

INITIAL FIRE SAFETY INSPECTION REPORT

DK Global Fashion Wear Ltd.

RSC ID: 24677

330/1, West Shoilodubi, Kashimpur, Gazipur, Bangladesh

23.96582323916987, 90.30588090118935

Other Factories: None



Inspected By: Md. Rakibul Alam & Md. Jahidul Kabir

Date: 17 July 2023

Fire Safety Inspection Report

DK Global Fashion Wear Ltd.

Introduction:

DK Global Fashion Wear Ltd. was surveyed for fire safety on **17/07/2023** 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):

1. Building-1 (Production Building) (G+1)
2. Building-2 (Utility Building) (G+1)
3. Canteen Building
4. Security Guard room (G+1)

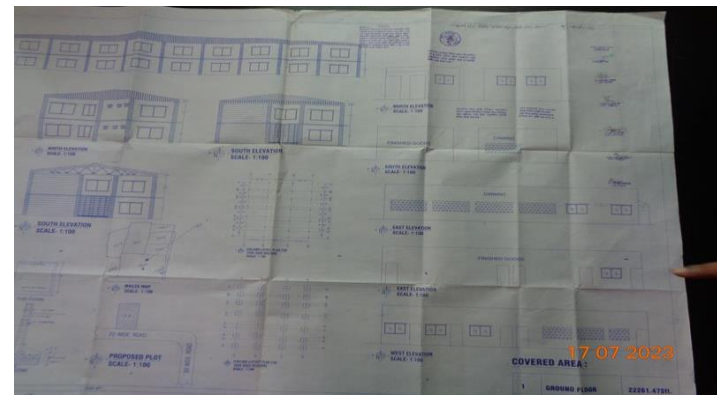
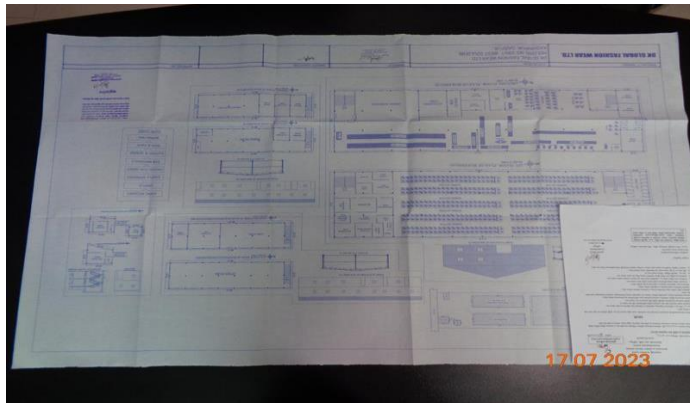
330/1, West Shoilodubi, Kashimpur, Gazipur, Bangladesh

Points of contact:

Md. Aminul Haque
Manager (HR, Admin & Compliance)
01840864564
hr.admin@dkglobalfashion.com

General Building Information- Building-1 (Production Building)

Number of Stories Below / Above Grade	G+1 (Partial Roof Shed)
Highest Occupied Floor Level / Height	1st/15 feet
High Rise (RSC Technical Guideline (Standard). 3.2.1)	No
Occupiable Roof (RSC Technical Guideline (Standard)- 3.2.2)	N/A
Occupiable Roof Provided with Adequate Parapets / Guards (RSC Technical Guideline (Standard)-6.12.2.4)	N/A
Occupancy Classifications	G2(Industrial), F(Office), H2(Store)
Floor Plans Available	Yes



Date Of Construction	October 2016 to June 2018 and Occupied on June 2019.
Major Renovations / Additions	No
Comments	
Other Tenants In Building	No
Floors Occupied By Factory	Yes

Floor	Use	Occupant Load	Comments
Ground Floor	Cutting, Finishing, Packaging, Warehouse & Swing section	249	
1 st Floor	Swing, Office & Sample section	458	

Construction Features:

Non-Combustible Construction	No
Fire-Resistive Construction	No

Building Exposures:

North	Utility Bulding & Boundary
South	Approx. 10 ft. Canteen Bulding and Main Gate
East	Boundary
West	Boundary

Vertical Openings:

Stairs Enclosed in Fire-Rated Construction?	No	
Unsealed Penetrations in Stairs	Yes	
Unprotected Openings From Stairs	Yes	
Shafts Enclosed in Fire-Rated Construction	No	
Floors with Openings/Penetrations	Yes	
Other Vertical Openings	Yes	

Egress Features:

Two (2) exits serve the building having sufficient capacity based on occupant load. All exits were remotely located and travel distance requirements were met. UL listing certification tags were provided on the installed fire doors.

Egress doors with locking features were observed. All doors were opened and unlocked during the inspection. Handrails were present on both side of all exit stairs. Emergency evacuation plans were not present at the required places of all floors. No Smoking signs were present in the factory.

Floor	Occupant load	Nos of. Exit	Exit Capacity
Ground Floor	5	2	500
1 st Floor	80	2	457

General:

Number of Exits Per Floor is Compliant (RSC Technical Guideline (Standard)- 6.6)	Yes	
Capacity of Exits Per Floor Is Compliant (RSC Technical Guideline (Standard)-6.5.3)	Yes	
Exits Remotely Located (RSC Technical Guideline (Standard)- 6.6.6)	Yes	

Exit Doors:

Egress Doors are Side Hinged (RSC Technical Guideline (Standard). 6.8.1)	No	
Egress Doors Swing Correctly (RSC Technical Guideline (Standard)- 6.8.1)	No	
Egress Doors Without Locking Hardware in Direction of Travel (RSC Technical Guideline (Standard)-6.8.2)	No	

Exit Stairs:

All Exit Stairs Discharge Directly to the Exterior (RSC Technical Guideline (Standard)- 6.17)	Yes	
Handrails Provided on Both Sides (RSC Technical Guideline (Standard)- 6.9.2.4)	Yes	
Exit Stairs Free of Storage and Obstructions (RSC Technical Guideline (Standard)- 6.3.8, 6.3.9)	Yes	
Electrical Panels Located Outside of Exit Stairs	No	
Exit Stairs Serving More than 5 Stories Provided with Re-Entry (RSC Technical Guideline (Standard). 6.8.3)	N/A	

Exit Access & Arrangement:

Means of Egress Free of Storage & Obstructions (RSC Technical Guideline (Standard). 6.3.8, 6.3.9)	Yes	
Means of Egress of Adequate Width (RSC Technical Guideline (Standard). 6.5)	Yes	
Travel Distances, CPT, DE's Within Limits (RSC Technical Guideline (Standard). 6.13)	Yes	

Exit Access Corridors Provided with Proper Fire Protection / Separation (RSC Technical Guideline (Standard). 6.3.1.1)	N/A	
Daycare Within Limits (RSC Technical Guideline (Standard). 3.4.2.1.1)	Yes	
Egress Court Provided With Adequate Fire Rated Separation (RSC Technical Guideline (Standard). 6.17.2)	N/A	
Utility / Storage Rooms Adequately Separated from Exit Enclosures (RSC Technical Guideline (Standard). 6.14.3)	No	

Emergency Planning :

Emergency Evacuation Plans Provided (RSC Technical Guideline (Standard). 13.3)	No	
--	----	--

Fire Protection Features:

Fire Detection Alarm System

Current System Overview: There is an automatic fire alarm and detection system control panel (**Brand: COOPER**)(**Model: ULCF3000**) found installed in the factory during inspection. It consisted of call points & mixture of smoke and heat detectors, notification appliances and control modules. Functional test was not conducted during the inspection. Proposed design of fire alarm and detection system was not found available. Regular inspection, testing and maintenance records of the fire alarm system were not found. Factory shall provide the proposed designs to RSC for review.

Type of System	Addressable	
Fire Panel Location	Security & Fire Control Room	
Visible Notification Per NFPA 72	No	Not verified
Audible Notification Per NFPA 72	No	Not verified
Alarm Annunciation	Yes	
ITM per NFPA 72	No	
Functional Test Conducted	No	
Type of Detector	Addressable	

Smoke Detection Per NFPA 72	No	Not verified.
-----------------------------	----	---------------



Standpipe System

Current System Overview: The highest occupiable floor level from finished ground level is 15 ft. Based on the height of the highest occupiable floor, standpipe system is not required. 1 inch hose reel is provided. Records of regular testing or maintenance of the standpipe system were not provided in accordance with NFPA 25.

Standpipe System Required	No	
Type of System Installed	1" Hose Reel	
Hose Connection Locations	Near Exit	

ITM Per NFPA 25	No	
Comments		



Sprinkler System

Current System Overview: The factory building height is not more than 23 m (75 ft.) at the highest occupied floor. The Sprinkler system is not required.

Sprinkler Protection Required	No	
Type of System Installed	N/A	
Location/Coverage	N/A	
ITM Per NFPA 25	N/A	

Comments		

Fire Water Supply

Current System Overview: The 1" Hose system was fed from Overhead tanks. The factory is reported that the overhead reservoir capacity is (2000 x 2)= 4000 liter .

Source, Location, & Capacity	Water Reservoir capacity 4000 liter	Reportedly
Fire Pump Provided	N/A	
Fire Department Inlet & Outlet Connections Provided (RSC Technical Guideline (Standard). 5.5.4)	N/A	Not verified
Fire Pump Adequate (RSC Technical Guideline (Standard). 5.5.1)	Not verified	(Not required)
Fire Pump Room Provided With Adequate Fire Rated Separation (NFPA 20)	N/A	
Fire Pump ITM Per NFPA 25	N/A	

Portable Fire Extinguishers

Current System Overview: Portable fire extinguishers, consisting of a mix of CO2 and dry chemical were provided throughout the building. Inspection tags show recent and up-to-date inspections. Records of regular testing or maintenance of the portable fire extinguishers were provided as per NFPA 10.

Types Provided	Dry Powder, CO2 and Foam	
Adequate Number/Spacing	Yes	
ITM Per NFPA 10	Yes	



Manual Fire Fighting Equipment

Current System Overview: Factory had firefighting equipment staged inside of production floor in this factory Building. Types of manual firefighting equipment provided included: buckets, escape hoods, bolt/lock cutters, shovels, stretchers and personal protection equipment.

Types Provided	Buckets, escape hoods, bolt/lock cutters, shovels and personal protection equipment.	
Location of Equipment	Staircase	



Other Features

Emergency Lighting & Exit Signs

Overview: Emergency lighting appliances were located inside the production floor and exit stairs. There were multiple CFL lights that had an alternate “Instant Power Supply” (IPS). Illuminated exit signs, located at exits. The factory management reported that these are all serviced by normal electricity as well as by multiple “Instant Power Supply” (IPS) units. Record of regular testing or maintenance of the emergency lighting system is not maintained in accordance with Accord standard.

Exits and Exit Access Properly Marked with Exit Signage	Yes	
Emergency Power	Yes	
Adequate Emergency Lighting for Exits & Exit Access	Yes	
Adequate Inspection / Testing (RSC Technical Guideline (Standard). 10.12)	No	



Elevator

Overview: No Elevator was provided.

Generator

The Desiel generator having capacity 150 KVA which is installed at Utility Building.

Location(s)	Building-2 (Utility Building)	
Fire Rated Separation	No	
Generator Area Free of Additional Fuels	Yes	



Boiler & Furnace Equipment

One(1) Boiler is located at Utility Building.

Location(s)	Building-2 (Utility Building)	
Fire Rated Separation (RSC Technical Guideline (Standard) 3.4.2.1.2)	No	



Transformer/Substation

The transformer is outside Pole mounted.

Location(s)	Outside Pole Mounted	
Fire Rated Separation (RSC Technical Guideline (Standard) 3.4.2.1.4)	N/A	



Compressor

Two compressors are located at Utility Building

Location(s)	Building-2 (Utility Building)	
Fire Rated Separation (RSC Technical Guideline (Standard) 3.4.2.1.2)	No	



Storage Areas

Warehouse store were located at ground floor of Building-1 (Production Building)

Fire Rated Separation (RSC Technical Guideline (Standard) V1.0-3.4.2.1.5)	No	
Open to Factory Floors?	Yes	

Open to Exit Discharge?

Yes



Additional Information:

Apart from the main production building the factory complex also contains THREE(3) ancillary buildings.

1. Building-2 (Utility Building): It is a TWO(2) storied RCC Building. (Construction time: October 2016 to June 2018)
2. Canteen Building : It is a single story RCC Building (Construction time: October 2016 to April 2020).
3. Security Building : It is a TWO(2) storied RCC Building. (Construction time: October 2016 to June 2018).



Findings & Recommendations :

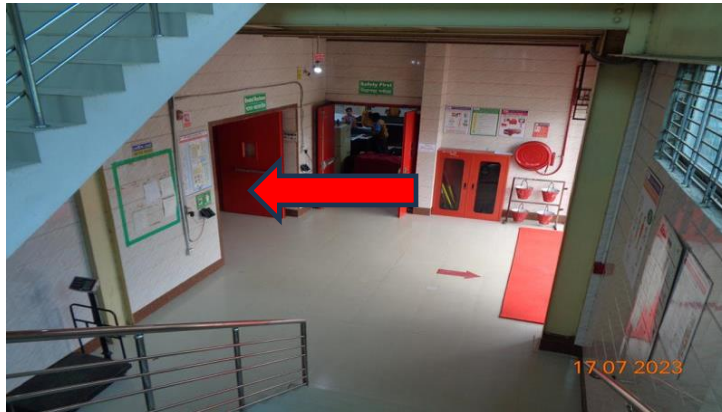
Table 1 summarizes the major fire safety issues identified during the inspection. Recommendations have been provided to address each issue. An implementation schedule shall be developed by the factory to remediate each of the findings. The specific timing of improvements, including any requested extensions due to design / installation constraints, shall be submitted to the RSC for review.

Table-1:

SI No.	Category	Findings	Required Action	Remediation Time Frame
F-1	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 Technical Guideline.	Within 3 Months
F-2	Fire Rated Construction	Rooms used for storage of combustible materials are not separated from the surrounding occupancy/areas & floors. Location: Ground Floor	Rooms used for storage of combustible materials shall be separated from the surrounding occupancy with a minimum 1 hour construction. Seal all penetrations and openings to maintain the fire separation	Within 3 Months



F-3	Fire Rated Construction	Storage rooms at ground floor discharges directly into the exit stair discharge.	Openings from exit enclosure to storage room, generator and hazard spaces shall be provided with a vestibule with fire rated construction and openings. Provide a 1 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-4	Fire Rated Construction	Electrical Cable tray has been found in the exit stair. Location: North Exit stair 1st floor.	Remove the Electrical Cable tray from the exit stair enclosure.	Within 3 Months
-----	-------------------------	---	---	-----------------



F-5	Fire Rated Construction	<p>Areas used for in-process storage of combustible materials are open to the surrounding occupancy. Location: Ground floor Cutting & Finishing section.</p>	<p>Provide defined storage areas and limit the storage arrangement as follows:-</p> <ol style="list-style-type: none"> 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. <li style="text-align: center;">or 3. Enclose the storage area from the surrounding occupancy with a minimum 1 hour construction. Areas shall limit within 10% of the entire floor area. 	Within 3 Months
-----	-------------------------	---	---	-----------------



F-6	Fire Rated Construction	<p>Unsealed penetrations and openings are located in the fire rated floor/ceiling assemblies. Followings are the description of openings or penetrations indicating specific locations:</p> <ol style="list-style-type: none"> 1. Passing of BBT/Cable tray through rated walls from Utility building to the production production building. 2. Ground floor to 1st floor opening for Toilet Pipes. 	<p>Penetrations of fire resistiverated assemblies shall be protected with listed through penetration fire stop systemtested in accordance with ASTM E 814 in accordance with RSC technical guideline 4.7</p>	Within 3 Months
-----	-------------------------	---	--	-----------------



F-7	Fire Rated Construction	The main structural element of the building is constructed by steel element which is non-rated and were found in exposed condition without any fire protection..	Provide fire rating in the structural element (Slab & Beam: 0.5 Hr; Column: 1 Hr) of the building. No fire protection is required where unprotected slab & beam assembly demonstrates a 0.5-hour fire rating. Consult a qualified fire protection engineer to design the rated construction barriers in structural members.	Within 3 Months
-----	-------------------------	--	--	-----------------



F-8	Means of Egress	Fire evacuation maps 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 Months
F-9	Means of Egress	Building did not have stair designation signs at required locations.	Provide stair designation sign at each floor entrance from the stair to the floor in English and Bengali. Signs shall indicate the name of the stair and the floor level. Signs shall be posted adjacent to the door.	Within 1 Month

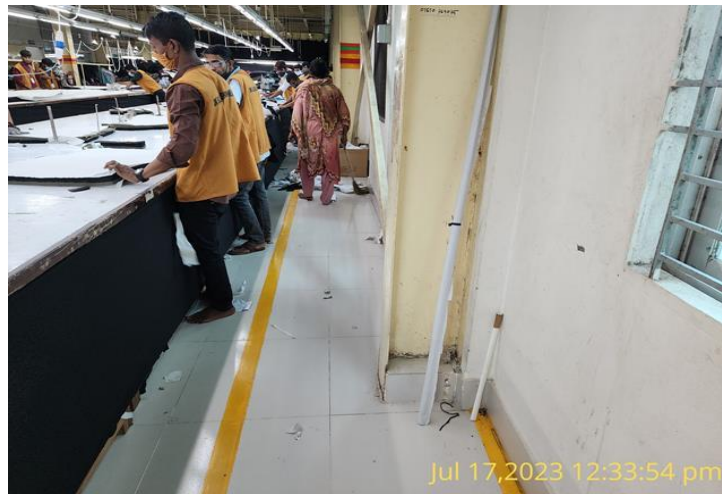
F-10	Means of Egress	Sliding Gates/doors have provided along means of egress	<p>Replace all sliding type doors & gates by the side-hinged swinging type doors in accordance with RSC Standard 6.8.1</p> <p>If locks are required for security reasons, utilize special door locking features complying with NFPA 101.</p>	Within 1 Months
------	-----------------	---	--	-----------------



F-11	Means of Egress	Doors along means of egress are provided with non compliant locking system.	<ol style="list-style-type: none"> 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. 	Within 1 Months
------	-----------------	---	---	-----------------



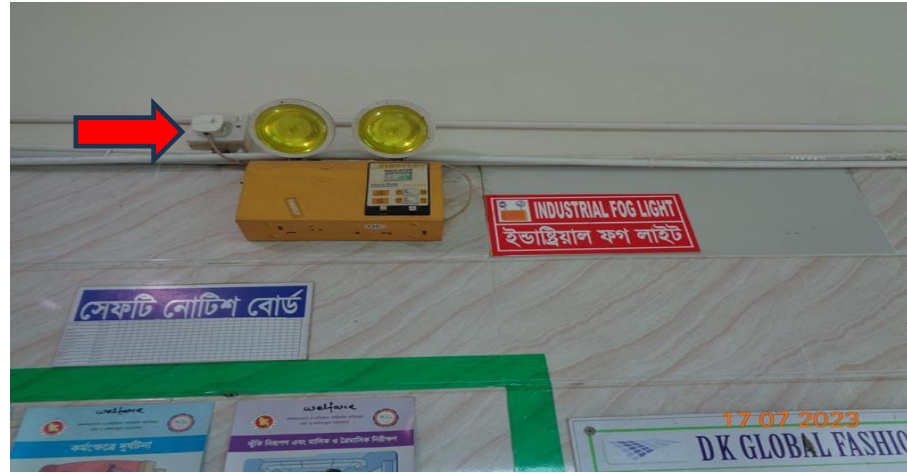
F-12	Means of Egress	Adequate & unobstructed aisles were not provided. Location: Ground floor	Provide minimum and clear aisle width of 36-in where applicable and required.	Within 1 Month
------	-----------------	---	---	----------------



F-13	Means of Egress	Fire drill are not performed as required.	Fire drill shall be conducted on a Monthly basis as outlined in BNBC 2020 Part 4 Appendix A	Within 1 Month
F-14	Means of Egress	Parapets or guards are not provided in occupied roof. OR Parapets or guards are provided in occupied roof which is less than 1067mm (42 inch.). Location: Roof top of Canteen building.	Provide parapets or guards with a minimum height of 1067mm (42 inch.).	Within 1 Month



F-15	ITM of Emergency light and Exit Sign	Inspection, testing, and maintenance for the exit sign and emergency lighting system was not in accordance with The RSC Technical standard.	Inspect, test and maintain the exit sign and emergency lighting system in the accordance with The RSC Technical standard. Keep written records on-site.	Within 1 Month
F-16	Egress Lighting	Manual On/Off Switch is provided at emergency lighting.	Remove manual on/off switches from emergency lighting / exit signage units to prevent them from being switched off.	Within 1 Month



F-17	Fire Alarm and Detection System (FADS)	Fire alarm & detection system installation requires detailed review to confirm compliance with NFPA 72 and RSC Technical Guidelines (Standards).	Submit as-built drawings, testing records, equipment certification and other relevant documentation to the RSC for review and approval; modification (if required) shall have to done as per the reviewed design and standard.	Design Review within 2 months and installation within 4 months.
------	--	--	--	---



F-18	Inspection, Testing and Maintenance of FADS.	Inspection, testing and maintenance for the fire detection and alarm system was not in accordance with standard.	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 7 Months
F-19	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 3 Months

F-20	Smoking Sign	The required no smoking signs are not present in the factory.	Smoking is prohibited in any garment factory building or separate storage building. Signs shall be posted in Bengali and English at all building entrances. If the factory creates a designated smoking area outside the building, information of these areas will be posted on the signs.	Within 1 Month
------	--------------	---	--	----------------