

INITIAL FIRE SAFETY INSPECTION REPORT

Dana Sweater Industries Ltd. (New)

RSC ID: 24978

Holding No-97, Shoildubi, Kashimpur, Bangladesh

Google Coordinate: 23.965757, 90.296708

Other Factories: None



Inspected By: Mahfuza Khanom & Muntasir Ahmad Nasif

Date: 18 December 2023

Fire Safety Inspection Report

Dana Sweater Industries Ltd. (New)

Introduction:

Dana Sweater Industries Ltd. (New) Complex was surveyed for fire safety on **18/12/2023** 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): There are seven (07) structures in the premises under this ID-24978. They are :

1. Building-1, Production Building-1 (2-Storied prefabricated steel building):

Construction: Jun 2005 to Feb 2007 & Occupied: Mar 2007

Construction Period: Existing

Approval: 29 Dec 2013 Approval Authority: Gazipur City Corporation

Total area of the Building: 72981.24 sft., GF-37759.79 sft, 1F- 35221.45 sft

2. Building-2, Production Building-2, 4 storied RCC (G+3 Storied):

Construction: Phase-1: June 2005 to February 2007

Phase-2: April 2023 to October 2023

Occupied: Mar 2007

Approval: 08 Aug 2012 Approval Authority: Gazipur Pourosova (Proposed six storied storied)

Construction Period: Existing

Total area of the Building: 44056.68 sft. Per Floor 11014.17 sft

3. Building-3, HR & Admin Building (2-Storied RCC Building) (G+1)

4. Building-4, Security Office Building (2-Storied masonry structure)

5. Building-5, Pump Room (Single storied masonry structure)

6. Building-6, Cooling Tower Building (Two storied RCC structure)

7. Building-7, RMS Room (Single storied masonry structure)

Factory Address: Holding No-97, Shoildubi, Kashimpur, Gazipur, Bangladesh

Points of contact:

Name: Md. Jakir Hossain

Designation: DGM (Admin & Compliance)

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Email: jakir@amanknittings.com



Name: Engr. Fazle Rabbi

Designation: Head of Civil Engineering (Building Construction)

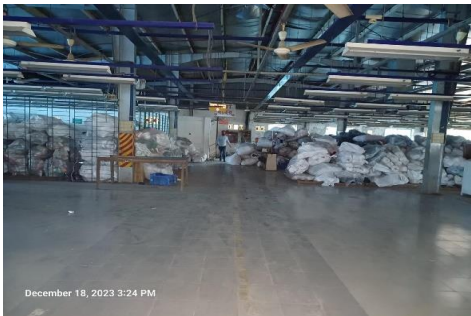
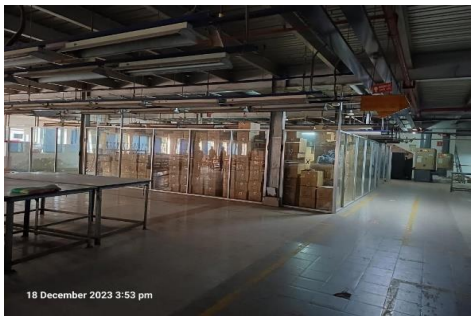
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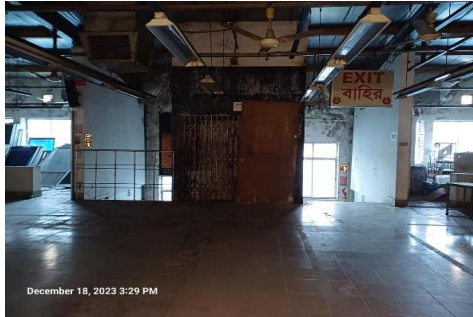


Finding & recommendation

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.

SI No.	Category	Findings	Required Action	Remediation Time Frame
F-1	Fire Rated Construction	Rooms used for combustible storage are not separated by fire rated construction. Location: Production Building-1 & Production Building-2.	Separate the dedicated storage rooms by minimum 1-hr fire-rated construction. Provide 0.75 hr. fire rated door and seal all penetrations and openings by 1 hr. fire rated barrier construction.	Within 3 months
  				

F-2	Fire Rated Construction	The exit stairs are not separated from work areas and other spaces on each floor by fire rated construction. Location: Production Building-1, Production Building-2, HR & Admin Building.	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. 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. 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.	Within 3 months
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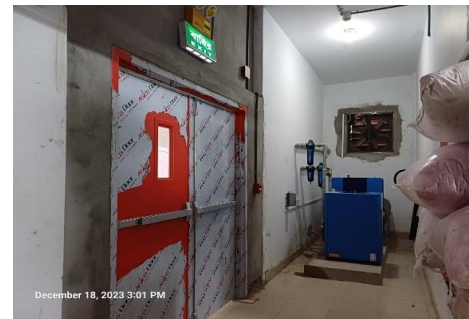
F-3	Fire-Rated Construction	Lift discharges inside work floors which are without fire rated separation. Location: Production Building-1.	Separate the lift from workplace by a minimum 2-hr fire-rated construction. Seal and/or protected all openings to maintain the required fire separations.	Within 3 months
 				
F-4	Fire Rated Construction	Unsealed penetrations and openings are located in the exit stair enclosures. Location: Production Building-1 & Production Building-2.	Seal all penetrations and openings in exit stair enclosure walls to maintain the fire separations.	Within 3 months



F-5	Fire Rated Construction	Boiler, generator and transformer located at Ground floor West side of Production Building-1 are not separated by fire rated construction (openings, non-rated doors, penetrations, non-rated roof).	Separate the generator, transformer and boiler or heat producing equipment by a minimum 2-hr fire rated construction. Seal and/or protected all openings to maintain fire separations. All exhaust systems shall discharge to the exterior of the building in a safe location. Or Relocate it 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-6	Fire Rated Construction	The compressor is not separated by fire rated construction. Location: At Ground floor inside floor (North-East side) in Production Building-2.	Separate the compressor room by a minimum 2-hr fire rated construction. Seal and/or protected all openings to maintain fire separations. All exhaust systems shall discharge to the exterior of the building in a safe location. Or Relocate it 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-7	Fire-Rated Construction	Unsealed penetrations and openings are located in the fire rated floor/ceiling assemblies (electrical cable riser etc.). Location: Production Building-2.	Provide a minimum 2-hr fire rated shaft to separate the utility risers from each floor level. Seal all penetrations and openings in floors/ceiling assemblies to maintain the fire separation.	Within 3 months
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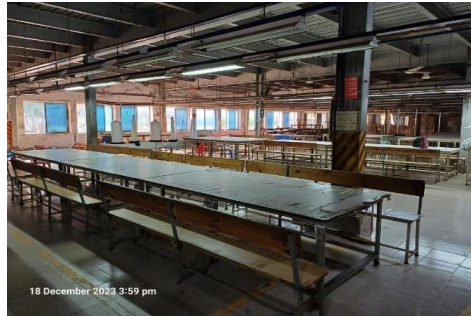
F-8	Fire Rated Construction	Unsealed openings have been observed through Ground floor and 1st floor in Production Building-1.	Separate one floor from another floor by sealing penetrations and openings of the ceiling assemblies by fire rated materials to maintain fire resistance rating.	Within 3 months
 				
F-9	Fire Rated Construction	Exit stair(s) discharge the occupants inside the building. All stairs in Production Building-1 discharges occupants inside Ground floor working area.	1. Modify stair to discharge directly outside. Or 2. Provide 2-hr fire-rated exit passageway leading directly outside (vestibules to separate any storage areas)..	Within 6 months



F-10	Fire Rated Construction	Liquefied or compressed gas cylinders were located within the factory. Location: Beside Utility portion of Production Building-1.	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 3 months
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F-11	Fire Rated Construction	The dining (E4) area is not separated from the adjacent floor area by fire rated construction. Location: Production Building-1 Ground floor.	Separate the dining area by a minimum 3-hr fire-rated construction having a direct access to exit stair or safe location. Seal and/or protected all openings to maintain the required fire separations.	Within 3 months
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F-12	Fire Rated Construction	Corridor(s) serving more than 30 occupants at Ground floor in Production Building-1 and Production Building-2 is not separated by fire rated construction.	1. Separate the corridor by a minimum 1-hr fire rated construction. Or 2. Provide automatic sprinkler system throughout the story as per NFPA 13.	Within 3 months
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F-13	Fire Rated Construction	Areas used for in-process storage of combustible materials are open to the surrounding occupancy.	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. 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
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F-14	Means of Egress	Doors along the means of egress are provided with non compliant locking system. Location: Production Building-1	Remove locking features from all egress doors/gates. If locks are required for security reasons, utilize specialized door locking features complying with NFPA 101.	Immediate
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F-15	Means of Egress	Sliding doors/rolling shutter doors are provided at [building exits, along egress routes, exit discharge]. Location: Production Building-1	Replace all collapsible gates/ sliding doors/ rolling shutter doors along the means of egress with side-hinged, swinging egress doors. If locks are required for security reasons, utilize specialized door locking features complying with NFPA 101.	Within 1 month
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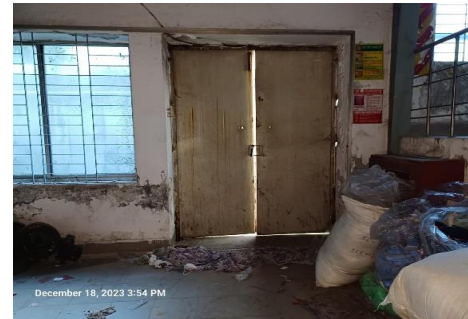
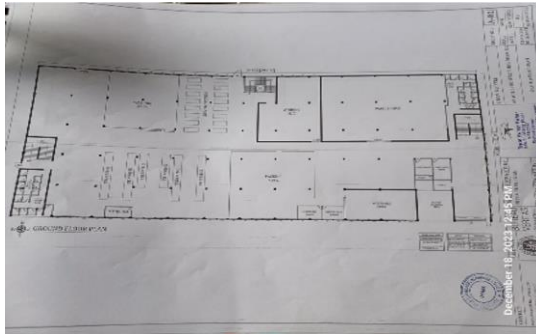
F-16	Means of Egress	Handrails are not provided on both sides of each exit stairs on all floors. Having handrails on one side of said staircase, may pose as a falling hazard during evacuation. Intermediate handrails are not provided where the stair width exceeds 2.2 m (87 in.). Location: Production Building-1, Production Building-2, HR & Admin Building.	Provide handrails on both sides of the exit stairs. 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
  				
F-17	Means of 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.	Immediate



F-18	Means of Egress	Storage was located in exit stair. Location: Production Building-1 & Production Building-2.	Remove storage from the exit stairs and egress path.	Immediate
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F-19	Means of Egress	Electrical DB and appliances were located in the exit stair. Location: Production Building-1 & Production Building-2.	Remove all electrical appliances or board from exit stairs.	Within 1 month
				
F-20	Means of Egress	Travel distance of egress exceeds limit on the Ground floor in Production Building-1. Currently factory has declared two exits from Ground floor. North side door is not used as an exit door.	Reconfigure the egress arrangement or provide an additional exit to reduce the maximum travel distance to not more than: 45 m (150 ft.) or 60 m (200 ft.) when a complete automatic fire alarm, portable fire extinguishers, and standpipe are present or 122 m (400 ft.) when a complete automatic sprinkler system, automatic fire alarm, portable fire extinguishers, and standpipe are present.	Within 3 months



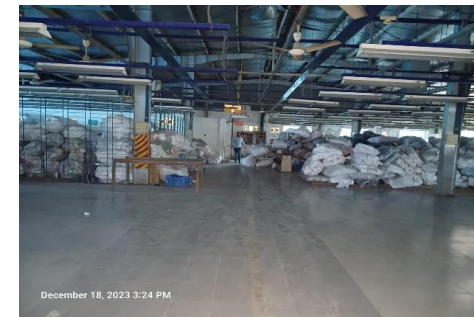
F-21

Means of Egress

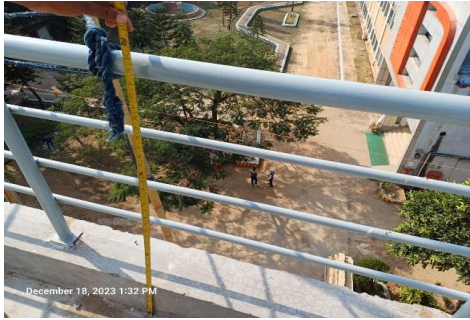
Aisles mark is not provided on floors and the width of egress aisles is less than 36-inch.

Aisles shall be provided with a minimum unobstructed clear-width of 0.9 m (36 in.).

Within 3 months



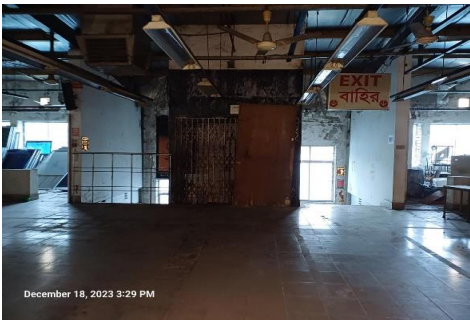
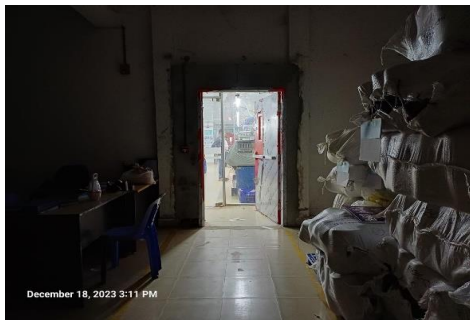
F-22	Means of Egress	Building(s) did not have stair designation signs and occupant load signs at the required locations.	Provide stair designation signs and occupant load signs at the required locations.	Within 1 month
 				
F-23	Means of Egress	Parapets or guards are provided in occupied roof which is less than 1067mm (42 inch.). Location: Production Building-2, HR & Admin Building and Cooling Tower Building.	Provide parapets or guards with a minimum height of 1067mm (42 inch.).	Within 3 months



F-24	Means of Egress	Fire evacuation maps are not posted at the entrance of all exit stairs.	Fire evacuation maps shall be posted at the entrance to each exit stair.	Within 1 month
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F-25	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-26	Egress Lighting	Exit signage not illuminated (burned out, broken, etc.).	Regularly inspect all exit signage and replace/install lights as needed to illuminate signs.	Within 1 month

 				
F-27	Egress Lighting	Exit sign not provided at exit and directional signs are not provided where direction of the path of travel to an exit has changed.	Lighted exit signs shall be placed at entrance to an exit. 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. Lighted exit signs shall be provided with either battery backup or uninterruptable power supply systems and shall be continuously illuminated.	Within 1 month
 				
F-28	Egress Lighting (ITM)	Inspection, testing, and maintenance for the exit sign and emergency lighting system was 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) standard. Keep written records on-site.	Within 3 months

F-29	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. Factory has started installation of addressable fire alarm system in Production building-2.	Replace the fire detection system with a new, listed addressable fire detection system in accordance with NFPA 72. Submit design, drawings and other relevant documentation to the RSC for review.	Design- within 2 months Installation-within 4 months
				
F-30	Fire Alarm & Detection System (ITM)	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 Table-14.3.1 of NFPA 72.	Within 1 month (After installation)
F-31	Fire Protection System(Standpipe System)	The existing building (Production Building-2) has an occupied floor greater than 10 meter (33 feet) and is not provided with standpipe protection.	Install a new class III standpipe system & fire department connection in accordance with NFPA 14. A class I system shall be permitted in buildings protected throughout by an automatic sprinkler system.	Design- within 2 months Installation-within 4 months



F-32	Fire Protection System (ITM Standpipe System)	Inspection, testing, and maintenance for the standpipe system is not in accordance with NFPA 25.	Inspect, test and maintain the standpipe system and keep written records on-site, in accordance with NFPA 25.	Within 1 month (After installation)
F-33	Fire Protection System (ITM Fire Pump System)	Inspection, testing and maintenance of the fire pump system is not in accordance with NFPA 25.	Inspect, test and maintain the fire pump system and keep written records on-site, in accordance with NFPA 25.	Within 1 month (After installation)

F-34	Fire Protection System (ITM Fire Extinguisher)	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
