

# INITIAL FIRE SAFETY INSPECTION REPORT

## Unicorn Sweaters Ltd. Extension Building

Factory ID: 24248

Gorat, Navana Village, Ashulia, Bangladesh.

GPS Coordinates: 23.94605, 90.30167

Other Factories: Unicorn Sweaters Ltd. (Factory ID: 23549)



Inspected By: Safawan Abyaz, Md Rafat Arefin, Md. Khalaquzzaman

Date: 19 October 2021

# Fire Safety Inspection Report

## Unicorn Sweaters Ltd. Extension Building

### Introduction:

Unicorn Sweaters Ltd. Extension building was surveyed for fire safety on 19 October 2021 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

**Building name(s):**

1. Building No. 1: 6 Storied RCC Building
2. Building No. 2: Boiler House

**Factory Address:** Gorat, Navana Village, Ashulia, Bangladesh.

**Points of contact:**

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2. Name: Alfazuddin Ahmed,  
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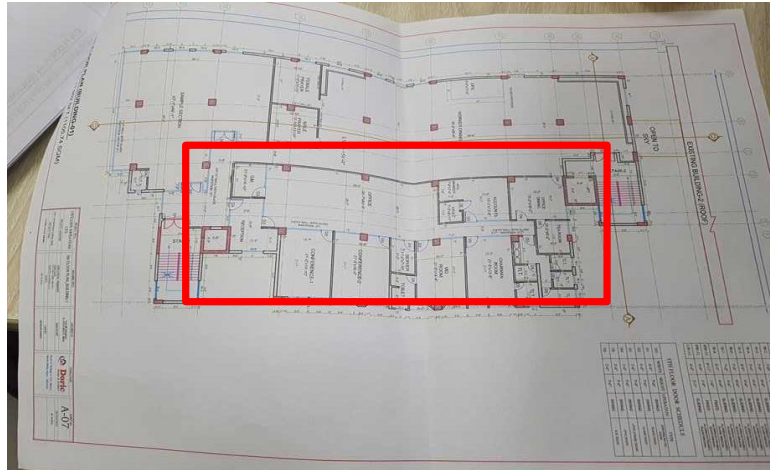
## Findings & Recommendations :

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:(Findings & Recommendations)

SI No.	Category	Findings	Required Action	Remediation Time Frame
F-1	Egress	<p>Doors along means of egress are provided with non compliant locking system.</p> <p><b>Location: Vertical exit from other building to Building no.01 and Individual room located at production floor.</b></p>	<ol style="list-style-type: none"> <li>1. Remove all non compliant locking features from egress doors.</li> <li>2. If locks are required for security reasons, utilize special door locking features complying with NFPA 101.</li> <li>3. Doors may be locked where the latch and lock are disengaged with one motion where the occupant load does not exceed 49 persons.</li> <li>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.</li> </ol>	Immediate
				
F-2	Egress	<p>A single means of exit has been provided.</p> <p><b>Location: 5th floor, Office area.</b></p>	Provide additional exit.	Within 3 months



F-3	Egress	<p>The egress path along means of egress has interrupted by obstruction/storage.</p> <p><b>Location: Ground floor, connecting corridor to inspection room.</b></p>	<p>Means of egress shall be maintained continuously free and clear of all obstructions/storage.</p> <p>Or</p> <p>Keep egress paths and stairs clear of storage.</p>	Immediate
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F-4	Fire Rated Construction	<p>Areas used for in-process storage of combustible materials are open to the surrounding occupancy which are not separated by fire rated construction.</p> <p><b>Location: Ground Floor of Building no. 01</b></p>	<p>Provide dedicated storage rooms separated by minimum 1-hr fire-rated construction.</p> <p>Or,</p> <p>Where separate storage rooms are not feasible, Provide defined storage areas and limit the storage arrangement as follows:-</p> <ol style="list-style-type: none"> <li>1. General Condition: Maximum height of 2.4m and maximum area of 23m<sup>2</sup>. Separate areas of unenclosed combustible storage by a minimum clear distance of 3m.</li> <li>2. If sprinkler protected: maximum height of 3.66m and maximum area of 93m<sup>2</sup>. Separate areas of unenclosed combustible storage by a minimum clear distance of 3m.</li> </ol>	Within 3 months
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F-5	Fire Rated Construction	<p>Fire doors has been installed in the openings of required fire rated assemblies (Exit stairs and other occupancy separations), However, fire door were found with following issues-</p> <ol style="list-style-type: none"> <li>1. Doors were kept open by means of door wedges.</li> <li>2. Doors were not provided with adequate/required hardware.</li> <li>3. Doors were found with excessive clearance.</li> <li>4. Doors were not provided with required positive latching.</li> <li>5. Fire doors and frames were found with holes/scratches that could impact the fire protection rating.</li> </ol>	<p>Install the fire door as per NFPA 80.</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> <p>The clearance under the bottom of a fire door shall be a maximum of 19mm. From edges and top shall be limited to a maximum 4.8 mm. All measurement shall be taken from the "pull side" of the door.</p> <p><b>Any modification of fire doors beyond the job site preparation shall be approved by the door manufacturer.</b></p>	Within 3 months
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F-6	Fire Rated Construction	<p>Penetrations through fire rated floor/ceiling/wall assemblies are not properly sealed.</p> <p><b>Locations: Shaft enclosures, Vertical cable tray from electrical shaft, building construction/expansion joint, and mechanical and plumbing penetrating items that goes through the fire rated assemblies.</b></p>	<p>Seal all penetrations and openings in floor/ceiling/wall (full thickness of the floor/ceiling/wall) assemblies by fire stopping materials to maintain the required fire-resistance rating.</p> <p><b>If fire stopping materials with proprietary design are used for seal, then it shall be classified for the purpose it is used for. Also the installation shall be as per the proprietary design it has been tested with.</b></p>	Within 3 months
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F-7	Fire Rated Construction	Elevator shafts located and opens directly in the exit stair enclosure.	Modify the elevator and stair enclosure arrangement in way to satisfy Accord standard 6.14.3. Elevator shall not open into an exit enclosure. Elevator landing door shall be of 1.5-hr fire rated when open into the factory floor.	Within 3 months
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F-8	Parapet	Parapets or guards are not provide in occupiable roof as per ACCORD standard.	Provide parapets or guards with a minimum height of 1067mm (42 inch.).	Within 3 months
				
F-9	Fire Alarm and Detection System	<p>An addressable fire alarm &amp; detection system was installed.</p> <p>The fire alarm and detection system installation requires detailed review to confirm compliance with NFPA 72.</p>	<p>Design &amp; Installation of Fire Alarm &amp; Detection system shall be in accordance with ACCORD standard and NFPA 72. Submit design, documents and calculations to RSC for review prior installation/modification.</p> <p>After installation the owner shall contact the RSC for witness of conducting the final acceptance testing of the fire detection &amp; alarm system installation.</p> <p>Also inspect, test and maintain the fire alarm system, and keep written records on-site, in accordance with NFPA 72</p>	Design within 2 months, Install within 6 months.



F-10

Fire Protection System (Standpipe)

Standpipe system installation requires detailed review to confirm compliance with NFPA 14.

Submit as-built drawings, testing records, equipment certification and other relevant documentation to the RSC for review and approval/acceptance test.

Design within 2 months, Install within 6 months.



HYDRANT SYSTEM HYDRAULIC ANALYSIS

DATE: 2/2/2024

WATER SUPPLY DATA

SOURCE	STATUS	MODE	FLOW	AVAIL.	TOTAL	REQ'D
NO.	TYPE	TYPE	(GPM)	(PSI)	(GPM)	(GPM)
1	1(M/A)	14.0	(M/A)	14.0	14.0	14.0

AGGREGATE FLOW ANALYSIS

TOTAL FLOW AT SOURCE	100.0 GPM
MINIMUM HOSE STREAM ALLOWANCE AT SOURCE	10.0 GPM
TOTAL FLOWAGE FROM ACTIVE BRANCHED	90.0 GPM

HOSE BRANCHED DATA

HOSE TAG	ELEVATION (FT)	HOSE TYPE	PRESSURE (PSI)	DISCHARGE (GPM)
1V-01	89.0	HOSE STREAM	62.0	250.0
2V-02	89.0	HOSE STREAM	62.0	250.0
2A	87.4	HOSE STREAM	71.4	250.0
3	85.8	"	80.8	"
4	84.2	"	90.2	"
5	82.6	"	99.6	"
6	81.0	"	109.0	"
7	79.4	"	118.4	"
8	77.8	"	127.8	"
9	76.2	"	137.2	"
10	74.6	"	146.6	"
11	73.0	"	156.0	"
12	71.4	"	165.4	"
13	69.8	"	174.8	"
14	68.2	"	184.2	"
15	66.6	"	193.6	"
16	65.0	"	203.0	"
17	63.4	"	212.4	"
18	61.8	"	221.8	"
19	60.2	"	231.2	"
20	58.6	"	240.6	"
21	57.0	"	250.0	"
22	55.4	"	259.4	"
23	53.8	"	268.8	"
24	52.2	"	278.2	"
25	50.6	"	287.6	"
26	49.0	"	297.0	"
27	47.4	"	306.4	"
28	45.8	"	315.8	"
29	44.2	"	325.2	"
30	42.6	"	334.6	"
31	41.0	"	344.0	"
32	39.4	"	353.4	"
33	37.8	"	362.8	"
34	36.2	"	372.2	"
35	34.6	"	381.6	"
36	33.0	"	391.0	"
37	31.4	"	400.4	"
38	29.8	"	409.8	"
39	28.2	"	419.2	"
40	26.6	"	428.6	"
41	25.0	"	438.0	"
42	23.4	"	447.4	"
43	21.8	"	456.8	"
44	20.2	"	466.2	"
45	18.6	"	475.6	"
46	17.0	"	485.0	"
47	15.4	"	494.4	"
48	13.8	"	503.8	"
49	12.2	"	513.2	"
50	10.6	"	522.6	"