

FIRE SAFETY INSPECTION REPORT

**TUSUKA DENIM LTD. & TUSUKA
WASHING LTD.**

ACCORD ID: 12121

**MIRPUR MOUZA, KONABARI, GAZIPUR SADAR,
GAZIPUR**

OTHER FACTORIES: NONE



ACCORD
on Fire and Building Safety in Bangladesh

February 13, 2015

SUMMARY

Tusuka Denim Ltd. & Tusuka Washing Ltd. was surveyed for fire safety on 2/13/2015 by Jensen Hughes. This summary identifies the major deficiencies that were identified during the inspection.

The purpose of this survey was to identify significant fire safety issues and to provide recommendations for remediation based on applicable standards specified by the Accord. 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.

Tables 1 - 2 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 Accord for approval.

Table 1. Findings And Recommendations - Tusuka Denim Ltd.

No.	Category	Finding	Recommendation	Remediation Timeframe
F-1	Fire Rated Construction	Unsealed electrical shaft was located in the fire-rated floor/ceiling assembly on each floor.	Provide a minimum 2-hr fire-rated shaft to separate the utility risers from each floor level and seal all penetrations in floor/ceiling assemblies to maintain the fire separation.	Within 3 months
 				
F-2	Fire Rated Construction	Electrical panels were located in the northeast and northwest exit stair enclosures on the ground floor.	Remove and re-locate all electrical panels from exit stair enclosures.	Within 3 months



F-3	Fire Rated Construction	The elevator shaft does not have the proper fire rating throughout, due to an unsealed shaft on the rooftop level.	Provide the proper 2 hr. fire rating for the shaft and 1.5 hr. fire rating for the elevator door.	Within 3 months
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F-4	Fire Rated Construction	The fire pump area is not provided with adequate fire rated separation and is located within the northeast exit stair on the ground floor.	Remove or separate the pump area from the exit stair enclosure. Provide fire pump room with 2 hr. rated fire separation when not sprinklered and 1 hr. rated fire separation when provided with automatic sprinklers, in accordance with NFPA 20.	Within 3 months
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F-5	Fire Rated Construction	Hazardous materials/flammable liquid storage area on the ground floor is not separated by fire-rated construction due to a non-rated door.	Separate the hazardous materials/flammable liquid storage room by a minimum 2-hr fire-rated construction. Seal and/or protected all openings to maintain the required fire separations.	Within 3 months
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F-6	Fire Rated Construction	The first floor electric boiler area is not separated by fire-rated construction due to openings.	Separate the boiler room by a minimum 1-hr fire-rated construction for non-high rise, and 2-hr fire rated construction for high rise. Seal and/or protect all openings to maintain the required fire separations. When located to the exterior of a building, 3m (10 ft.) separation is required. Provide proper ventilation and consult a qualified engineer.	Within 3 months
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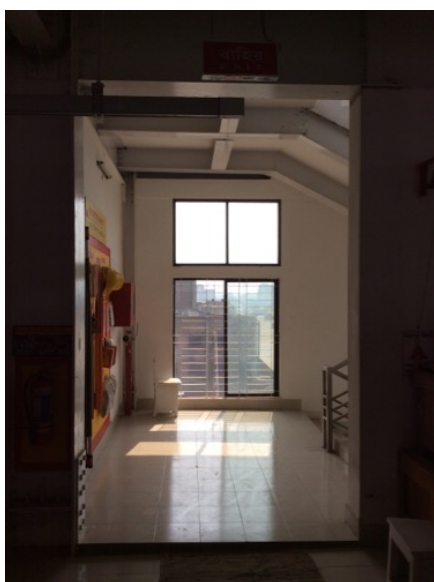
F-7	Fire Rated Construction	Areas used for combustible storage open to the factory are not separated by fire-rated construction. Specifically, areas on the second floor and in the cutting section on the ground floor.	Provide defined storage areas and limit the storage arrangement as follows: - Maximum height of 2.45m (8ft.) and maximum area of 23m² (250 ft²) - If sprinkler protected: maximum height of 3.66m (12ft.) and maximum area of 93m² (305ft²) Separate areas of unenclosed combustible storage by a minimum clear distance of 3m (10ft.).	Within 3 months
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F-8	Fire Rated Construction	Rooms used for combustible storage are not separated by fire-rated construction. Specifically, the ground floor fabric store.	Provide dedicated storage rooms separated by minimum 1-hr fire-rated construction. Where separate storage rooms are not feasible, provide defined storage areas and limit the storage arrangement as follows: - Maximum height of 2.45m (8ft.) and maximum area of 23m² (250 ft²) - If sprinkler protected: maximum height of 3.66m (12ft.) and maximum area of 93m² (305ft²) Separate areas of unenclosed combustible storage by a minimum clear distance of 3m (10ft.).	Within 3 months
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F-9	Fire Rated Construction	The exit stairs are not separated from work areas and other spaces on each floor by fire-rated construction.	Provide minimum 1-hr rated doors for buildings with 3 or fewer stories and 1.5-hr fire rated doors for buildings that are 4 or more stories. Seal all unprotected openings to separate the exit stairs from work areas and other building spaces on all floor levels. 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. 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 ACCORD standard 6.8.3.1.	Within 3 months
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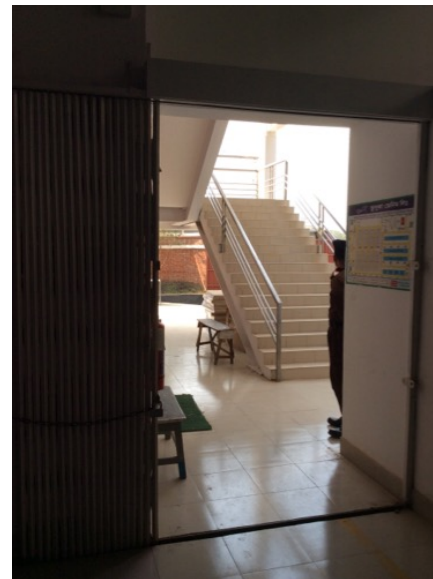


F-10	Fire Rated Construction	Unsealed penetrations and openings (steam lines) are located in the fire-rated floor/ceiling assemblies between the second and first floors.	Seal all penetrations and openings in floor/ceiling assemblies to maintain the fire separation.	Within 3 months
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F-11	Fire Rated Construction	The ground floor fabric store and chemical store rooms discharge directly into the northwest exit stair enclosure.	Openings from exit enclosure to storage spaces shall be provided with a vestibule with fire rated construction and openings.	Within 3 months
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Provide a 1.5-hr. fire rated door on the exit stair side and a 1-hr. fire rated door on the storage room side. Ensure that the fire rating of the vestibule construction matches that of the exit stair enclosure.





F-12	Fire Rated Construction	The liquid oxygen tank area, adjacent to the northeast exit stair discharge, is not separated by fire-rated construction due to a non-rated enclosure.	Separate the liquid oxygen tank area by a minimum 1-hr fire-rated construction. Seal and/or protect all openings to maintain the required fire separations. When located to the exterior of a building, 3m (10 ft.) separation is required. Provide proper ventilation and consult a qualified engineer.	Within 3 months
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F-13	Fire Rated Construction	The exit discharge path serving the ground floor child care room and cutting section is less than 3 m (10 ft.) wide and is not separated from the building interior.	Seal all penetrations and openings to the interior of the building along the discharge path, up to a height of 10 ft., to provide a minimum 1-hr fire separation. Alternatively, provide a second remote discharge path to the public way by separating the generator area and liquid oxygen tank area from the secondary path.	Within 6 months
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F-14	Fire Rated Construction	The northwest exterior exit stair is not properly separated from the building due to unprotected openings to the building interior.	Exterior exit stairs shall be separated from the building with a rating requirement of 1 hr. fire rating for 3 or fewer stories or 2 hr. fire rating for 4 or more stories. The rating of the exterior wall shall extend 3.05 m (10ft) beyond the ends of the stair structure.	Within 6 months
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F-15	Egress	Building did not have stair designation signs or occupant load signs at the required locations. The building did have some emergency evacuation plans, but not at all required locations.	Provide stair designation signs, occupant load signs and emergency evacuation plans at all required locations.	Immediately
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F-16	Egress	Egress gates with locking features are provided at building exits and exit stairs. All gates were open and unlocked during the inspection.	Remove locking features from all egress gates. If locks are required for security reasons, utilize special door locking features complying with NFPA 101 and ACCORD standard 6.8.2.	Immediately
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F-17	Egress	Storage was located in an egress path on the second floor.	Keep egress paths and stairs clear of storage.	Immediately
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F-18	Egress	Storage was located in the southwest exit stair on the ground and third floor and in the northwest exit stair on the ground floor.	Remove all storage from exit stairs and egress paths.	Immediately
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F-19	Egress	Collapsible gates and sliding doors are provided at building exits, exit stairs and along egress routes.	Replace all gates and sliding doors along the means of egress with side-hinged, swinging egress doors in accordance with ACCORD standard 6.8.1.	Within 1 month
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F-20	Egress	The width of some egress aisles on the first and second floor were less than 36-in.	Provide minimum aisle widths of 36-in.	Within 3 months
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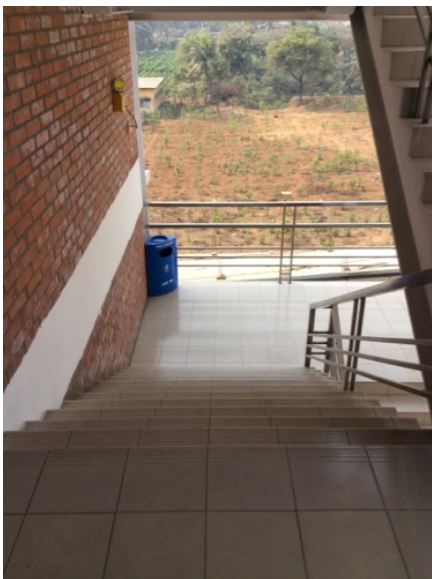


F-21 Egress

Handrails are not provided on both sides of each exit stair.

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-22	Fire Protection	The fire alarm system is antiquated, not a listed system and does not provide alarm and notification features consistent with acceptable standards.	Replace the fire alarm system with a new, listed addressable fire alarm system in accordance with NFPA 72.	Design within 4 months, install within 9 months
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F-23	Fire Protection	The required no smoking signs were not present at all required locations 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 months
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F-24	Fire Protection	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 on-site, in accordance with NFPA 10.	Within 3 months
F-25	Fire Protection	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 NFPA 72.	Within 3 months

F-26	Fire Protection	Inspection, testing and maintenance of the fire pump system is not in accordance with NFPA 20.	Inspect, test and maintain the fire pump system and keep written records on-site, in accordance with NFPA 20.	Within 3 months
F-27	Fire Protection	Inspection, testing and maintenance of the standpipe system is not in accordance with NFPA 14.	Inspect, test and maintain the standpipe system and keep written records on-site, in accordance with NFPA 14.	Within 3 months
F-28	Fire Protection	Visible notification was not provided for the building in accordance with NFPA 72.	Provide visible notification for the building in accordance with NFPA 72.	Within 3 months
F-29	Fire Protection	Fire pump did not meet ACCORD standard 5.5.1 and 5.5.1.1.	Update current fire pump or provide a new fire pump that meets ACCORD standard 5.5.	Within 6 months



F-30	Fire Protection	The required standpipe system is not installed in accordance with the ACCORD standard.	Install a new standpipe system in accordance with ACCORD standard 5.4 and NFPA 14.	Within 6 months
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A class III system shall be installed in buildings with the highest occupiable floor 10 m (33 ft.) above grade or more. A class I system shall be permitted in buildings protected throughout by an approved automatic sprinkler system.



F-31	Fire Protection	The building is equipped with single-station smoke alarms. Smoke alarm activation sounds only a local alarm and does not provide automatic fire alarm notification of occupants.	Remove single-station smoke alarms. Provide automatic smoke detection throughout the building, tied into the fire alarm system, in accordance with NFPA 72.	Within 9 months
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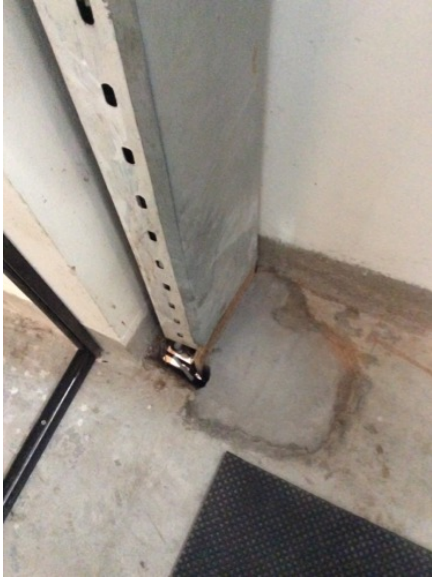


F-32	Egress Lighting	Inspection, testing and maintenance for the emergency lighting system was not in accordance with The ACCORD standard.	Inspect, test and maintain the emergency lighting system in the accordance with The ACCORD standard. Keep written records on-site.	Within 3 months
F-33	Egress Lighting	Based on the number and location of emergency lights observed, adequate illumination levels are not anticipated along all egress routes.	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

Table 2. Findings And Recommendations - Tusuka Washing Ltd.

No.	Category	Finding	Recommendation	Remediation Timeframe
F-1	Fire Rated Construction	An unsealed electrical shaft was located in the fire-rated floor/ceiling assembly on each floor. There was also an unsealed electrical shaft located in the first floor air compressor room that went down to the first floor.	Provide a minimum 2-hr fire-rated shaft to separate the utility risers from each floor level and seal all penetrations in floor/ceiling assemblies to maintain the fire separation.	Within 3 months





F-2	Fire Rated Construction	The elevator shaft does not have the proper fire rating throughout, due to an unsealed shaft on the rooftop level.	Provide the proper 2 hr. fire rating for the shaft and 1.5 hr. fire rating for the elevator door.	Within 3 months
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F-3	Fire Rated Construction	The fire pump area in the denim building is not provided with adequate fire rated separation and is located within the northeast exit stair on the ground floor.	Remove or separate the pump area from the exit stair enclosure. Provide fire pump room with 2 hr. rated fire separation when not sprinklered and 1 hr. rated fire separation when provided with automatic sprinklers, in accordance with NFPA 20.	Within 3 months
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F-4	Fire Rated Construction	The first floor and ground floor boiler areas were not separated by fire-rated construction due to openings, penetrations and non rated doors.	Separate the boiler room by a minimum 1-hr fire-rated construction for non-high rise, and 2-hr fire rated construction for high rise. Seal and/or protect all openings to maintain the required fire separations. When located to the exterior of a building, 3m (10 ft.) separation is required. Provide proper ventilation and consult a qualified engineer.	Within 3 months
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F-5	Fire Rated Construction	Rooms used for combustible storage are not separated by fire-rated construction. Specifically, the second floor accessory store, finished goods storage and machine accessory store rooms.	Provide dedicated storage rooms separated by minimum 1-hr fire-rated construction. Where separate storage rooms are not feasible, provide defined storage areas and limit the storage arrangement as follows: - Maximum height of 2.45m (8ft.) and maximum area of 23m² (250 ft²) - If sprinkler protected: maximum height of 3.66m (12ft.) and maximum area of 93m² (305ft²) Separate areas of unenclosed combustible storage by a minimum clear distance of 3m (10ft.).	Within 3 months
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F-6	Fire Rated Construction	The exit stairs are not separated from work areas and other spaces on each floor by fire-rated construction.	Provide minimum 1-hr rated doors for buildings with 3 or fewer stories and 1.5-hr fire rated doors for buildings that are 4 or more stories. Seal all unprotected openings to separate the exit stairs from work areas and other building spaces on all floor levels. 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.	Within 3 months
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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 ACCORD standard 6.8.3.1.



F-7	Fire Rated Construction	The liquid oxygen tank area, adjacent to the northeast exit stair discharge, is not separated by fire-rated construction due to a non-rated enclosure.	Separate the liquid oxygen tank area by a minimum 1-hr fire-rated construction. Seal and/or protect all openings to maintain the required fire separations. When located to the exterior of a building, 3m (10 ft.) separation is required. Provide proper ventilation and consult a qualified engineer.	Within 3 months
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F-8	Fire Rated Construction	The curing oven on the first floor and industrial dryers on the ground floor were not separated by fire-rated construction and open to the factory floor.	Separate the curing oven and industrial dryers by a minimum 2-hr fire-rated construction. Seal and/or protect all openings to maintain the required fire separations. Provide proper ventilation and consult with a qualified engineer.	Within 3 months
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F-9	Fire Rated Construction	The northwest exit stair enclosure was not separated from work areas and other spaces on the ground floor, by fire-rated construction. The southwest exit stair was provided with non rated construction on the ground floor (metal sheeting).	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.	Within 3 months
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F-10	Fire Rated Construction	The first floor air compressor room is not separated by fire-rated construction due to openings and non-rated doors.	Separate the air compressor room by a minimum 1-hr fire-rated construction for non-high rise, and 2-hr fire rated construction for high rise. Seal and/or protect all openings to maintain the required fire separations. When located to the exterior of a building, 3m (10 ft.) separation is required. Provide proper ventilation and consult a qualified engineer.	Within 3 months
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F-11	Fire Rated Construction	The southwest exterior exit stair is not properly separated from the building due to unprotected openings to the building interior.	Exterior exit stairs shall be separated from the building with a rating requirement of 1 hr. fire rating for 3 or fewer stories or 2 hr. fire rating for 4 or more stories. The rating of the exterior wall shall extend 3.05 m (10ft) beyond the ends of the stair structure.	Within 6 months
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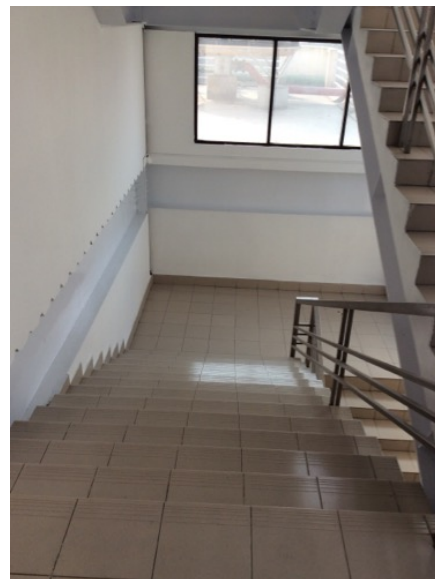
F-12	Egress	Building did not have stair designation signs or occupant load signs at the required locations. The building did have some emergency evacuation plans, but not at all required locations.	Provide stair designation signs, occupant load signs and emergency evacuation plans at all required locations.	Immediately
F-13	Egress	Egress doors with locking features are provided at building exits and along egress routes. All doors were open and unlocked during the inspection.	Remove locking features from all egress doors. If locks are required for security reasons, utilize special door locking features complying with NFPA 101 and ACCORD standard 6.8.2.	Immediately



F-14	Egress	Sliding doors are provided at building exits.	Replace all gates and sliding doors along the means of egress with side-hinged, swinging egress doors in accordance with ACCORD standard 6.8.1.	Within 1 month
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F-15	Egress	Handrails are not provided on both sides of each exit stair.	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
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F-16	Egress	The height of the egress path from the first floor boiler room was 65 in.	All means of egress shall have a minimum ceiling height of 2.3 m (90 in.) with projections from the ceiling not less than 2.03 m (80 in.). The minimum ceiling height shall be maintained for at least 2/3 of the space or room as long as the remaining area shall be not less than 2.03 m (80 in.). Headroom on stairs shall not be less than 2.03 m (80 in.).	Within 3 months
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F-17	Fire Protection	The fire alarm system is antiquated, not a listed system and does not provide alarm and notification features consistent with acceptable standards.	Replace the fire alarm system with a new, listed addressable fire alarm system in accordance with NFPA 72.	Design within 4 months, install within 9 months
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F-18	Fire Protection	The required no smoking signs were not present at all required locations 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 months
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F-19	Fire Protection	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 on-site, in accordance with NFPA 10.	Within 3 months
F-20	Fire Protection	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 NFPA 72.	Within 3 months
F-21	Fire Protection	Inspection, testing and maintenance of the fire pump system is not in accordance with NFPA 20.	Inspect, test and maintain the fire pump system and keep written records on-site, in accordance with NFPA 20.	Within 3 months
F-22	Fire Protection	Inspection, testing and maintenance of the standpipe system is not in accordance with NFPA 14.	Inspect, test and maintain the standpipe system and keep written records on-site, in accordance with NFPA 14.	Within 3 months
F-23	Fire Protection	Visible notification was not provided for the building in accordance with NFPA 72.	Provide visible notification for the building in accordance with NFPA 72.	Within 3 months
F-24	Fire Protection	Fire pump did not meet ACCORD standard 5.5.1 and 5.5.1.1.	Update current fire pump or provide a new fire pump that meets ACCORD standard 5.5.	Within 6 months



F-25	Fire Protection	The required standpipe system is not installed in accordance with the ACCORD standard.	Install a new standpipe system in accordance with ACCORD standard 5.4 and NFPA 14.	Within 6 months
			A class III system shall be installed in buildings with the highest occupiable floor 10 m (33 ft.) above grade or more. A class I system shall be permitted in buildings protected throughout by an approved automatic sprinkler system.	



F-26	Fire Protection	The building is equipped with single-station smoke alarms. Smoke alarm activation sounds only a local alarm and does not provide automatic fire alarm notification of occupants.	Remove single-station smoke alarms. Provide automatic smoke detection throughout the building, tied into the fire alarm system, in accordance with NFPA 72.	Within 9 months
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F-27	Egress Lighting	Exit signage was not provided along the path of egress from the third floor dining area to the southwest and northwest exit stairs.	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.	Within 1 month
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F-28	Egress Lighting	Inspection, testing and maintenance for the emergency lighting system was not in accordance with The ACCORD standard.	Inspect, test and maintain the emergency lighting system in the accordance with The ACCORD standard. Keep written records on-site.	Within 3 months
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F-29	Egress Lighting	Based on the number and location of emergency lights observed, adequate illumination levels are not anticipated along all egress routes.	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
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