

Summary of Preliminary Assessment on Structural, Fire and Electrical Safety

Name of the Factory	: VIBGYOR KNIT COMPOSITE LTD.
Address of the Factory	: Uttarpara, Jalkuri, Siddirganj, Narayanganj.
Present Status of the Factory	: Under operation.
Structural Assessment Conducted by	: VEC
Date of Structural Inspection	: 29 October, 2015
Fire Assessment Conducted by	: VEC
Date of Fire Inspection	: 29 October, 2015
Electrical Assessment Conducted by	: VEC
Date of Electrical Inspection	: 29 October, 2015
BGMEA & BKMEA Membership No.	: 5935 & 1416

BASIC INFORMATION:

The factory building is a single storied pre-engineered shed supported on steel column and periphery brick wall. The following information was noted:

i. Building Usage Type	: Garment Factory.
ii. Structural System	: Pre-engineered shed.
iii. Floor System	: N/A.
iv. Floor Area	: 10000 sft
v. No. of Stories	: Single Storied
vi. Construction Year	: 2014-15
vii. Foundation Type	: Foundation system of the building is isolated footing
viii. Design Drawings	: Available – Structural design drawing, Machine layout plan. Not Available –approval drawing full, architectural drawing, and material test report
ix. Soil Investigation Report	: Not Available
x. Construction Materials	: Pre-fabricated Steel.
xi. Generator	: Outside of 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)	: N/A
Mid Term (6-weeks)	: 1. Design should be checked by the Building Engineer to verify the lateral stability of the roof and confirm the requirement of any bracing in the roof system. 2. A qualified engineer should prepare approval drawing and should get approval from concern authority.
Long Term (6-months)	: 1. Install horizontal bracing at the roof system if required.

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

(A): Recommendations for Fire Safety Corrective Actions:

<p>Immediate</p> <p><i>(the factory should not continue to be occupied until these non-conformities have been rectified):</i></p>	<p>N/A</p>
<p>Short Term</p> <p><i>(Actions that must be incorporated into a Fire Safety Management Plan immediately (1 ~ 2 weeks) and should be a regular activity</i></p>	<p>Factory needs to conduct fire drill quarterly (4 times a year) under the fire safety plan and needs to kept the written record of such drills for at least 3 years for the inspection of fire brigade whenever called for.</p> <p>Factory need to have proper testing plan & record of fire safety equipment.</p> <p>All required means of exit or exit access in buildings or areas requiring more than one exit shall be signposted. The signs shall be clearly visible at all times, where necessary supplemented by directional signs.</p>
<p>Mid Term</p> <p><i>(The remedial works indicated must be carried out within a period of 6 weeks)</i></p>	<p>Factory needs to have valid fire license with coverage of full occupied area.</p> <p>Fire manager/Director need to have safety training from proper authority & worker of the factory should as far as possible be trained for use fire extinguisher.</p> <p>All the exit doors need to be replaced by side swinging so that un-lockable doors can be opened easily in the direction of evacuation without the use of a key.</p> <p>Factory needs to be installed with adequate illuminated emergency lighting in floors & exits (Escape route).</p> <p>Emergency back-up power needs to be connected for critical fire safety system and not less than 30 minutes in case of failure of power supply.</p>
<p>Long Term</p> <p><i>(The remedial works indicated must be carried out within a period of 6 months)</i></p>	<p>Fire department pre-plan needs to be developed.</p> <p>Factory need to install centralized and automatic fire detection & alarm system on all occupied floors, including other tenanted floors of the building as per NTPA Guideline.</p> <p>The factory need to install manually operated electrical fire alarm system and automatic fire alarm system with single or multiple call boxes on all occupied floors, including other</p>

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	<p>tenanted floors of the building.</p> <p>Factory needs to install control panel for centralized automatic smoke detection & fire alarm system according to NTPA Guideline.</p> <p>Factory needs to install proper standpipe system with having at least 75 mm dia of riser.</p> <p>Factory need to be installed by 1 riser per 1000 sqm of floor area with at least 38 mm dia of hoses</p> <p>Factory need to ensure the minimum pressure for standpipes supplying a 50mm or larger hose shall be at least 300 Kpa. For standpipe supplying first aid hose (38mm nominal) may have a minimum pressure of 200 Kpa.</p> <p>Factory needs to be installed with Siamese connection for to the standpipe system located outside the building and accessible to the fire department connection.</p> <p>Factory need standby generator with required backup power Factory needs to have dedicated fire pump with backup power system & sufficient capacity for achieve required pressure in the remote place of the factory.</p> <p>Factory need to have sufficient water storage capacity to get adequate pressure to feed fire-fighting equipment and at least $1900 \times 75 = 142500$ liters water storage tank.</p>
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(B): Recommendations for Electrical Safety Corrective Actions:

<p>Immediate</p> <p><i>(the factory should not continue to be occupied until these non-conformities have been rectified):</i></p>	N/A
<p>Short Term</p> <p><i>(Actions that must be incorporated into a Fire Safety Management Plan immediately (a week) and should be a regular activity</i></p>	<p>Ensure all distribution boards (including panel door) are earthed properly.</p> <p>Install earthing pit for the factory with adequate provision for inspection of the earthing system and ensure inspection is being completed and documented</p>
<p>Mid Term</p> <p><i>(The remedial works indicated must be</i></p>	<p>Ensure graded rubber mats are provided in front of all distribution boards.</p>

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<p><i>carried out within a period of 6 weeks)</i></p>	<p>Rewire to avoid the use of multiple cables from incoming and outgoing side of MCB's/MCCB's.</p> <p>Ensure all electrical wiring/cables are sized according to capacity of circuit breakers.</p>
<p>Long Term</p> <p><i>(The remedial works indicated must be carried out within a period of 6 months)</i></p>	<p>Develop an as-built electrical layout diagram and an as-built single line diagram detailing key components and capacity of the electrical system.</p> <p>Ensure each distribution board is provided with a circuit list and means of identification is provided as per list.</p> <p>Provide proper cable terminator/connector for stranded conductors at its point of termination.</p> <p>Install separate distribution boards for lighting and power circuits.</p> <p>Install lightning protection system on the building</p>