

INITIAL FIRE SAFETY INSPECTION REPORT

Factory Name: Sparkle Knit Composite Ltd

RSC ID: 24870

**Kabirpur, Savar, Dhaka
24.01551, 90.24746**

Other Factories: No



Inspected By: Ahammad Kabir, Md Kawsar Rubaiat & Md Najmul Huda

Date: 08/10/2023

Fire Safety Inspection Report

Factory Name: Sparkle Knit Composite Ltd

Introduction:

Sparkle Knit Composite Ltd complex was surveyed for fire safety on 08 October 2023 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):

1. Building no 1-RMG Building
2. Building no 2-Administration Building
3. Building no 3-Warehouse Building
4. Building no 4-WTP Building
5. Building no 5-Dyeing & Finishing Shed
6. Building no 6-Finishing Shed Unit-2
7. Building no 7-Finishing Shed Unit-3
8. Building no 8-Utility Shed-1
9. Building no 9-Utility Shed-2
10. Building no 10-Transformer Room-1
11. Building no 11-Transformer Room-2
12. Building no 12-ETP
13. Building no 13-Steam Boiler Shed
14. Building no 14-RMS Room
15. Building no 15-Wastage Shed

Factory Address: Kabirpur, Savar, Dhaka

Points of contact:

1.
Name: Md Rakibul Hasan
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Findings & Recommendations :

Factory Name: Sparkle Knit Composite Ltd

Table 1 summarizes the major fire safety issues identified during the inspection. Recommendations have been provided to address each issue.

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 approval.

Table-1:

Sl No.	Category	Findings	Required Action	Remediation Time Frame
1	Fire Protection	Standpipe system installation requires detailed review to confirm compliance with NFPA 14, 20, 22, & 24 or as per RSC Technical guidelines (Standard). Location: RMG Building, WTP Building	Submit the standpipe system drawing to RSC for review. Once the design is reviewed, install/ modify the standpipe system throughout the building in accordance with review comment, RSC Standard and NFPA 14, 20, 22 and 24. After installation the owner shall conduct internal testing and commissioning and then contact the RSC for witness of final acceptance testing.	Design Review within 2 months and modification (If require) within 4 months after review of design.



2	Fire Rated Construction	<p>The exit stair enclosures are not separated from work areas and other spaces on each floor by fire-rated construction.</p> <p>Location: RMG Building, Warehouse Building, Admin Building, WTP Building</p>	<p>The exit stair enclosure shall be provided with a minimum 1-hr fire resistance rating for buildings with 3 or fewer stories and a minimum of 2-hr. fire resistance rating for buildings 4 or more stories. Provide 0.75 hr. fire rated door and seal all penetrations and openings by 1 hr. fire rated fire rated barrier construction for building with 3 or fewer stories. Provide 1.5 hr. fire rated door and seal all penetrations and openings by 2 hr. fire rated fire rated barrier construction for building with 4 or more stories.</p> <p>Provide a fire-resistive rated assembly between the exterior exit stairs and the building up to 10 ft. beyond the end of the stair to achieve the required separation. The rated assembly shall be approved and/or designed by a qualified fire protection engineer.</p> <p>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.</p>	Within 3 months
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3	Fire Rated Construction	Unsealed penetrations and openings are located in the fire rated floor/ceiling assemblies. Location: RMG Building.	Provide a minimum 2-hr fire rated shaft to separate the utility risers from each floor level or seal all penetrations and openings in floors/ceiling assemblies by 3-hr fire rated listed/certified materials. The installation of such fire rated materials shall be following certified design.	Within 3 months
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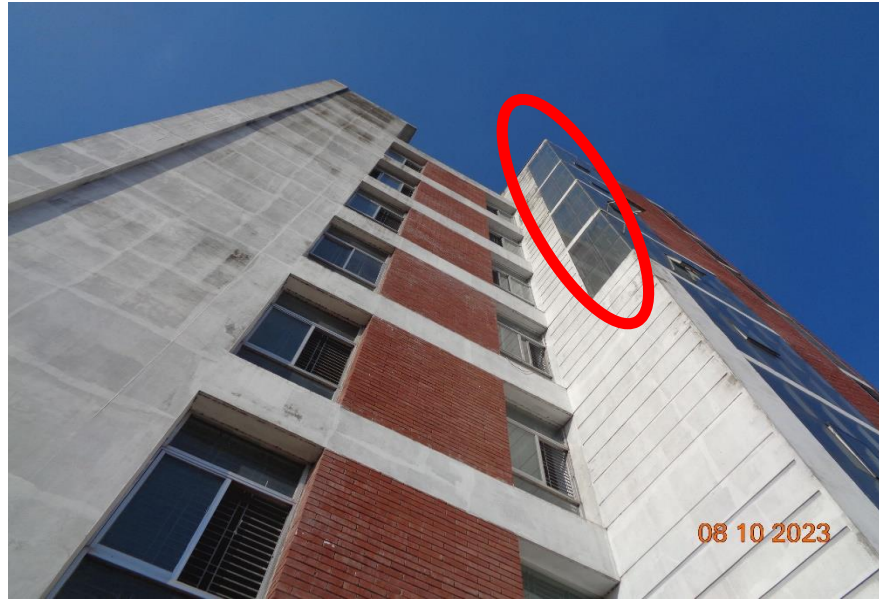




4	Fire Rated Construction	Elevator shafts are directly open into the inside of exit enclosure. Location: RMG Building (South exit stair)	Modify the elevator shaft as per RSC Technical Guideline (Standard) V1-6.14.3. An exit stairway shall not be built around a lift shaft unless both of them are located 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, rearrange the facility to provide separate enclosure for lifts. If not possible anyway then provide a minimum 2-hr fire- rated elevator shaft with listed fire rated lift landing door to separate from each floor level.)	Within 3 months
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5	Fire Rated Construction	There are non rated openings within 10 ft from the openings of the production floors.	Seal all penetrations and openings to the interior of the building up to a distance of 10 ft to ensure the required fire rating of the exit stair enclosures.	Within 3 Months
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6	Fire Rated Construction	Storage discharges directly into the exit stair discharge. Location: 4th and 5th floor of RMG building, Warehouse building.	Openings from exit enclosure to storage room, generator and transformer spaces shall be provided with a vestibule with fire rated construction and openings. Provide a 1.5 hr. fire rated door on the exit stair side and a 1-hr. fire rated door on the Store, generator, sub-station room side. Ensure that the fire rating of the vestibule construction matches that of the exit stair enclosure.	Within 3 months
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7	Fire Rated Construction	Chemical storage room is not properly separated by fire-rated construction from surrounding occupancy. Location: Dyeing and finishing shed.	Separate the chemical storage room by 4-hr fire rated construction. Seal all penetrations and protect the openings to maintain the required fire separations for 4-hrs. Opening is not permitted for 4-hrs fire rated separation. Keep 16-points SDS of all chemicals in the storage area. Note: Construction type shall be Type-1 and separation shall be as per Table 3.2.1 of BNBC-2006.	Within 3 months



8	Fire Rated Construction	Dining area is not separated from knitting area by fire rated construction. Location: Ground floor of RMG Building	Separate the dining (E4) from the knitting (G2) by minimum 3-hr fire rated construction. Provide rated exit passageways leading directly to the exit stairs with the same resistance rating.	Within 3 months
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9	Fire Rated Construction	<p>Thermal heater is not properly separated by fire rated construction with other Occupancies/Areas. Location: Thermal heater room with finishing shed 2 & 3</p>	<p>Boilers or other heat producing equipment shall be separated from other occupancies by a minimum 1-hr fire rated construction (wall, floor, slab etc). Seal all penetrations and openings (door, window etc.) should be protected by 0.75-hr (45 min) fire rated materials to maintain the fire separation if required. All exhaust systems shall discharge to the exterior of the building in a safe location.</p> <p>Or</p> <p>Relocate it to exterior of the building and maintain a minimum 3m (10 ft.) spatial separation distance from the building.</p>	Within 3 months
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10	Fire Rated Construction	<p>The boiler and compressor are not fire separated with fire rated construction barrier or assemblies. Location: Utility shed 2</p>	<p>Separate the boiler and compressor rooms by a minimum 1-hr fire-rated construction with 0.75-hr fire rated opening protective assemblies like fire rated door. Similarly separate generator and substation room by a minimum 2-hr fire rated construction with 1.5-hr fire rated opening protective assemblies like fire rated door. Provide proper ventilation and consult a qualified engineer for overall solution. When located to the exterior of a building by at least 3m (10 ft.) distance from surroundings then fire rated construction barrier is not mandatory.</p>	Within 3 months
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11	Means of egress	Occupiable roof is not provided with an adequate parapet / guard rail. Location: Warehouse building	All occupiable roofs shall be provided with parapets or guards with a minimum height of 1067 mm (42 in.)	Within 3 months
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12	Means of egress	The highest occupant load is 606 where there is two exits. Location: RMG building	Reduce the occupant load to not more than 500 for two exits. Or Provide additional exit.	Within 3 months
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13	Means of egress	Handrails are not provided on both sides of exit stair. Location: Warehouse Building	Provide handrails on both sides of the exit stair. New handrails shall have a minimum height of 865 mm (34 in.) and a maximum height of 965 mm (38 in.) as measured from the leading edge of the tread. Intermediate handrails shall be provided when the stair width exceeds 2.2 m (87 in.)	Within 3 months
				
14	Means of egress	The width of the exit stair is 90 inch but intermediate handrail is not provided. Location: RMG Building	Intermediate handrails shall be provided when the stair width exceeds 2.2 m (87 in.) according to RSC Technical Guidelines V1.0 6.9.2.4.	Within 3 months



15	Means of egress	The width of the exit stair is less than 1.5 m (60 in.). Location: Admin building	In new and interim construction and constructed stairs post 24 November 2013, stairs shall have a minimum width of 1.5 m (60 in.) for all industrial occupancies and 2.0 m(79 in.) for all assembly occupancies. For assembly use areas provided for prayer halls, dining halls and like areas that are for integral use by the factory workers, the minimum width for the primary occupancy use of the building shall be permitted to be used.	Within 3 months
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16	Means of egress	A single means of exit has been provided on 4 storied WTP Building .	<p>The number of means of egress from any floor, story or portion thereof shall not be less than 2 except where a single exit is permitted by RSC Technical Guideline (Standard)-6.6.2, a single means of egress is permitted by RSC Technical Guideline (Standard)-6.6.5 or where a greater number is required by RSC Technical Guideline (Standard)-6.6.3.</p> <p>For Basement/Ground floor Maintain maximum 50 occupants having a travel distance of 23m (75 ft). Or Provide additional exit.</p> <p>For First Floor Maintain maximum 30 occupants having a travel distance of 23m (75 ft) for occupancy F,G & H only. Or Provide additional exit.</p>	Within 3 months
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17	Means of egress	Exit stairs do not discharge directly to the outside.	<p>Modify stair to discharge directly outside.</p> <p>Or</p> <p>Provide 2-hr fire-rated exit passageway leading directly outside (vestibules to separate any storage areas).</p> <p>Or</p> <p>Provide sprinkler protection for discharge floor in accordance with NFPA 13 meeting RSC 6.17.3 (all 4 options shall meet)</p>	Within 3 months
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18	Means of egress	Collapsible gates/sliding doors are provided at building exits, exit stairs, along egress routes, exit discharge. Location: WTP Building	<p>Replace all collapsible gates/ sliding doors/ rolling shutter doors along the means of egress with side-hinged, swinging egress doors.</p> <p>If locks are required for security reasons, utilize specialized door locking features complying with NFPA101.</p>	Within 1 month
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19	Inspection, testing, and maintenance of the Fire Pump (ITM).	Inspection, testing, and maintenance for the Fire pump is not in accordance with NFPA 25 or as per RSC Technical guidelines (Standard).	Inspect, test and maintain the fire pump & water system and keep written records on-site, in accordance with NFPA 25 or as per RSC Technical guidelines (Standard).	Within 1 Month after installation.
20	Inspection, testing, and maintenance of the Fire Pump (ITM).	Inspection, testing, and maintenance for the Standpipe system is not in accordance with NFPA 25 or as per RSC Technical guidelines (Standard).	Inspect, test and maintain the fire pump & water system & standpipe system and keep written records on-site, in accordance with NFPA 25 or as per RSC Technical guidelines (Standard).	Within 1 Month after installation.

21	Fire Alarm & Detection System (FADS)	The fire detection system is antiquated, not a listed system, and does not provide alarm and notification features consistent with acceptable standards. Fire detection system installation requires detailed review to confirm compliance with NFPA72 and in accordance with The RSC Technical Guidelines (Standard).	Submit design, drawings and other relevant documentation to the RSC for review. Replace the fire detection system with a new, listed addressable fire detection system in accordance with NFPA 72.	Design within 3 months and installation within 6 months
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22	Inspection Testing and Maintenance of Fire Alarm and Detection System (ITM)	Inspection, testing and maintenance for the fire detection and alarm system was not in accordance with standard.	Inspect, test and maintain the fire alarm system and keep written records on-site, in accordance with Table-14.3.1 of NFPA 72.	Within 1 month (after installation completed).
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23	Non rated structure	<p>The main structural element of the building/shed is constructed by steel which is non-rated and were found in exposed condition without any fire protection. Location: Building no 6-Finishing Shed Unit-2</p>	<p>The building shall be type-I or II construction. So, provide require rating in the structural elements of the building. Consult with a qualified fire protection engineer. Follow BNBC 2006 Part 3, Table 3.3.1</p>	Within 6 months
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