

Summary of Preliminary Assessment on Structural, Fire and Electrical Safety

Name of the Factory	: Apex Knit Composite Ltd.
Address of the Factory	: Gilarchala, Gilaberaid, Sreepur, Gazipur.
Present Status of the Factory	: Under Operation
Structural Assessment Conducted by	: ACCORD
Date of Structural Inspection	: 2014-06-15
Fire Assessment Conducted by	: BUET
Date of Fire Inspection	: 2014-01-30
Electrical Assessment Conducted by	: BUET
Date of Electrical Inspection	: 2014-01-30
BGMEA Membership No.	: 5208

BASIC INFORMATION:

The following general information was noted:

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| i. Building Usage Type | : Garment Factory |
| ii. Structural System | : Composite structure building. |
| iii. Floor System | : Steel Beam column building. |
| iv. Floor Area | : Not mentioned. |
| v. No. of Stories | : One 3 storey, 2 building=2 storey, 1 building=1 storey. |
| vi. Construction Year | : Approved at 2009 but not mentioned construction year. |
| vii. Foundation Type | : Not mentioned. |
| viii. Design Drawings | : Available but not satisfactory. |
| ix. Soil Investigation Report | : Not mentioned. |
| x. construction Materials | : Not mentioned but guess Steel, prefabricated materials. |
| xi. Generator | : At in one two storey building |

RECOMMENDATIONS FOR CORRECTIVE ACTION:

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| Short Term (Immediate) | : |
| Mid Term (6-week) | : <ol style="list-style-type: none">1. Conduct a detailed engineering assessment.2. Try to recover original construction documents.3. Prepare detailed structural documents for all the buildings.4. Carry out a engineering assessment of the lateral stability of the steel shed.5. Carry out engineering assessment on the building and mezzanines to verify that it is stable under lateral loading. |
| Long Term (6-months) | : <ol style="list-style-type: none">1. Develop a managing process to maintain the loading plan.2. Carry out any recommendations put forth by the detailed engineering assessment.3. Carry out any remedial work required by the Engineering Assessment.4. Carry out recommendations of engineering assessment. |

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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>N/A</p>
<p>Mid Term</p> <p><i>(The remedial works indicated must be carried out within a period of 6 weeks)</i></p>	<ul style="list-style-type: none"> • Provide design drawings to demonstrate how designated storage areas, assembly areas, offices and work areas should be separated with fire-rated walls and doors according to the Guideline occupancy separation will be achieved. • Retrofitting of internal layout needed with appropriate drawings following guidelines. • Produce drawings and show methods to demonstrate how prevention of smoke and fire propagation through voids between floors and interior walls (including stairways and lift shaft, if any) will be ensured with fire-rated assembly according to the Guidelines. • Ensure the opening direction of all exit doors to the direction of traffic flow. • Produce design drawings to demonstrate how stairways are to be made of adequate dimensions and appropriate specifications and to be converted into smoke-proof enclosures equipped with Fire-rated side swinging doors opening in the direction of travel at each floor. • Provide easily identifiable escape routes, clear and free of obstruction.

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	<ul style="list-style-type: none"> • Provide clearly visible illuminated exit sign to indicate exit from storage area. • Cover naked light. • Provide adequate number and type of illuminated exit signs so that exits can be seen from all corridors and evacuation paths. • Remove and replace incorrect directional signs. • Provide English and Bangla Exit instructions where necessary. • Post directional signs at appropriate locations. • Provide fire extinguishers that meet the requirements of the Guidelines. • Provide adequate number of additional fire-fighting equipment to meet the Factory Rules.
<p>Long Term (The remedial works indicated must be carried out within a period of 6 months)</p>	<ul style="list-style-type: none"> • Mixed use buildings and Buildings housing RMGs, use some floors that fall under “Mixed Occupancy” (e.g. Storage, Office, Work areas, etc.). The designated storage areas, assembly areas, offices and work areas should be separated with fire rated walls and doors according to the Guidelines. • Different occupancy in different floors should be separated with fire-rated construction according to the Guidelines. • Prevent smoke and fire propagation through voids between floors and interior walls (including stair and lift shaft, if any) with fire-rated assembly according to the Guidelines. • Ensure minimum width of corridors and Passageways between fixed elements in all exit ways according to the Guidelines. • Ensure prevention of fire and smoke propagation through vertical shafts by providing fire rated enclosures around the openings along with seals at floor separations.

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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>	<p>N/A</p>
<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>N/A</p>
<p>Mid Term</p> <p><i>(The remedial works indicated must be carried out within a period of 6 weeks)</i></p>	<ul style="list-style-type: none"> • Provide two-point earthing for the generator frame. • Provide earth fault protection. • Provide clear identification mark on distribution panel and relevant SLD. • Provide clear identification mark on MDB/DB/SDB and provide SLD • Provide earthing to body and door of MDB/DB/SDB. • Provide earth bar and neutral bar in MDB/DB/SDB. • Remove improper wiring/cablings from the floor. • Repair broken/loose box or socket. • Ensure all connections with lugs and proper cabling system. • Provide design drawings for the fire detection and alarm system in accordance with the Guideline requirements and hazard situation, (with appropriate specifications and drawings) showing how they will be implemented along with implementation plan.
	<ul style="list-style-type: none"> • Provide service duct for electrical cables. • Convert all interior stairways into smoke proof enclosures equipped with Fire-rated side swinging doors opening in the direction of travel at each floor. • The ground floor exits should be enclosed so as to ensure safe pathway for escape from the premises.

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<p>Long Term</p> <p><i>(The remedial works indicated must be carried out within a period of 6 months)</i></p>	<ul style="list-style-type: none">• Provide continuous smoke-proof fire protected pathway along all the stairways from roof to the final exit.• Provide stairways of adequate dimensions and of appropriate specifications according to the Guidelines as required for the occupancy load.• Remove all collapsible security gates and roller shutters from all exit stairway access doors.• Provide fire doors as approved by the Guidelines• Provide fire-rated solid walls from floor to ceiling to ensure fire separation of the storage area from others or maintaining proper storage size and distance between stored items as per the Guideline.• Provide smoke and heat vents as required (e.g. Storage, etc.).• Provide new Emergency Lighting system that meets the specified emergency lighting requirements of the Guidelines.• Install appropriate detectors.• Remove all temporary connections• Install appropriate detectors.• Provide appropriate Lightning protection system.• Install the fire detection and alarm systems in accordance with the Guideline requirements and hazard situation (based on appropriate specifications and drawings).
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