

INITIAL FIRE SAFETY INSPECTION REPORT

Mac-Tex Industries Ltd.

RSC ID: 25601

77/20 Dagormora, CRP Road, Savar Dhaka

23.854816, 90.262433



Inspected By: Md. Sadid Rahman

Date: 11-Mar-2024

Fire Safety Inspection Report

Mac-Tex Industries Ltd.

Introduction:

Mac-Tex Industries Ltd. complex was surveyed for fire safety on **11-Mar-2024** 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 total 03 no's of structures in the factory compound under this RSC ID 25601 where approval authority of Production Building is Savar pourashava. The buildings are as below:

1. Production Building (Partially 7 Storied RCC Building with partial basement)

Construction Start: June- 2008

Construction End: Jan-2012

Occupy : Feb-2022. by Present factory owner. Previously occupied on Feb-2012 by Dana Bottoms Ltd (Previous factory).

Approval Date: Jun-2008 [from Savar pourashava, Approved as 6 storied]. Construction Period of the Structure: Existing

2. Boiler Building (2 Storied RCC Structure)

Construction Start: Apr-22

Construction End: Sep-22

Occupy : Jan-2023.

Approval Date: Not available. Period of the Structure: New

3. Security Building (Single Storied RCC Structure)

Construction Start: June- 2008

Construction End: Jan-2012

Occupy : Feb-2022. by Present factory owner. Previously occupied on Feb-2012 by Dana Bottoms Ltd (Previous factory).

Construction Period of Structure: Existing.

Factory Address: 77/20 Dagormora, CRP Road, Savar Dhaka

Points of contact:

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Findings & Recommendations :

Table 1 summarize 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 review.

Table-1: For Building 1 (Production Building) and Building 2 (Boiler Building).

SI No.	Category	Findings	Required Action	Remediation Time Frame
F-1	Fire Rated Construction	Unsealed penetrations and openings are located in exit stair enclosure. Location- Building-1_Stair-2	Seal all penetrations and openings in floor/ceiling assemblies to maintain the fire separation at least by 3-hr. The used sealer shall be 3rd party certified and installation shall be as per manufacturer's datasheet.	Within 3 months
				

F-2	Fire Rated Construction	The exit stairs are not separated from work areas, other spaces on each floor by fire-rated construction due to following issues 1- Hardware of the Fire rated door has been found non functional. 2- Fire Rated door has been found kept open manually so that the separation has not been ensured. Location: B-1 (Stair-1 and 2)	Provide minimum 2-hr fire rated construction for buildings 4 storied or more and 1-hr for up to 3 storied. Seal all unprotected openings to separate the exit stairs from work areas and other spaces on all floor levels by 90 minutes for 2 hr. construction and 60 minutes for 1-hr construction. Ensure that the fire rated doors are self-closing and positive latching and that they are provided with fire exit (panic) hardware where serving production floors. If fire rated doors are required to be held open for functional reasons, provide automatic closing devices tied to the fire alarm system. Factory shall ensure the integrity of the fire rated door through accurate datasheet, 3rd party certificate and listing labeling.	Within 3 months
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F-3	Fire Rated Construction	Elevator shafts are directly open into production floor without proper fire separation (Doors are not fire rated). Location: Building 1_6th Floor	Ensure a minimum 1.5-hr fire rating for the doors of elevator shafts otherwise close the shafts area with a 2-hr fire-rated construction barrier and 1.5-hr fire-rated doors.	Within 3 months
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F-4	Fire Rated Construction	Storage room discharges directly into exit stair enclosure. Location: Ground and 5th Floor.	Openings from exit enclosure to storage room, 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 side. Ensure that the fire rating of the vestibule construction matches that of the exit stair enclosure. [6.14.3 of RSC Technical Guidelines Standard]	Within 3 months
 				

F-5	Fire Rated Construction	Areas used for in-process storage of combustible materials are open to the surrounding occupancy. Moreover, materials have been found under the cutting table. Location: 1st and 5th floor of Building-1	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. Also remove storage from under the cutting table	Within 3 months
 				

F-6	Fire Rated Construction	Room used for combustible storage are not separated from production area by fire rated construction. Hardware of the fire rated door has been found non functional. Location: Ground Floor.	Separate the storage room by a minimum 1- hr. fire-rated construction. Seal and/or protected all openings to maintain the required fire separations. Ensure that all hardware and accessories of the fire rated door are functional properly.	Within 3 months
				

F-7	Fire Rated Construction	Penetrations due to Plumbing pipes and BBT through floor/ceiling assemblies are found unsealed. Location(s): Building-1	Seal all penetrations and openings in floor/ceiling (full thickness of the floor/ceiling) assemblies by fire rated materials to maintain the fire resistance rating of 3 hr. Prior to install any type of passive fire protection system (Collar, sealant, etc.), submit all datasheet, certificate, UL drawing to RSC for review.	Within 3 months
 				

F-8	Fire Rated Construction	Adjacent residential building has been found within 3 feet from the exterior of the Boiler building. Location: South side of the Building-1 and Boiler Building.	Exterior wall of the factory requires 1 Hr. separation from the residential building as per Table 3.2.2 of BNBC-2006 (Part-3).	Within 3 months
 				

F-9	Fire Rated Construction	The interior exit stair discharges inside the building in the ground floor (Stair-1).	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 of the following are met: (1) Automatic sprinkler protection is provided throughout the level of exit discharge or portion of the level of discharge where separated from non sprinklered portions of the floor by fire barriers with the same fire resistance rating as the exit enclosure. (2) The interior discharge is not through a storage or hazardous occupancy. (3) The entire area of the level of exit discharge is separated from areas below by construction having a fire resistance rating not less than that required for the exit enclosure. (4) The way to the exterior shall be free and unobstructed and shall be readily visible and identifiable from the point of discharge of the interior exit. Or Re arrange the discharge direct to the outside.	Within 3 months
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F-10	Fire Rated Construction	Dining located on 5th Floor (Capacity of 100 approx.) did not have 2 no's direct exit. Location; building-1	Dining shall be separated from production area by minimum 3 Hr. rated separation. Seal and/or protect all openings to maintain the required fire separation. Assemblies of Occupancy E3, E4 and E5 shall have at least two means of exits leading directly to the street or leading to a corridor or open space having access to exits in two independent and different direction. (3.21.3-BNBC-2006).	Within 1 month
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F-11	Means of Egress	Sewing type door has been found on the exit discharge where it is possible to lock the gate manually. Location: Building 1 (Stair-1 and 2)	Ensure that all provision to lock the sewing type door has been removed. Or Replace the door by a specialized sewing type door where locking features complying with NFPA101.	Within 1 month
				
F-12	Means of Egress	The width of egress aisles has been found less than 36-inch. Some cases, aisle was not marked properly. Location: Building-1_1st Floor, Ground Floor. Boiler Building_1st Floor	Provide minimum aisle widths of 36-inch. Mark the aisle according to the evacuation map.	Within 1 month



F-13	Means of Egress	Building did not have stair designation signs or occupant load signs at the required locations. Location: Building-1 (Stair-2)	Provide stair designation signs and occupant load signs at the required locations.	Within 1 month
F-14	Egress Lighting	The directional signs are not provided where there is a change in direction and where the continuation of the egress path is not obvious. Location: Building-1	Install 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 1 month
				

F-15	Egress Lighting	Based on the number and location of emergency lights observed, adequate illumination levels are not anticipated along egress routes. Location: Building 1	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-16	Egress Lighting	Exit signage not illuminated (burned out, broken, etc.). Location: Building-1 and Boiler Building	Regularly inspect all exit signage and replace/install lights as needed to illuminate signs	Within 1 month



F-17	Fire Alarm & Detection system	Fire alarm and detection system installation complete which requires detailed review to confirm compliance with NFPA 72 and RSC Technical Guidelines (Standard).	Submit the fire alarm system design to RSC for review. Once the design is reviewed, install and modify the fire detection and alarm system throughout the building in accordance with review comment, Accord/ RSC Technical Guidelines (Standard) and NFPA 72. After installation the owner shall conduct internal testing and commissioning and then contact the RSC for witness of final acceptance testing. Also inspect, test and maintain the fire alarm system, and keep written records on-site, in accordance with Table-14.3.1 of NFPA 72	Design review-1 Month Modification if required-3 Months
 				
F-18	Fire Alarm & Detection system (ITM of FADS)	Inspection, testing and maintenance for the fire alarm system is not in accordance with NFPA 72 and 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)

F-19	Fire Protection System (Standpipe)	The existing building has an occupied floor greater than 10 meter (33 feet) and Standpipe installation requires detailed review to confirm compliance with NFPA 14, 20 and RSC standards.	Submit the standpipe system drawing to RSC for review. Once reviewed, install or modify the standpipe system throughout the building in accordance with RSC standard and NFPA 14,20,22 and 24. After installation the owner shall contact the RSC for witness of conducting the final acceptance testing of the standpipe system.	Design-1 Month Modification if required-3 Months
 				
F-20	Fire Protection System(ITM of fire pump)	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-21	Fire Protection System(ITM of Standpipe)	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-22	Egress Lighting ITM	Inspection, testing, and maintenance for the emergency lighting system were not in accordance with The RSC Technical Guidelines (Standard).	Inspect, test and maintain the emergency lighting system in the accordance with The RSC Technical Guidelines (Standard) and keep written records on-site.	Within 1 month
F-23	ITM of Fire Extinguishers	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 1 months