

FIRE SAFETY INSPECTION REPORT

Shinest Apparels Ltd. (Extension)

Factory ID: 24734

217/1, Beribadh, Mohammadpur, Dhaka

23°46'9"N, 90°20'44"E

Other Factories: Shinest Apparels Ltd. (ID 9616) and Shinest Washing



Inspected by: Md. Rakibul Alam & Md. Golam Kibria

Date: 8 August 2023



Fire Safety Inspection Summary Report

Summary

Shinest Apparels Ltd. (Extension) complex was surveyed for fire safety on 8 August 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.

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.

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.

Special Note: Based on building arrangement all the buildings (building-1, 2, 3 & 4) are considered as a single fire compartment and assessment conducted accordingly. Here, building-1 is under the ID-9616.



General Factory Information

Factory Building Name(s):

1. **Building 2 – G+3 Storied Pre-engineered Steel Building**
2. **Building 3 – 9 Storied RCC Building with Expansion**
3. **Building 4 – 3 Storied RCC Building**

Special Note: Based on building arrangement all the buildings (building-1, 2, 3 & 4) are considered as a single fire compartment and assessment conducted accordingly. Here, building-1 is under the ID-9616.

Additional Information

The entire factory premises is served by 1 transformer, 1 boiler, 2 generator and 3 compressor. All the utilities are located in separate shed beside Building 2 which were previously inspection under ID 9616.

Apart from the building-2 and building-3, the factory complex also contains a separate three (3) story RCC building (**Building-4**) directly connected to building-3 without having any separate/dedicated exit stair, constructed in January 2012 to December 2012, floor area was 232sq.m, ground floor using by Shinest Washing, 1st floor has “Thread Conning Section”, 2nd floor has “Fusing, Accessories-sub-store, Inspection Room”.

Building-1 (Under ID-9616), building-2, building-3 and building-4 are interconnected to each other where 2 stairs are directly shared by each building occupants. Automatic Sprinkler system installed in building-1 and building-2 under the facility of same pump. Detection system installed for the building 3 where sprinkler system was supposed to be installed considering two things, one: all the buildings are interconnected with sharing egress facility even the production, two: building-3 is 4 storied non-rated structure with individual floor area more than 22000 sft (considering building-3 (21000 sft) and building-4 (2500 sft) is a same building as both are not separated each other and has the same egress in the same layout).

So, to reduce the residual risk in terms of life and building safety two steps are recommending being taken as: installation of compliant automatic sprinkler system throughout the building-3 and building-4 and verification of compliance level of installed sprinkler system for building-2.



Table 1. Findings And Recommendations

No.	Category	Finding	Recommendation	Remediation Timeframe
F-1	Fire Protection	The fire alarm and detection system installation requires detailed review to confirm compliance with NFPA 72 and RSC Technical Guidelines (Standard). (All buildings)	Submit as-built drawings, testing records, equipment certification and other relevant documentation to the RSC for review and then approval/acceptance test.	Drawing Within 2 months Install/ Modification Within 4 months
 				
F-2	Fire Protection	The fire pump set installation requires detailed review to confirm compliance with NFPA 20 and RSC Technical Guidelines (Standard).	Submit as-built drawings, testing records, equipment certification and other relevant documentation to the RSC for review and then approval/acceptance test.	Drawing Within 2 months Install/ Modification Within 4 months





F-3	Fire Protection	Fire sprinkler system shall be installed throughout the buildings as the buildings are interconnected to each other where production and egress facilities are shared.	Install automatic sprinkler protection throughout the buildings in accordance with NFPA 13 and RSC Technical Guidelines (Standard).	Drawing Within 2 months Install Within 6 months
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F-4	Fire Protection	Inspection, testing and maintenance of the automatic fire alarm system is not in accordance with NFPA 72.	Inspect, test and maintain the automatic fire alarm system and keep written records on-site, in accordance with NFPA 72 (after installation).	Within 1 month
F-5	Fire Rated Construction	Areas used for combustible storage open to the factory are not properly defined and/or not within limits. (Building-2 –1st & 3rd floor)	Provide defined storage areas and limit the storage arrangement as follows: Maximum height of 2.45m (8 ft) and maximum area of 23 m² (250 ft²). If sprinkler protected: maximum height of 3.66m (12 ft) and maximum area of 93m² (1000 ft²). Separate the areas of unenclosed combustible storage by a minimum clear distance of 3 m (10 ft). Areas shall limit within 10% of entire floor area.	Within 3 months



F-6	Fire Rated Construction	Unsealed utility pipes, electric riser penetration located in the fire-rated floor/ceiling assemblies Also building expansion joints were not protected in building-3 (previously installed which found damaged) and in between buildings.	Penetrations of fire resistive rated assemblies shall be protected with listed through penetration fire stop system tested in Accordance with ASTM E814 in Accordance with RSC 4.7 with a minimum 3-hr fire rating at building-3 and 2-hr at building-2 & 4.	Within 3 months
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F-7	Fire Rated Construction	Exit doors are provided with 3 hr fire rated doors however fire door accessories are not working as required. (All building)	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 (10" wall). 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 6.8.3.1.	Within 1 month
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F-8	Egress Lighting	Directional sign was not adequate at the path of egress / in a readily visible location (All Building)	Provide lighted directional signs along all paths of travel where a change of direction is not obvious as per RSC 6.11.3.	Within 1 month
F-9	Fire Rated Construction	Storage/ storage rooms discharges directly into the exit stair enclosures. (Building-3 – 1 st , 2 nd and 3 rd floor and one stair was shared with building-2).	Openings from exit enclosure to storage room, generator, basements, transformer boiler and similar normally unoccupied spaces shall be provided with a vestibule with fire rated construction and openings as per RSC Technical Guidelines (Standard) 6.14.3. Provide a 1.5 hr. fire rated door on the exit stair side and a 1-hr. fire rated door on the storeroom/storage side. Ensure that the fire rating of the vestibule construction matches that of the exit stair enclosure.	Within 3 months





F-10 Fire Rated Construction

Unsealed penetrations and openings are located in exit stair enclosures and separation walls. (Building 2 and 3)

Seal all penetrations and openings in exit stair enclosure and separation walls to maintain the required fire separation. Penetration is prohibited into and through an exit enclosure. Re-route the cable channels.

Within 3 months



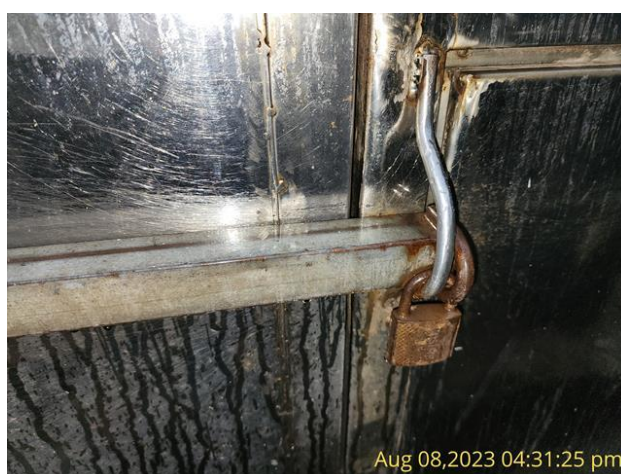
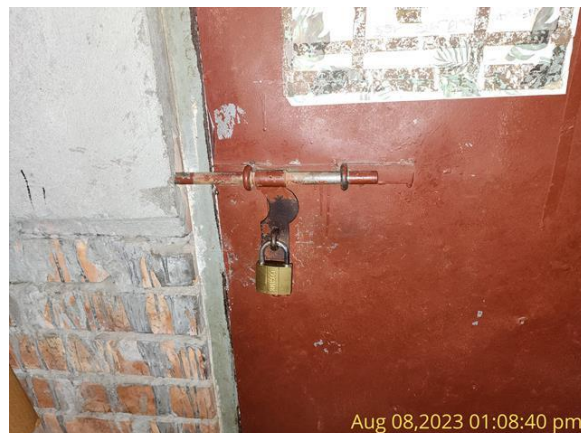


F-11	Egress	Fire evacuation maps is not posted at the entrance of the exits at several floors. Also not updated. (All Building)	Fire evacuation maps shall be posted at the entrance to each exits and exit stairs and maps shall be updated regularly when required as per RSC 13.3.	Within 1 month
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F-12	Fire Rated Construction	Proper certification was not available for fire rated doors installed in the factory.	Submit proper certifications for installed fire doors during inspection for approval. If not available, or certification is not approved, install new, properly certified fire rated doors in accordance with RSC direction.	Within 3 months
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F-13	Egress	Egress gates on the top floor sample section 1st floor store and main exit of building-3 provided with locking features.	Remove locking features from all egress gates. If locks are required for security reasons, utilize special door locking features complying with ACCORD standard 6.8.2.	Immediately
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F-14	Egress	Sliding gates provided at top floor sample section of building-3 and packing sections of building-2.	Replace all gates, sliding Doors and rolling shutters along the means of egress with side-hinged, swinging egress doors. If locks are required for security reasons, utilize special door locking features complying with NFPA 101.	Within 1 month
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F-15 Fire Rated Construction	Room on the 2nd floor at building-3 and 1st floor at building-2 used for combustible storage is not separated by a minimum 1-hr fire-rated construction.	Provide dedicated storage rooms separated by minimum 1-hr fire-rated construction.	Within 3 months
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F-16 Egress Lighting

Based on the number and location of emergency lights observed, adequate illumination levels are not anticipated along egress routes.

All buildings.

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 3 months

F-17 Egress Lighting

Emergency lighting did not function in test mode (burned out, broken, etc.).
(All building)

Regularly test the emergency lighting system on each floor and replace/repair lights as needed.

Within 1 month





F-18	Egress Lighting	Exit signage was not provided at all the exits / along the path of egress / in a readily visible location.	Provide exit signs above all building exits to the exterior, all doors to the exit stairs and along all paths of travel where a change of direction is not obvious (directional sign).	Within 1 month
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F-19	Egress Lighting	Exit signage was not illuminated (burned out, broken, etc.) and some were not illuminating as required. (All building).	Regularly inspect all exit signage and replace/install lights as needed to illuminate signs. The source of illumination shall provide not less than 50 lux at the illuminated surface with a contrast of not less than 0.5. Approved self-luminous signs which provide evenly illuminated letters having a minimum luminance of 0.2 cd/m ² may also be used.	Within 1 month
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F-20	Egress Lighting	Exit signs were placed in areas that were not exits.	Remove exit signs from noted areas to avoid confusion from actual exits.	Within 3 months
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F-21	Egress	Building did not have stair designation sign, occupant load sign & floor level signs at all required locations.	Provide occupant load sign, stair & floor designation signs at required locations.	Within 1 month
F-22	Egress	Storage was located in the exit stairs aisles. (All building).	Remove all storage from exit stairs and aisles. Egress facility shall be kept free.	Immediately





F-23	Egress	Dead-end distance exceeds 15 m (50 ft) limit at building 4.	Reconfigure the egress arrangement to reduce the maximum dead-end distance to not more than 15 m (50 ft) in accordance with RSC 6.13.3.	Within 3 months
F-24	Fire Rated Construction	The exit stairwell stairs are non-rated and not enclosed in fire rated construction due to non rated beam, column and deck slab. (Building-2).	Provide 2-hr fire rated stairwell enclosure on each floor level. Or Provide 2-hr fire rated coating on the steel structural materials to meet RSC 6.3.1.2.2.	Within 6 months



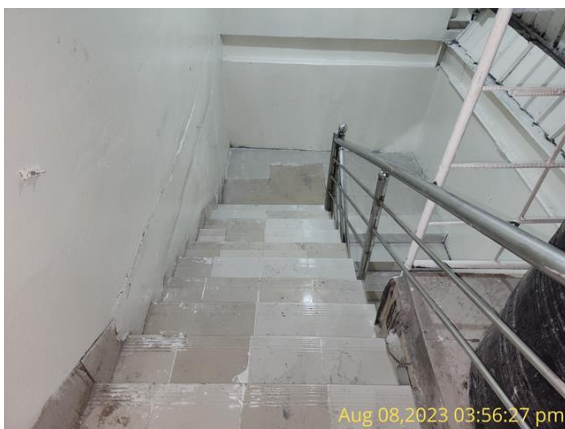


F-25	Fire Rated Construction	The exit discharge path serving the [S-W stair] is less than 10 ft wide and is not separated from the building interior (Building2).	Seal all penetrations and openings to the interior of the building along the discharge path to provide a minimum 1-hr fire separation.	Within 3 months
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F-26	Egress	Fire drills are not performed as required by RSC 13.2.	Fire drills shall be conducted on a quarterly basis in accordance with RSC 13.2.	Within 1 months
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F-27	Egress	Handrails are not provided on both sides of N-E exit stairs at building 2. Also handrailing have some hole likely to cause hand/finger injury.	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.) . Provide continuous handrail on both side of exit stair without any opening/hole in the handrail.	Within 1 months
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F-28	Fire Rated Construction	Storage was found underneath the cutting tables at building-2.	Remove storage materials underneath the cutting tables.	Within 1 months
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F-29	Egress	A single means of egress is provided from ground floor cutting section at building-3 where travel distance (47 m) is exceeded. (Building-2).	Ground or basement story is allowed a maximum of 50 occupants and 23 m (75ft) travel distance. The second story is allowed a maximum of 30 occupants and 23 m (75ft) travel distance. All other stories require a minimum of 2 egress exits. Provide additional means of egress remotely located as per RSC 6.6.6.	Within 3 months
F-30	Egress	N-E stair do not discharge directly to the outside, discharges in the 1st floor. (Building-2).	Modify stair to discharge directly to outside. Or Provide 2-hr fire-rated exit passageway leading directly to outside (vestibules to separate any storage areas). Or Provide sprinkler protection for discharge floor in accordance with NFPA 13 meeting RSC 6.17.3 (all 4 options shall meet).	Within 4 months





F-31 Egress

Exit stairs do not discharge directly to the outside.

(All Building).

At least 50 percent of the number and capacity of of the exit enclosures shall discharge to the outside as per RSC 6.17.3.

Within 4 months

Modify stair to discharge directly to outside.
Or Provide 2-hr fire-rated exit passageway leading directly to outside (vestibules to separate any storage areas).
Or Provide sprinkler protection for discharge floor in accordance with NFPA 13 meeting RSC 6.17.3 (all 4 options shall meet).



F-32	Egress	The running slopes throughout ground floor does not comply with RSC standard.	Reconfigure the slopes in a way that comply with RSC 6.3.4.2.	Within 3 months
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