

INITIAL FIRE SAFETY INSPECTION REPORT

Knittex Industries Limited (Extension)

RSC ID: 25932

Geographical Coordinates: 24.006303, 90.333814

Address: 247-252, Baimile Konabari, Gazipur

Other Factories: Knittex Industries Limited (10837)



Inspected By: Md. Hasibur Rahman Abir and Protik Kumar Das

Date: 01-Jan-2025

Fire Safety Inspection Report

Knittex Industries Limited (Extension)

Introduction:

RSC ID : 25932

Knittex Industries Limited (Extension) complex was surveyed for fire safety on **01-Jan-2025** 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						
The factory comprises two structures: Building (02 & 03) & Building 06. The Building 2 and 3 are structurally connected.						
SL No	Building Name	Building Construction Period	Approval Date & Authority	Occupied	Structure type	Construction Category
1	Building 2 and Building-3	August-2018 to - Dec-2022	Approved from Gazipur City Corporation on 23-Sep-2019	Jan-2023	RCC	Interim
2	Building-6	Mar-2018 to Jan-2019	Approved from Gazipur City Corporation on 23-Sep-2020	Jan-2019	RCC	Interim

Factory Address: 247-252, Baimile Konabari, Gazipur

Points of contact:



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Findings & Recommendations :

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 review.

Table-1: All structures under this ID



SI No.	Category	Findings	Required Action	Remediation Time Frame
F-01	Fire Rated Construction	Areas used for in-process storage of combustible materials are open to the surrounding occupancy. Location: 4th, 5th, and 6th floors of Building-03.	<p>Provide defined storage areas and limit the storage arrangement as follows:</p> <p>Maximum height of 2.45 m and maximum area of 23 m² and is separated by a minimum 3.0 m (10ft) from other storage areas and they do not exceed 10 percent of the building area of the story in which they occur.</p> <p>or,</p> <p>If sprinkler protected, Maximum height 12 ft (3.66 m) and maximum area of 1000 ft² (93 m²) and separated by a at least 25 ft (7.62 m) and does not constitute more than 10 percent of the building area or 4000 ft² (372 m²) of the sprinklered area, whichever is greater.</p> <p>or,</p> <p>Enclose the storage area from the surrounding occupancy with a minimum 1 hour construction.</p>	Within 3 months
				

F-02	Fire Rated Construction	Storages were found underneath the cutting tables. Location: 3rd and 4th floors of Building-03.	Storage underneath the cutting tables shall be kept clear of combustibles at all time, except as provided for miscellaneous storage in accordance with 3.4.2.1.6 or where automatic sprinkler protection is installed. Where an automatic sprinkler system is installed sprinklers are required to be installed beneath cutting tables greater than 4 ft in width that are used for storage of combustibles.	Within 3 months
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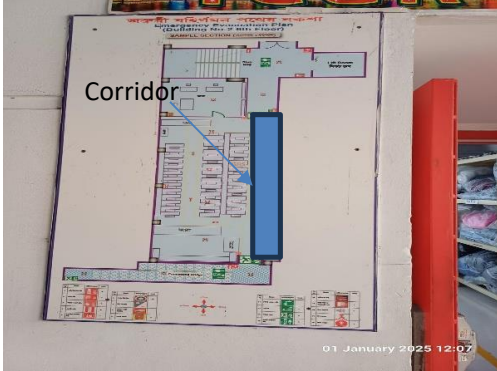
F-03	Fire Rated Construction	Elevator shafts open directly into the exit enclosure, which is a violation of RSC Technical Guidelines (Standard) 6.14.3.	<p>Provide a minimum 2-hr fire rated elevator shaft to separate it from each floor. Seal all openings to maintain fire separations.</p> <p>Factory is recommended to follow RSC published "SUPPLEMENTARY PAPER ON REMEDIATION GUIDANCE ELEVATOR OR LIFT SHAFT OPENING IN EXIT ENCLOSURES" for different solutions.</p>	Within 3 months
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F-04	Fire Rated Construction	<p>Penetrations due to plumbing pipe through floor/ceiling assemblies are found unsealed. Location(s): Building - 03.</p>	<p>Seal all penetrations and openings in floor/ceiling assemblies by a listed through-penetration fire stop system tested in accordance with ASTM E814 or approved alternative standard to maintain minimum 3-hr. fire resistance rating. Installation shall be as per manufacturer published installation guideline and the certification authority guideline to ensure the fire-rating.</p> <p>or,</p> <p>Provide a minimum 2-hr fire rated shaft to separate the penetration from each floor if required.</p>	Within 3 months
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F-05	Fire Rated Construction	<p>The connecting bridge between Building-02 and Building-01, serving as the exit access for Building-02, is constructed of steel, with all structural elements exposed and lacking fire protection. This condition is classified as non-rated construction and is a violation of BNBC-2006.</p>	<p>Construction must be of type 1 (See BNBC 2006 Part 3 Section 3.2.4, page 10356).</p> <p>Provide/ensure required fire rating on the structural elements by following Section 4.4 and Table 4.4.1 of the RSC Standard and RSC TECHNICAL GUIDANCE (TGN). Consult a qualified fire protection engineer to design the rated construction barriers.</p>	Within 6 months
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F-06	Fire Rated Construction	Exit access corridor(s) serving more than 30 occupants is not separated by fire rated construction or protected by approved NFPA 13 sprinkler system. Location: Building - 02.	Separate the exit access corridor by a minimum 1-hr fire rated construction. Or Provide automatic sprinkler system throughout the storey as per NFPA 13	Within 3 months
<div style="display: flex; justify-content: space-around;">   </div>				



F-07	Fire Rated Construction	The required fire separation distance for Building-02 and building-03 does not comply with the requirements of BNBC 2006. Location: Building 2 and Building 3.	The exterior walls shall have a fire resistance and opening protection as specified in BNBC 2006, Tables 3.2.2 and Part 3 Section 2.4.1.3.	Within 6 months
				

F-08	Means of Egress	<p>The exit stair enclosures are not separated from work areas and other spaces on each floor by fire-rated construction. Location: Building - 02 & Building - 03.</p>	<p>The exit stair enclosure shall be provided with a minimum of 2- hr. fire resistance rating. 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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F-09	Means of Egress	Storage areas discharges directly into the exit stair enclosure. Location: Ground, 1st and 2nd Floor of Building - 03.	<p>Openings from exit enclosure to Storage areas/ basements/ transformer rooms/ generator rooms/ boiler rooms and similar normally unoccupied 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.</p> <p>Ensure that the fire rating of the vestibule construction matches that of the exit stair enclosure as per RSC Technical Guidelines (Standard)¹ V1.0. section 6.14.3. The minimum width for vestibules shall not be less than 1.1m and length 1.8m.</p>	Within 3 months
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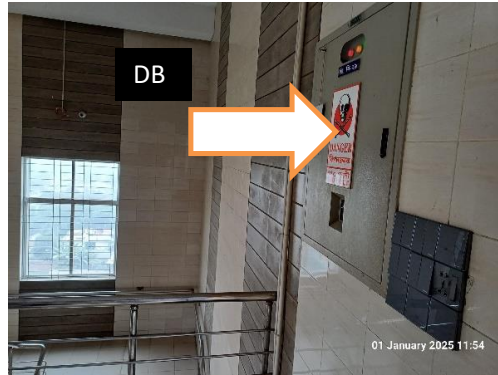


F-10	Means of Egress	<p>The exterior of the back stair enclosed by non-rated walls or unprotected openings, which are exposed to other parts of the building at an angle of less than 180 degrees (3.14 rad). Location: Building - 03.</p>	<p>Where nonrated walls or unprotected openings enclose the exterior of the stairway and the walls or openings are exposed by other parts of the building at an angle of less than 180 degrees (3.14 rad), the building exterior walls within 3050 mm (10 ft) horizontally of a nonrated wall or unprotected opening shall have a fire-resistance rating of not less than 1 hr.</p> <p>Openings within such exterior walls shall be protected by opening protectives having a fire protection rating of not less than ¾ hr.</p>	Within 3 months
<div style="display: flex; justify-content: space-around;">   </div>				

F-11	Means of Egress	Adequate parapets or guards are not provide for occupiable roof.	Provide parapets or guards with a minimum height of 1067mm (42 inch.).	Within 3 months
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F-12	Means of Egress	Electrical panels were located in the exit stair enclosure. Location: Top floor building - 03.	Remove and re-locate all electrical panels from exit stair enclosures to a safe location.	Within 3 months
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F-13	Means of Egress	Width of aisles is less than 0.9m (36-in.). Location: 1st Floor of Building - 03	Aisles shall be provided with a minimum unobstructed clear-width of 0.9 m (36 in.).	Within 3 months
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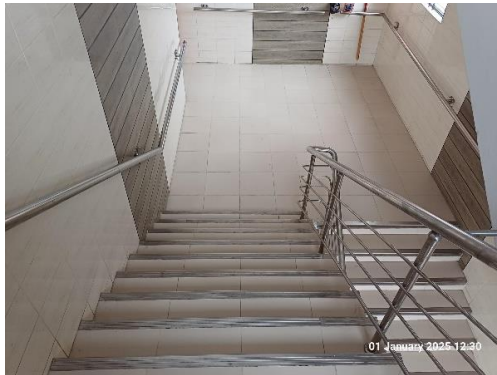
F-14	Means of Egress	The guards have gaps that are too large, allowing a sphere 200 mm (8 in.) in diameter to pass through. Location: Corridor of Building - 02.	Open guards shall have intermediate rails or pattern such that a sphere 200 mm (8 in.) in diameter cannot pass through any opening up to a height of 865 mm (34 in.).	Within 3 months
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F-15	Means of Egress	<p>Exit stair(s) is discharge the occupants inside the building.</p> <p>Location: Front Stair, Serving Building - 02 and building - 03 and the stair in Building-01 serving Building-02.</p>	<p>1. Modify stair to discharge directly outside.</p> <p>Or</p> <p>2. Provide 2-hr fire-rated exit passageway leading directly outside (penetrations into and through an exit enclosure shall be prohibited with the exception of required exit doors, sprinkler piping, standpipes, electrical raceway for fire alarm equipment, and electrical conduit serving the exit enclosure).</p> <p>Note: A maximum of 50 percent of the number and capacity of the exit enclosures can discharge through areas on the level of exit discharge where all the conditions described in RSC building standard 6.17.3 are met.</p>	Within 3 months
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F-16	Means of Egress	Stair clear width was found less than 60 in. Location: Back-Stair at Building - 03. (available stair clear width is 44 in.)	Stairs shall have a minimum clear width of 60 in. for all industrial occupancies.	Within 3 months
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F-17	Means of Egress	Egress door serving 50 or more occupants but does not swing in the direction of egress travel. Location: Building - 02.	Modify swing direction of egress doors to the direction of egress travel. Doors serving an occupant load of more than 50 shall swing in the direction (out-ward) of egress travel .	Within 1 month
				
F-18	Means of Egress	Exit stairs serve more than 5 stories and do not have required reentry provisions on all floors.	Every door in a stair enclosure serving more than 5 stories shall be provided with re-entry unless it meets RSC Technical Guidelines (Standard) ¹ V1.0. Section 6.8.3.1.	Within 3 months

F-19	Means of Egress	Directional signs are not provided where direction of the path of travel to an exit has changed. Location: Building - 02	Illuminated directional signs shall be provided where there is a change in the direction for the path of travel and the direction to an exit is not obvious.	Within 3 months
F-20	Means of Egress	Exit signage/directional signage not illuminated during testing. Location: 6th floor at Building - 02.	Lighted exit signs shall be placed at entrance to an exit. Additional exit signs shall be placed throughout the facility anywhere the continuation of the egress is not obvious. Lighted exit signs shall be provided with either battery backup or uninterruptable power supply systems and shall be continuously illuminated.	Within 3 Months
F-21	Means of Egress	Based on the number and location of emergency lights observed, adequate illumination levels are not anticipated along egress routes. Location: Store Areas at Building - 02 and Building 03	Test the emergency lighting system on each floor and provide additional emergency fixtures to supply adequate illumination along the means of egress. Provide a minimum illumination of 10 lux at the floor level within exit stairs and along exit discharge paths and a minimum 2.5 lux along exit access aisles.	Within 1 month
F-22	Inspection, Testing & Maintenance (Fire)	Inspection, testing, and maintenance for the exit sign and 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 Technical Guidelines (Standard) and keep written records on-site.	Within 1 month

F-23	Fire Alarm & Detection System (FADS)	The factory has installed a fire alarm and detection system that requires a detailed review to confirm compliance with NFPA 72 and RSC Technical Guidelines (Standard).	<p>Submit the fire alarm and detection system design to RSC for review.</p> <p>Once the design is reviewed, install and modify the fire detection and alarm system throughout the building in accordance with review comment, RSC Technical Guidelines (Standard) and NFPA 72.</p> <p>After installation the owner shall conduct internal testing and commissioning and then contact the RSC for witness of final acceptance testing.</p>	Design Review within 2 months and installation/modification within 4 months.
 <p>January 01, 2025</p>		 <p>01 January 2025 12:01</p>		

F-24	Inspection, Testing & Maintenance (Fire)	Inspection, testing and maintenance for the fire alarm system is not in accordance with NFPA 72 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)
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F-25	Fire Suppression System (SUPS)	<p>The highest occupied floor of the Building exceeds 75 ft (23 m); however, an automatic fire sprinkler system has not been installed throughout the building.</p> <p>A Class III standpipe system is installed. Location: Building - 02 and Building - 03.</p>	<p>Submit proposed automatic Sprinkler, Standpipe and Fire Pump System drawing and documents to RSC for review.</p> <p>Once reviewed, install the Automatic Sprinkler System throughout the building in accordance with RSC Technical Guideline (Standard) and NFPA 13, 14, 20, 22 and 24.</p> <p>After installation, the factory shall contact the RSC for witness of conducting the final acceptance testing of the SUPS (Sprinkler with standpipe) system.</p>	<p>Design Review within 2 months and installation/modification within 4 months.</p>
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F-26	Inspection, Testing & Maintenance (Fire)	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-27	Inspection, Testing & Maintenance (Fire)	Inspection, testing, and maintenance for the Standpipe system is not in accordance with NFPA 14, 25 and RSC Technical Guideline (Standard).	Inspect, test and maintain the standpipe system in accordance with NFPA 14, 25 and RSC Technical Guideline (Standard) and keep written records on-site.	Within 1 month (after installation)
F-28	Inspection, Testing & Maintenance (Fire)	Inspection, testing, and maintenance for the Sprinkler system is not in accordance with NFPA 13, 25 and RSC Technical Guideline (Standard).	Inspect, test and maintain the Sprinkler system in accordance with NFPA 13, 25 and RSC Technical Guideline (Standard) and keep written records on-site.	Within 1 month (after installation)