety Management Plan immediately (a week) and should be a regular activity)	<p>Provide instructions for first aid and artificial respiration from exposure to electrical shock.</p> <p>Provide cover on the cable trench and rubber mat in front of the panel.</p> <p>Ensure well-dressed cabling with lugs and remove loose cabling.</p> <p>Ensure earthing of panel body & door with fitted condition. Provide distribution board as per guideline and put identification mark on distribution panel.</p>
<i>Mid Term</i> (The remedial works indicated must be carried out within a period of 6 weeks)	<p>Provide separate service ducts for electrical cables.</p> <p>Provide new Emergency Lighting system.</p>
<i>Long Term</i> (The remedial works indicated must be carried out within a period of 6 months)	N/A