

INITIAL FIRE SAFETY INSPECTION REPORT

Innovative Knitex Limited

RSC ID: 12561

A/177/178, BSCIC, I/A, Panchaboty, Fatullah, Narayanganj.

Other Factories: N/A



Inspected By: Mohammad Anayet Hossain & Meher Sultana Moitry

Date: 04 December, 2022

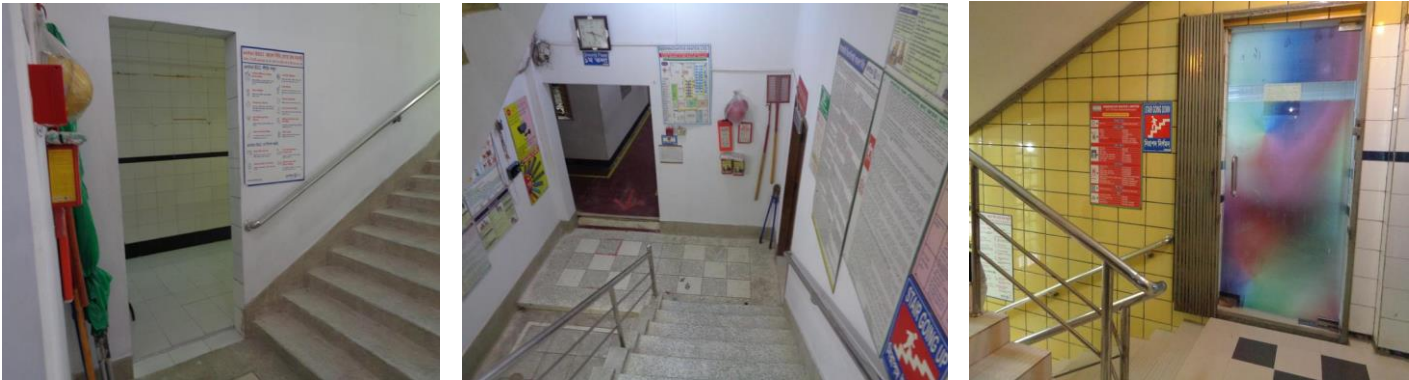
Findings & Recommendations :

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Table 1 summarizes 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 approval.

Table-1:

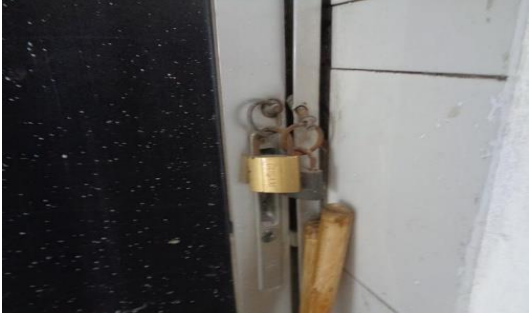
SI No.	Category	Findings	Required Action	Remediation Time Frame
F-1	Fire Rated Construction	The exit stair enclosures are not separated from [work areas, other spaces] on each floor by fire-rated construction.	Separate the exit stairs from work areas and other building spaces on all floor levels by minimum 2-hr fire-rated construction. Provide minimum 1.5-hr fire rated doors and seal all unprotected openings and penetrations to maintain the fire separation. Ensure that all fire doors are self-closing and positive latching, and are provided with fire exit (panic) hardware where serving production floors or assembly occupancies. If fire doors are required to be held open for functional reasons, provide automatic-closing devices tied to the fire alarm system. Once fire doors are installed, every door in a stair enclosure serving more than 5 stories shall be provided with re-entry unless it meets RSC Technical Guidelines (Standard) V1- 6.8.3.1.	Within 3 months
				
F-2	Fire Rated Construction	Unsealed floor penetrations through vertical shaft are located in the fire-rated floor/ceiling assemblies.	Provide a minimum 2-hr fire rated shaft to separate the utility risers from each floor level and seal all penetrations in floor/ceiling assemblies to maintain the fire separation.	Within 3 months

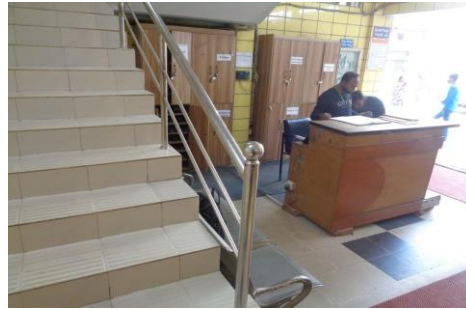
				
F-3	Fire Rated Construction	Rooms used for storage of combustible materials located at several floors are not separated from the surrounding occupancy/areas.	Rooms used for storage of combustible materials shall be separated from the surrounding occupancy with a minimum 1 hour construction.	Within 3 months
				
F-4	Fire Rated Construction	Areas used for combustible storage at several floors open to the factory are not separated by fire rated construction.	Provide defined storage areas and limit the storage arrangement as follows: - Maximum height of 2.45m (8ft.) and maximum area of 23m ² (250 ft ²). - If sprinkler protected: maximum height of 3.66m (12ft.) and maximum area of 93m ² (1,000 ft ²). Separate areas of unenclosed combustible storage by a minimum clear distance of 3m (10ft.).	Within 3 months



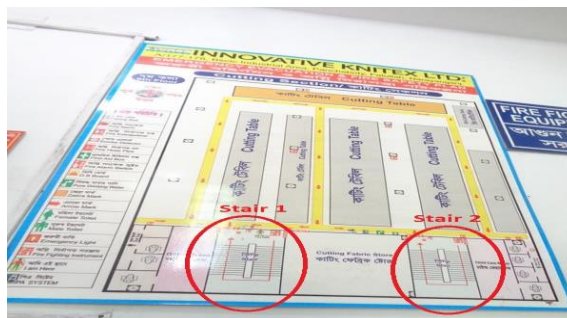
F-5	Fire Protection System (Sprinkler System)	The high-rise building has an occupied floor greater than 23 meter (75 feet) and is not provided with automatic sprinkler protection.	Provide automatic sprinkler protection throughout the building in accordance with NFPA 13.	Design within 4 months, install within 9 months
F-6	Inspection, testing, and maintenance	Inspection, testing, and maintenance of the automatic sprinkler system is not in accordance with NFPA 25 or as per RSC standard.	Inspect, test and maintain the automatic sprinkler system, and keep written records on-site, in accordance with NFPA 25 or as per RSC standard.	Within 1 month (after installation)
F-7	Fire Alarm & Detection System (FADS)	An automatic addressable fire alarm and detection system is not available in the factory.	Submit the proposed design of addressable fire alarm system to RSC in accordance with NFPA 72. Installation shall have to done as per the reviewed design and NFPA-72 with a listed addressable fire alarm system. Upon approval & installation the factory shall inform RSC to conduct final testing and commissioning verification of the system for final acceptance.	Design within 3 months and installation within 6 months
F-8	Fire Alarm & Detection System (FADS)	The building is equipped with single-station smoke alarms. Smoke alarm activation sounds only a local alarm and does not provide automatic fire alarm notification of occupant.	Remove single-station smoke alarms. Provide automatic smoke detection throughout the building, tied into the fire alarm system, in accordance with NFPA 72.	Design within 3 months and installation within 6 months
F-9	Inspection, testing, and maintenance	Inspection, testing and maintenance for the fire alarm system is not in accordance with NFPA 72.	Inspect, test and maintain the fire alarm system and keep written records on-site, in accordance with NFPA 72.	Within 1 month (after installation)

F-10	Fire Protection System (Standpipe System)	The existing building has an occupied floor greater than 10 meter (33 feet) and is not provided with standpipe protection. Fire pump, water supply & standpipe system installation is required to confirm compliance with NFPA 14, 20, 22, 25 and RSC Technical Guidelines (Standard) V1.	Install a new class III standpipe system & fire department connection in accordance with NFPA 14 & Install fire pump dedicated for firefighting or fire protection following NFPA 20 requirements. A class I system shall be permitted in buildings protected throughout by an automatic sprinkler system.	Design within 4 months, Install within 6 months
F-11	Inspection, testing, and maintenance	Inspection, testing and maintenance of the standpipe system is not in accordance with NFPA 14.	Inspect, test and maintain the standpipe system and keep written records on-site, in accordance with NFPA 14.	Within 1 month (after installation)
F-12	Inspection, testing, and maintenance	Inspection, testing and maintenance of the pump is not in accordance with NFPA 14.	Inspect, test and maintain the pump and keep written records on-site, in accordance with NFPA 14.	Within 1 month (after installation)
F-13	Inspection, testing, and maintenance	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 on-site, in accordance with NFPA 10.	Within 1 month
F-14	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 1 month
F-15	Inspection, testing, and maintenance	Inspection, testing, and maintenance for the exit sign and emergency lighting system was not in accordance with NFPA 10.	Inspect, test and maintain the exit sign and emergency lighting system in the accordance with NFPA 10. Keep written records on-site.	Within 1 month
F-16	Egress	Collapsible/sliding/shutter type doors have provided along means of egress [building exits, exit stairs, along egress routes, exit discharge].	Replace all collapsible/sliding/shutter type doors & gates by the side-hinged swinging type doors. If locks are required for security reasons, utilize special door locking features complying with NFPA 101.	Within 1 month

				
F-17	Egress	Doors along means of egress are provided with non compliant locking system at several floors.	1. Remove all non compliant locking features from egress doors. 2. If locks are required for security reasons, utilize special door locking features complying with NFPA 101. 3. Doors may be locked where the latch and lock are disengaged with one motion where the occupant load does not exceed 49 persons. 4. Doors may be provided with locking hardware from the ingress side provided that a panic bar is installed on any door with an occupant load exceeding 49 persons.	Immediately
				
F-18	Egress	The egress path along means of egress has interrupted by obstruction/storage.	Means of egress shall be maintained continuously free and clear of all obstructions/storage. Or Keep egress paths and stairs clear of storage.	Immediately



F-19	Egress	Egress door serving 50 or more occupants but does not swing in the direction of egress travel. Locations: Ground floor (Building exit discharge from both exit stairs (Stair-1 & Stair-2))	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 in accordance with the RSC Technical Guidelines (Standard) V1- 6.8.1)	Within 1 month
F-20	Egress	Width of aisles is less than 0.9m (36-in.) located at several floors.	Aisles shall be provided with a minimum unobstructed clear-width of 0.9 m (36 in.).	Within 1 month
F-21	Egress	Exits are not remotely located from each other and the arrangement of Exits are not meet the RSC Technical Guidelines (Standard) V1- 6.6.6)	Modify exit arrangement or Provide additional exit(s) or Provide automatic sprinkler system throughout the building as per NFPA 13	Within 3 months

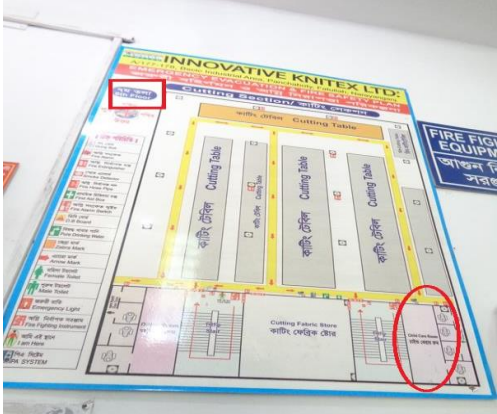


F-22	Egress	Common path of egress travel exceeds 23 m (75ft). Location: (Office)5th floor	Reconfigure the egress arrangement to reduce the maximum common path of travel to not more than 23m (75ft). Where the building is provided with a complete automatic sprinkler system, the common path of egress travel shall not exceed 30m (100ft) in accordance with RSC Technical Guidelines (Standard) V1- 6.13.2.	Within 1 month
F-23	Egress	Each exit stairs serve more than 5 stories and do not have required reentry provisions.	Every door in a stair enclosure serving more than 5 stories shall be provided with re-entry unless it meets the requirements of RSC Technical Guidelines (Standard) V1- 6.8.3.1.	Within 1 month
F-24	Egress Lighting	Exit sign is not provided at the required exits.	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 1 month
F-25	Evacuation map	Fire evacuation map is not posted at the entrance of all exit stair.	Fire evacuation maps shall be posted at the entrance to each exit stair.	Within 1 month
F-26	Parapets/Guards	Parapets or guards are not provide in occupiable roof.	Provide parapets or guards with a minimum height of 1067mm (42 inch.).	Within 2 months



F-27	Fire Rated Construction	Dining room and Prayer room are not properly fire separated from other occupancy by fire rated construction.	Separate the dining & prayer room from production & other occupancies (present sample section) 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
F-28	Egress	Building did not have stair designation signs at floor entrances and occupant load signs, evacuation maps at required exit stair entrances.	Provide stair designation signs, occupant load sign, and evacuation map at required locations.	Within 1 months
F-29	Egress	Storage has been observed at the worker dining room. Location: Ground floor	Remove all the storage from the dining room.	Immediately



F-30	Day-care/Child care	The day-care room (Childcare) located on the 6th floor of factory building and does not have direct access to the exit. The day-care room does not meet the RSC Technical Guidelines (Standard) V1- 3.4.2.1.1)	1. Provide a direct access from daycare room to exit stair. [if the daycare is located at 1st floor] or 2. Provide a minimum 2-hr fire-rated exit corridor between the day-care room and exit stair. or 3. Relocate day-care room to ground floor with maximum travel distance of 9m (30 ft).	Within 1 month
				

F-31	Fire Rated Construction	Boiler, Compressor, Generator, Transformer rooms are not properly separated by fire rated construction with other Occupancies/Areas.	1. Boilers or other heat producing equipment shall be separated from other occupancies by a minimum 1-hr (2-hr for Highrise building) 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. Structural column strength should be checked before installation. All exhaust systems shall discharge to the exterior of the building in a safe location. 2. Separate the compressor room by a minimum 2-hr fire rated construction. Seal and/or protected all openings to maintain fire separations. 3. Generator room shall be separated from other occupancies by a minimum 2-hr fire rated construction (wall, floor, slab etc.). Seal all penetrations and openings (door, window etc.) should be protected by 1.5-hr 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. 4. Oil filled transformer shall be separated from other occupancies by a minimum 4-hr fire rated construction (wall, floor, slab etc.). Switch gears and transformer bays shall be separately housed with a 4-hr rated wall in between. Seal all penetrations and openings (door, window etc.) should be protected by 2-hr 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. Or Relocate all to exterior of the building and maintain a minimum 3m (10 ft.) spatial separation distance from the building.	Within 3 months
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F-32	CNG Cylinders/Appliances	Liquefied or compressed gas cylinders/CNG appliances (high pressure CNG pipeline and pressure reducing unit) used in a fuel of boiler were located within the factory (Ground floor).	The storage or use of LPG or CNG cylinders shall be prohibited within the factory building according to (RSC Technical Guidelines (Standard) V1-3.4.2.1.11) Or, LPG/CNG cylinders are permitted to be stored in a separate dedicated building on the factory premises within its boundaries if the building meets the following conditions: 1. The storage building must be at least 3 meters away from any other building and boundaries. 2. The exterior walls of the building must have a fire resistance rating of 3 hours using noncombustible construction. 3. Doors and other openings in the exterior walls must be protected with suitable closing devices having a fire protection rating of 3 hours. 4. The building is to be used for no other purpose than the storage of LPG/CNG cylinders. 5. The building must be mechanically ventilated to control the accumulation of flammable vapors. 6. The installations must be approved and accepted by the requirements of the AHJ, Gas supply company regulations, manufacturers/supplier's instructions/guidance, CIOB and all other applicable agencies, codes and standards.	Within 1 month
				

F-33	Fire Rated Construction	The main structural elements of the factory building's 8th floor (Newly constructed shed) are constructed by steel which is non-rated and were found in exposed condition without any fire protection.	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-Table 3.3.1, 3.2.4 & 3.1.9.	Within 6 months
				
F-34	Fire Rated Construction	Storage rooms at several floors discharge directly into the exit stair enclosures and are not meet the RSC Technical Guidelines (Standard) V1- 6.14.3)	Openings from exit enclosure to storage rooms 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 room side. Ensure that the fire rating of the vestibule construction matches that of the exit stair enclosure.	Within 3 months

			
F-35	Fire Rated Construction	A single means of egress is provided from worker dining located at ground floor, where the occupant load exceeds 49 person and does not meet the he RSC Technical Guidelines (Standard) V1- 6.6.2)	Reduce occupant load to not more than 49 persons. Or, -Provide additional means of egress. Within 3 months
			

F-36	Fire Rated Construction	Headroom in the northwest egress path (exit from Stair-2 (NW Stair)) on ground floor does not meet the RSC Technical Guidelines (Standard) V1- 6.3.3)	Provide the headroom shall be not less than 2.03 m. in all means of egress.	Within 3 months
				