INITIAL FIRE SAFETY INSPECTION REPORT

Factory Name: Fakir Eco-Knitwears Ltd.

RSC ID: 24934

ADDRESS: Kayempur, Fatullah, Narayanganj-1400.

Other Factories: FAKIR KNITWEARS LTD. (ID: 9487) & FAKIR KNITWEARS LTD. (Extension) (ID: 24608).

RSC RMG SUSTAINABILITY COUNCIL

Inspected By: Md. Ferdaus Jaman and Kazi Raian Mahmood
Date: 14 January 2024

Fire Safety Inspection Report

Factory Name: Fakir Eco-Knitwears Ltd.

Introduction:

Fakir Eco-Knitwears Ltd. complex was surveyed for fire safety on 14/01/2024 by The RSC Inspection Team. The purpose of the survey was to identify significant fire safety issues and to provide recommendations for remediation based on applicable standards specified by the RSC. The scope of this initial fire safety inspection was limited to the review and identification of major fire safety issues. The inspection did not include identification of minor deficiencies, which will be further addressed as part of follow-up inspections.

Limitations

The information in this fire safety inspection report was obtained during a visit to the facility and during interviews with local factory management. It has not been possible to provide independent verification for all the information and data collected, and, therefore, The RSC cannot accept general responsibility for omissions or errors arising from inaccuracies in this report from the information obtained.
The findings and recommendations in this report are not intended to imply, guarantee, ensure or warrant compliance with any government regulations. Additionally, the results do not imply in any way that compliance with the findings or recommendations as stated in this report will eliminate all hazards, risks or exposures or that hazards, risks or exposures not referred to in this report do not exist. Compliance with the findings and recommendations stated in this report does not relieve the factory owner from obligation to comply with specific project requirements, industry standards, or the provisions of any local government regulations.

General Factory Information

Factory Building name(s):

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Building-1: The building is a five-storied (B+G+4) steel building including a semi-basement. The total basement area is approximately half of the typical floor. Passive fire protection was provided on the steel beams and columns by cementitious spray. The construction of the building was started in September 2017 and completed in December 2020. The building has been occupied since November 2021. The per-floor area is approximately 906 sqm.

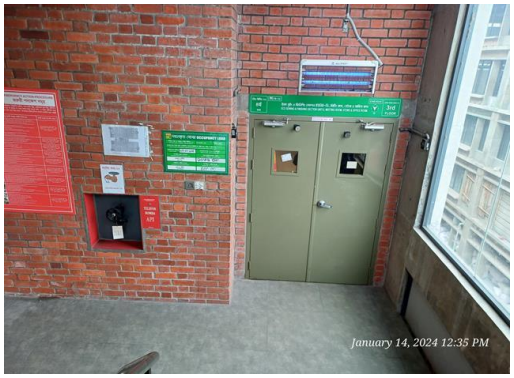
Factory Address: Kayempur, Fatullah, Narayanganj-1400.

Findings & Recommendations :

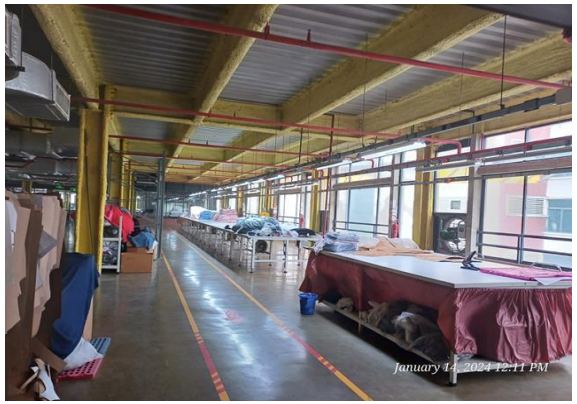
Table 1 summarize the fire safety non-compliant issues identified during the inspection. Recommendations have been provided to address each issue with specific remediation timeline. An implementation schedule shall be developed by the factory to remediate each of the findings. The specific timing of improvements, including any requested extensions due to design / installation constraints, shall be submitted to the RSC for review.

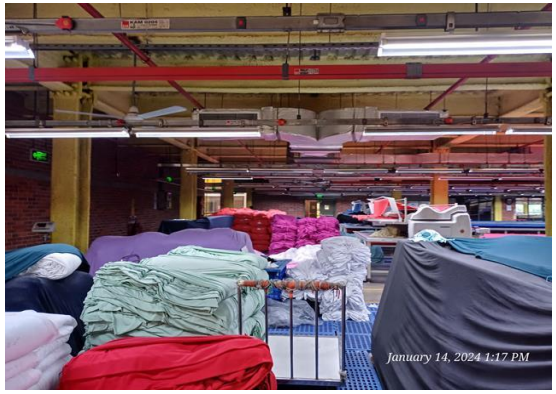
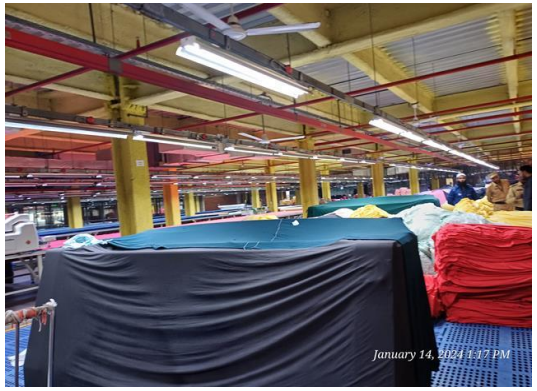
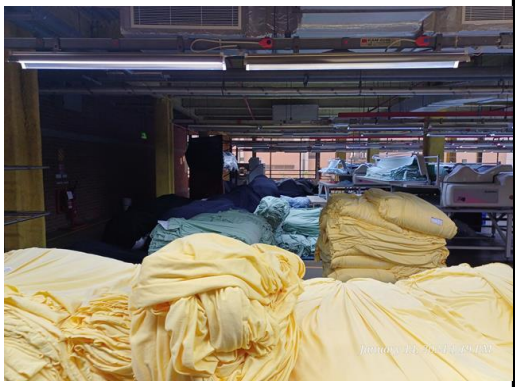
Table-1:

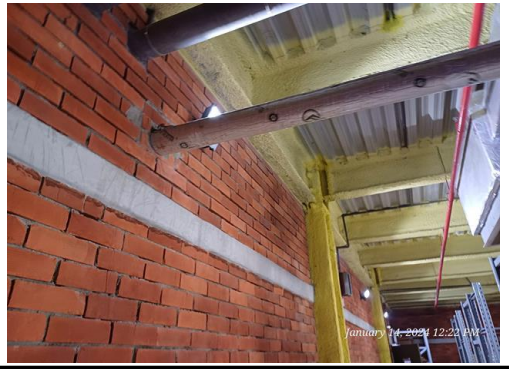
Sl No.	Category	Findings	Required Action	Remediation Time Frame
F-1	Fire Rated Construction	The exit stairs are not separated from work areas, other spaces on each floor by fire-rated construction. **Location: Building 1**	Provide minimum 2-hr fire rated construction for buildings 4 storied or more and 1-hr for upto 3 storied. Seal all unprotected openings to separate the exit stairs from work areas and other spaces on all floor levels by 90 minutes for 2 hr construction and 60 minutes for 1-hr construction. Ensure that the fire rated doors are self-closing and positive latching and that they are provided with fire exit (panic) hardware where serving production floors and provide vestibules to avoid direct discharge from storage to exit stair enclosure. If fire rated doors are required to be held open for functional reasons, provide automatic closing devices tied to the fire alarm system.	Within 3 months

		 		
F-2	Fire Rated Construction	Unsealed penetrations and openings are located in the exit stair enclosures.	Seal all penetrations and openings in exit stair enclosure walls to maintain minimun 2 hrs fire separations.	Within 3 months
		 		

F-3	Fire Rated Construction	1. Elevator shafts are directly open into the inside of floor area on all floors except on ground floor. 2. Elevator shafts are directly open into the inside of exit enclosure on ground floor. **Location: Building 1**	Modify the elevator shaft as per RSC Technical Guideline (Standard) V1-6.14.3. Elevator shaft shall be 2-hr fire rated opening protection from factory floor. An exit stairway shall not be built around a lift shaft unless both of them are located in a smoke proof enclosure and made of a material with fire resistance rating required for the type of construction of smoke proof enclosure. So, ensure the lift shaft is 2-hr fire rated including opening protection with similar rating.	Within 6 months
		 		

F-4	Fire Rated Construction	The main structural elements of factory buildings (G and/ or H2) are constructed by steel which is non-rated structure and the factory has applied passive fire protection material to the strutural elements which requires prior verification through detailed design review and physical verification. As per RSC Technical Guidelines (Standard) 1.5.4 this building is defined as an interim building. So, fire protection shall be provided for the structural elements of the building following section 3.5.2 of RSC Technical Guidelines (Standard) V1.0.	For interim construction, the building shall be Type 1 or Type 2 construction as required in BNBC 2006 Part 3 Table 3.2.4. So, provide require rating for the structural elements of the building following BNBC 2006-Table 3.2.4, 3.1.9 and 3.3.1. Factory shall ensure that, all the design, datasheet, certificate, and the design-philosophy has been reviewed from the RSC prior to install the passive fire protection system and it will verified at on-site.	Within 6 months
				

F-5	Fire Rated Construction	Areas used for in-process storage of combustible materials are open to the surrounding occupancy. Location: On ground floor, Building-1	Provide defined storage areas and limit the storage arrangement as follows: - 1. General Condition: Maximum height of 2.4m and maximum area of 23m2. Separate areas of unenclosed combustible storage by a minimum clear distance of 3m. or, 2. If sprinkler protected: maximum height of 3.66m and maximum area of 93m2. Separate areas of unenclosed combustible storage by a minimum clear distance of 3m. or 3. Enclose the storage area from the surrounding occupancy with a minimum 1-hour construction.	Within 3 months
  				

F-6	Fire Rated Construction	Rooms used for combustible storage are not properly separated by fire rated construction due to unprotected openings and penetrations due to duct, steam line and plastic pipes . Location: On several floors of building 1.	Separate or seal the unprotected openings and penetrations of the storage rooms by a minimum 1-hr fire ratred construction.	Within 3 months
				

F-7	Fire Rated Construction	Unsealed penetrations and openings are located in the fire rated floor/ceiling assemblies. Followings are the description of openings or penetrations indicating specific locations: 1. Passing of BBT riser through floor slabs from ground floor to top floor of factory building (B-1). 2. Passing of IT/Network cable riser through floor slabs from ground floor to top floor of factory building (B-1). 3. Plastic pipes penetrate the floor slabs in toilet block of factory building (B-1). 4. Steamline pipes penetrate the floor slabs of Factory building (B-1). 5. Plastic pipes of wastage water discharge penetrate the floor slabs of factory building (B-1) 6. Chiller pipelines penetrate the floor slabs of factory building (B-1). 7. Electrical cable riser through rated walls on several floors of factory building (B-1).	Seal all penetrations and openings in floor/ceiling assemblies to maintain the fire separation at least by 3-hr. The used sealer shall be 3rd party certified and installation shall be as per manufacturer's datasheet. Or Provide a minimum 2-hr fire rated shaft to separate the utility risers from each floor if required. If fire doors are required to be held open for functional reasons, provide automatic closing devices tied to the fire alarm system.	Within 3 months

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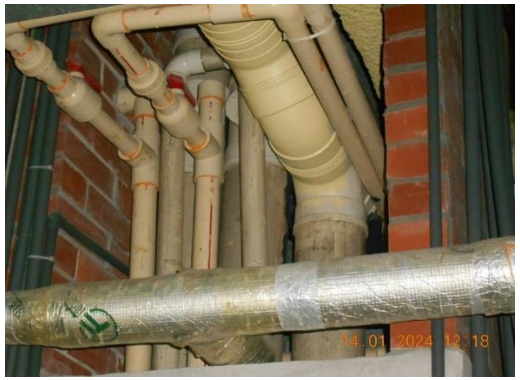
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<tr><td>F-8</td><td>Fire Rated Construction</td><td>Non-rated roof of ground floor and exterior walls of 1st floor are not separated from each other to protect floor to floor fire propagation.</td><td>Separate the roof of the ground floor and exterior walls of 1st floor by minimum 2 hrs fire rated walls (minimum 10 ft. height from celling) or 3 hrs fire rated slab (minimum 10 ft. from the walls) to protect floor to floor fire propagation.</td><td>Within 3 months</td></tr>
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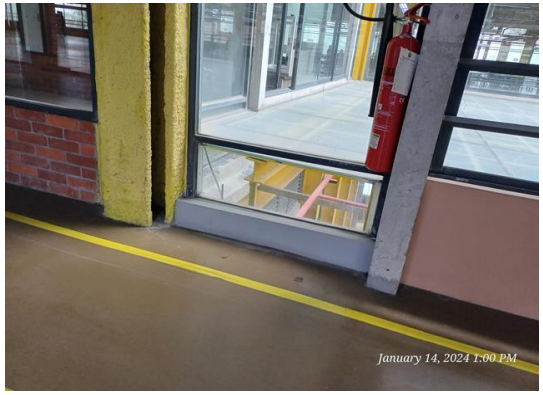


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<tr><td>F-9</td><td>Means of Egress</td><td>The exit discharge path serving exit stair is less than 10 ft. wide and is not separated from the building interior.
Location: Stair-3 of Building 1 on ground floor.</td><td>The building exterior walls within 3050 mm (10 ft) horizontally of a non-rated wall or unprotected opening shall have a fire--resistance rating of not less than 2-hr and the rating of the exterior wall shall extend 3.05 m (10 ft.) beyond the ends of the stair structure.</td><td>Within 3 months</td></tr>
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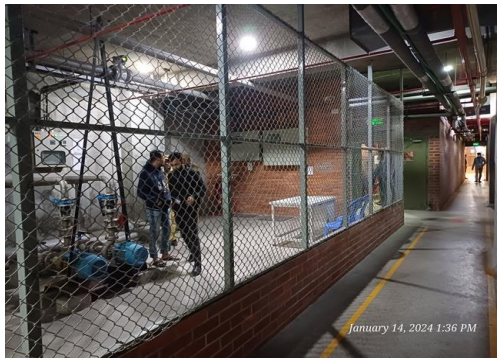
F-10	Means of Egress	Exit or access pathway of fire pump room is not separated from surrounding occupancy by fire rated construction on basement floor.	Provide access/exit discharge way directly outside or through a 1-hr rated exit corridor for fire pump room. If fire doors are required to be held open for functional reasons, provide automatic closing devices tied to the fire alarm system.	Within 3 months
				
F-11	Means of Egress	Parapets or guards are provided in occupied roof which is less than 1067mm (42 inch.)	Provide parapets or guards with a minimum height of 1067mm (42 inch.).	Within 1 month

		  		
F-12	Means of Egress	Fire evacuation maps are not posted at the entrance to each exit stair on all floors.	Fire evacuation maps shall be posted at the entrance to each exit stair.	Within 1 month
F-13	Egress Lighting	Based on the number and location of emergency lights observed, adequate illumination levels are not anticipated along egress routes	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.	Within 3 months

F-14	Egress Lighting	Manual ON/OFF switches were found with the emergency lighting units.	Remove manual on/off switches from emergency lighting/exit signage units to prevent them from being switched off.	Within 1 month
				
F-15	Egress Lighting (ITM)	Inspection, testing, and maintenance of the emergency lighting system were not in accordance with The RSC Technical Guidelines (Standard).	Inspect, test and maintain the exit sign and emergency lighting system in the accordance with The RSC standard. Keep written records on-site.	Within 1 month

F-16	Fire Alarm & Detection system	Automatic fire alarm and detection system installation complete which requires detailed review to confirm compliance with NFPA 72 and The RSC Technical Guidelines (Standard).	Submit the fire alarm system design to RSC for review. Once the design is reviewed, install and modify the fire detection and alarm system throughout the buildings in accordance with review comment, Accord/ RSC Technical Guidelines (Standard) and NFPA 72. After installation the owner shall conduct internal testing and commissioning and then contact the RSC for witness of final acceptance testing. Also inspect, test and maintain the fire alarm system, and keep written records on-site, in accordance with Table 14.3.1 of NFPA 72.	Design Review within 2 months and installation within 4 months

F-17	ITM of Fire Alarm & Detection system	Inspection, testing and maintenance for the fire alarm system is not in accordance with NFPA 72 and and The RSC Technical Guidelines (Standard).	Inspect, test and maintain the fire alarm system and keep written records on-site, in accordance with NFPA 72 and The RSC Technical Guidelines (Standard) and keep written records on-site	Within 1 month (after installation)
F-18	Fire Protection System (Standpipe)	The existing building has an occupied floor greater than 10 meter (33 feet) and the factory has installed standpipe system throughout the building which requires detailed review to confirm compliance with NFPA 14, 20, 22, 24 and RSC Technical Guideline (Standard). Location: Building 1	Submit the standpipe system drawing to RSC for review. Once reviewed, install or modify the standpipe system throughout the building in accordance with RSC Technical Guideline (Standard) and NFPA 14, 20,22 and 24. After installation the owner shall contact the RSC for witness of conducting the final acceptance testing of the standpipe system.	Design Review within 2 months and installation within 4 months.
				

F-19	Fire Protection System (sprinkler)	The existing building greater than 2 stories and per floor area exceeding 2000m2 (22000 ft2) and the factory has installed sprinkler system throughout the building which requires detailed review to confirm compliance with NFPA 13, 14, 20, 22, 24 and RSC Technical Guideline (Standard). Location: Building 1	Submit the standpipe system drawing to RSC for review. Once reviewed, install or modify the standpipe system throughout the building in accordance with RSC Technical Guideline (Standard) and NFPA 13, 14, 20,22 and 24. After installation the owner shall contact the RSC for witness of conducting the final acceptance testing of the standpipe system.	Design Review within 2 months and installation within 4 months.
				
F-20	Fire Protection System(ITM of fire pump)	Inspection, testing, and maintenance for the fire pump is not in accordance with NFPA 20, 25 and RSC Technical Guideline (Standard).	Inspect, test and maintain the fire pump in accordance with NFPA 20, 25 and RSC Technical Guideline (Standard) and keep written records on-site.	Within 1 Month (after installation)

F-21	Fire Protection System (ITM of Standpipe and sprinkler)	Inspection, testing, and maintenance for the Sprinkler and Standpipe system (SUPS) are not in accordance with NFPA 13, 14, 25 and RSC Technical Guideline (Standard).	Inspect, test and maintain the sprinkler and standpipe system in accordance with NFPA 13, 14, 25 and RSC Technical Guideline (Standard) and keep written records on-site.	Within 1 Month (after installation)
F-22	ITM of Fire Extinguishers	Inspection, testing and maintenance of portable fire extinguishers is not in accordance with NFPA 10.	Inspect, test and maintain the portable fire extinguishers and keep written records onsite, in accordance with NFPA 10 and The RSC Technical Guidelines (Standard).	Within 3 months