

# **FIRE SAFETY INSPECTION REPORT**

**MARK SWEATER LTD.**

**ACCORD ID: 11808**

**SURABARI, KASHIMPUR, GAZIPUR, BANGLADESH.**

**OTHER FACTORIES: NONE**



**ACC**  **RD**  
on Fire and Building Safety in Bangladesh

February 20, 2015

## **SUMMARY**

**Mark sweater ltd. was surveyed for fire safety on 2/20/2015 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.**

**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 Accord for approval.**

**Table 1. Findings And Recommendations**

No.	Category	Finding	Recommendation	Remediation Timeframe
F-1	Fire Rated Construction	Diesel fuel storage was located inside the generator room.	Remove all diesel fuel storage from the generator room and relocate to the exterior such that the diesel fuel storage is at least 10 ft. from required egress paths. If located along egress paths or in a utility building, provide the diesel fuel storage with 2-hr fire rated construction. There shall be no diesel fuel storage in a factory production building.	Immediately



F-2	Fire Rated Construction	Unsealed electrical shafts are located in all the fire-rated floor and ceiling assemblies except the ground floor.	Provide a minimum 2-hr fire-rated shaft to separate the utility risers from each floor level and seal all penetrations in floor and ceiling assemblies to maintain the fire separation.	Within 3 months
-----	-------------------------	--	---	-----------------



F-3	Fire Rated Construction	The fire pump room is not provided with adequate fire rated separation in the utility building.	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
-----	-------------------------	---	---	-----------------



F-4	Fire Rated Construction	The industrial dryers are not separated by fire-rated construction on the fourth floor.	Separate the industrial dryer room by a minimum 2-hr fire-rated construction. Seal and protect all openings to maintain the required fire separations. Provide proper ventilation and consult with a qualified engineer.	Within 3 months
-----	-------------------------	---	--	-----------------



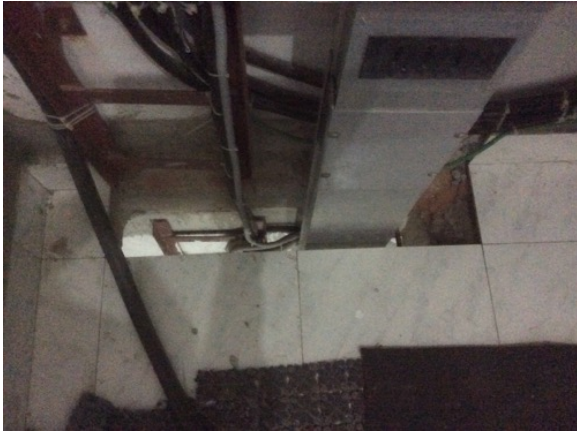
F-5	Fire Rated Construction	Areas used for combustible storage open to the factory are not separated by fire-rated construction on second and fourth floors.	<p>Provide defined storage areas and limit the storage arrangement as follows:</p> <ul style="list-style-type: none"> <li>- Maximum height of 2.45m (8ft.) and maximum area of 23m<sup>2</sup> (250 ft<sup>2</sup>)</li> <li>- If sprinkler protected: maximum height of 3.66m (12ft.) and maximum area of 93m<sup>2</sup> (305ft<sup>2</sup>).</li> </ul> <p>Separate areas of unenclosed combustible storage by a minimum clear distance of 3m (10ft.).</p>	Within 3 months
-----	-------------------------	--	---	-----------------



F-6	Fire Rated Construction	Exit stairs are not separated from work areas and other spaces on each floor by fire-rated construction.	<p>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.</p> <p>If fire doors are required to be held open for functional reasons, provide automatic-closing devices tied to the fire alarm system.</p> <p>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.</p>	Within 3 months
-----	-------------------------	--	--	-----------------



F-7	Fire Rated Construction	Unsealed penetrations and openings are located in all the fire-rated floor and ceiling assemblies except the ground floor.	Seal all penetrations and openings in floor and ceiling assemblies to maintain the fire separation.	Within 3 months
-----	-------------------------	--	---	-----------------



F-8	Fire Rated Construction	Unsealed penetrations and openings are located in the north west exit stair enclosure on the ground floor.	Seal all penetrations and openings in exit stair enclosure walls to maintain the fire separation.	Within 3 months
-----	-------------------------	--	---	-----------------



F-9	Fire Rated Construction	The boiler and compressor rooms are not separated by fire-rated construction due to openings and non-rated doors on second floor and utility building.	Separate the boiler and 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 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
-----	-------------------------	--	--	-----------------



F-10	Fire Rated Construction	Rooms used for combustible storage are not separated by fire-rated construction on ground, first, second, fourth and seventh floors.	<p>Provide dedicated storage rooms separated by minimum 1-hr fire-rated construction.</p> <p>Where separate storage rooms are not feasible, provide defined storage areas and limit the storage arrangement as follows:</p> <ul style="list-style-type: none"> <li>- Maximum height of 2.45m (8ft.) and maximum area of 23m<sup>2</sup> (250 ft<sup>2</sup>)</li> <li>- If sprinkler protected: maximum height of 3.66m (12ft.) and maximum area of 93m<sup>2</sup> (305ft<sup>2</sup>)</li> </ul> <p>Separate areas of unenclosed combustible storage by a minimum clear distance of 3m (10ft.).</p>	Within 3 months
------	-------------------------	--	---	-----------------





F-11	Egress	Building did not have stair designation signs and occupant load signs at floor entrances.	Provide stair designation signs, occupant load signs and emergency evacuation plans at required locations.	Immediately
F-12	Egress	Egress doors and gates with locking features are provided at building exits, exit stairs and along egress routes. All gates and doors were not open and unlocked during the inspection.	Remove locking features from all egress doors and gates.  If locks are required for security reasons, utilize special door locking features complying with NFPA 101 and ACCORD standard 6.8.2.	Immediately



F-13	Egress	Storage and obstructions were located in the egress paths on first, fifth and sixth floors.	Keep egress paths and stairs immediately clear of storage and obstructions.
------	--------	---	---



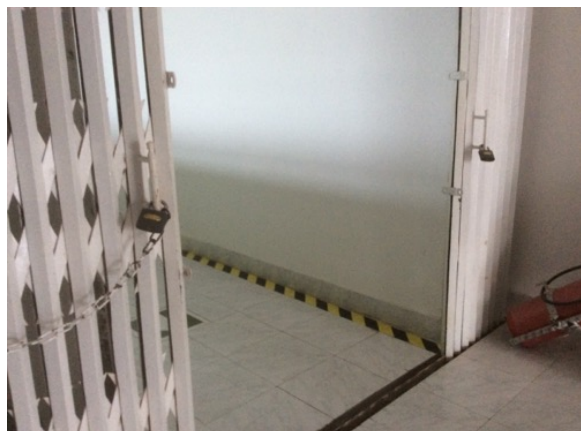
F-14 Egress

Storage was located in the south east exit stair on the sixth, fifth and ground floors and in south west and north west exit stairs on the ground floors.

Remove all storage from exit stairs and egress paths. Immediately



F-15	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
------	--------	--	---	----------------



F-16	Egress	North east and north west exit stairs serve more than 5 stories and do not have required re-entry provisions.	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
F-17	Egress	The day-care room does not meet ACCORD standard 3.4.2.1.1. on the ground floor.	<p>Day-care shall be located on the ground floor with a maximum travel distance of 9 m (30 ft) or located one story above level of exit discharge with direct access to an exit enclosure.</p> <p>If the above is not possible provide a minimum 2-hr fire-rated exit corridor between the day-care room and exit stair with ACCORD approval.</p>	Within 3 months
F-18	Egress	Dead-end aisles exceed 30 m (100 ft.) on the sixth floor.	Reconfigure the egress arrangement to reduce the maximum dead-end distance to not more than 30 m (100 ft.).	Within 3 months

F-19	Egress	Handrails are not provided on both sides of all the exit stairs.	Provide handrails on both sides of the exit stair. 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
------	--------	--	--	-----------------

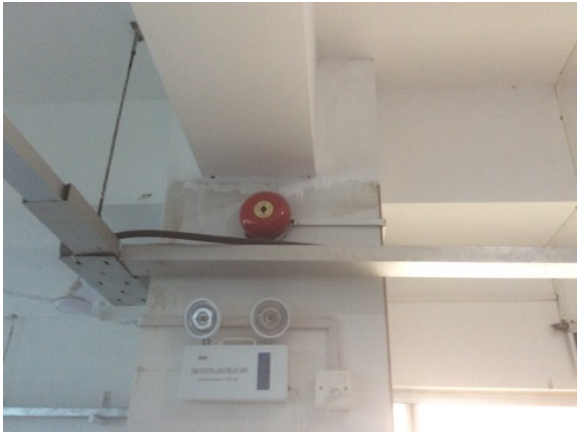


F-20	Fire Protection	The high-rise building has an occupied floor greater than 23m (75 ft.) and is not provided with automatic sprinkler protection. The large occupant loads, heavy fuel loading and anticipated extended egress times warrant sprinkler protection.	Provide automatic sprinkler protection throughout the building in accordance with NFPA 13.	Design within 6 months, install within 12 months
------	-----------------	--	--	--

F-21	Fire Protection	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 months
F-22	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-23	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-24	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-25	Fire Protection	Inspection, testing and maintenance of the automatic sprinkler system is not in accordance with NFPA 25.	Inspect, test and maintain the automatic sprinkler system and keep written records on-site, in accordance with NFPA 25.	Within 3 months
F-26	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-27	Fire Protection	Visible and audible notification was not provided for the building in accordance with NFPA 72.	Provide visible and audible notification for the building in accordance with NFPA 72.	Within 3 months
------	-----------------	--	---	-----------------



---

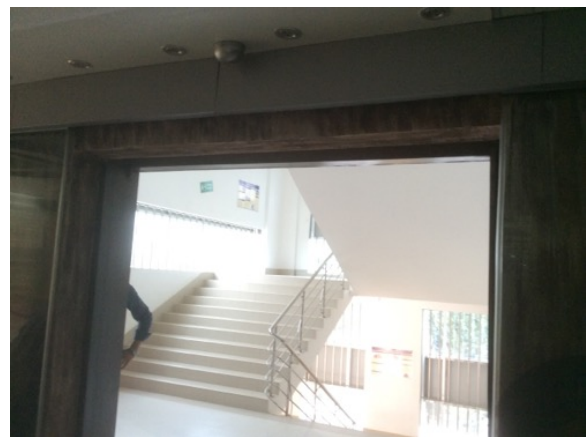
F-28	Fire Protection	Fire pump did not meet ACCORD standard 5.5.1 and 5.5.1.1.	Update current fire pump or provide a new fire pump that meets ACCORD standard 5.5.	Within 6 months
------	-----------------	---	---	-----------------



F-29	Egress Lighting	Exit signs were placed in areas that were not exits almost on all the floors.	Remove exit signs from noted areas to avoid confusion from actual exits.	Immediately
------	-----------------	---	--	-------------



F-30	Egress Lighting	Exit signage was not provided at south east exit stair entrance on the sixth floor and south west exit stair on the second floor.	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
------	-----------------	---	---	----------------



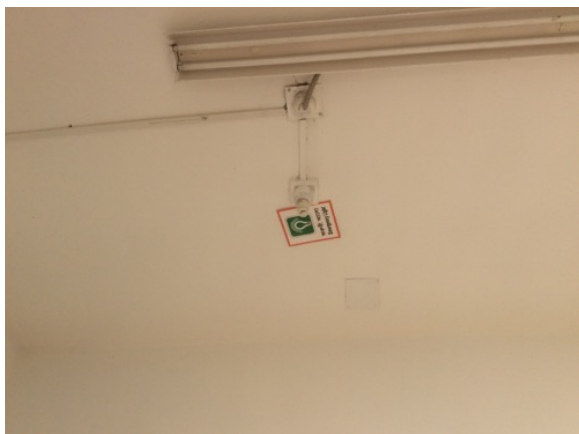
F-31	Egress Lighting	Exit signage not illuminated on third, fourth, fifth and seventh floors.	Regularly inspect all exit signage and replace and install lights as needed to illuminate signs. The source of illumination shall provide not less than 50 lux at the illuminated surface with a contrast of not less than 0.5. Approved self luminous signs which provide evenly illuminated letters having a minimum luminance of 0.2 cd/m <sup>2</sup> may also be used.	Within 1 month
------	-----------------	--	---	----------------



F-32	Egress Lighting	Emergency lighting did not function in test mode on the seventh floor. Emergency lights are burnt out on the north east exit stair and ground floor.	Regularly test the emergency lighting system on each floor and replace or repair lights as needed.	Within 1 month
------	-----------------	--	--	----------------



F-33	Egress Lighting	Manual on-off switches are provided for emergency lighting and exit signage units on the body of the units and on the IPS Battery units.	Remove manual on/off switches from emergency lighting and IPS units to prevent them from being switched off.	Within 1 month
------	-----------------	--	--	----------------



F-34	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-35	Egress Lighting	Based on the number and location of emergency lights observed, adequate illumination levels are not anticipated along egress routes on the factory floors and exit stairs.	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
------	-----------------	--	---	-----------------