

FIRE SAFETY INSPECTION REPORT

**ANOWARA KNIT COMPOSITE LTD.
MULAYED, MAONA, SREEPUR, GAZIPUR**

OTHER FACTORIES: NONE



ACCORD
on Fire and Building Safety in Bangladesh

July 7, 2014

SUMMARY

Anowara Knit Composite Ltd. was surveyed for fire safety on 7/7/2014 by Hughes Associates, Inc. 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 - Building 2/8

No.	Category	Finding	Recommendation	Remediation Timeframe
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F-1	Fire Rated Construction	Two (2) of the three (3) exits from the ground floor fabric batch storage room discharge to exit stairs. The ground floor general store also discharges to the northeast exit stair on the ground floor.	Provide 2-hr fire-rated vestibules where a storage room discharges to an exit stair. Provide a 1-hr fire rated door on the storage room side and a 1.5-hr fire rated door on the exit stair side. Keep the central fabric batch door. Only one (1) of the exit stair doors to the storage room can be sealed. The approximate max travel distance to the central door was measured to be 110 ft. (max allowable travel distance is 100 ft.). If the general store is unoccupied, seal door to northeast exit stair and provide access through fabric batch. If not, do the same but provide common vestibule to northeast exit stair, linking access to both fabric batch and general store. Seal access to the northwest exit stair from fabric batch.	Within 3 months
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F-2	Fire Rated Construction	Both exit stairs were unenclosed on the first floor and the northwest exit stair was unenclosed on the ground floor.	Enclose all exit stairs with 2-hr fire-rated construction.	Within 3 months
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F-3	Fire Rated Construction	The diesel fuel storage area in the generator room is not separated by fire-rated construction and open to surrounding areas.	Separate the diesel fuel storage 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-4	Fire Rated Construction	The boiler/generator building is not separated by fire-rated construction due to openings, non-rated doors, and penetrations. The boilers and generators were not separated from each other.	Separate the boiler/generator building by a minimum 2-hr fire-rated construction. Seal and/or protected all openings to maintain the required fire separations. Separate the boilers and generators from each other by 2-hr fire rated construction.	Within 3 months
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F-5	Fire Rated Construction	Areas used for combustible storage, open to the factory floor on the first, third, and fourth floors, are not separated by fire-rated construction.	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 2.4m and maximum area of 23m² - 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.	Within 3 months
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F-6	Fire Rated Construction	Rooms used for combustible storage on the ground (general store, fabric batch, and chemical warehouse) and second (store room) floors are not separated by fire-rated construction.	Provide dedicated storage rooms separated by minimum 1-hr fire-rated construction.	Within 3 months
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F-7	Fire Rated Construction	The exit stairs are not separated from work areas and other spaces on each floor by fire-rated construction.	Provide minimum 1.5-hr fire rated doors and 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
			If fire doors are required to be held open for functional reasons, provide automatic-closing devices tied to the fire alarm system.	



F-8	Fire Rated Construction	Unsealed penetrations and openings (two (2) hydrant pipes and two (2) electrical risers) are located in the fire-rated floor/ceiling assemblies on each floor.	Provide a minimum 2-hr fire-rated shaft to separate the electrical utility risers from each floor level. Seal all hydrant piping penetrations and openings in floor/ceiling assemblies to maintain the fire separation.	Within 3 months
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F-9	Fire Rated Construction	Unsealed penetrations and openings are located in the northwest exit stair enclosure on the second floor. Once the exit stair is enclosed on the first floor, the same penetration will be present.	Seal all penetrations and openings in exit stair enclosure walls to maintain the fire separation.	Within 3 months
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F-10	Egress	Storage was located in each exit stair on all floors.	Remove all storage from exit stairs and egress paths.	Immediate
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F-11	Egress	An egress door with locking features was provided along an exterior egress route. All gates/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.	Immediate
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F-12	Egress	Sliding doors are provided at exit stairs and along egress routes.	Replace all sliding doors along the means of egress with side-hinged, swinging egress doors.	Within 1 month
			If locks are required for security reasons, utilize special door locking features complying with NFPA 101.	



F-13	Egress	The width of egress aisles was less than 36-in. in several locations on the second floor.	Provide minimum aisle widths of 36-in.	Within 3 months
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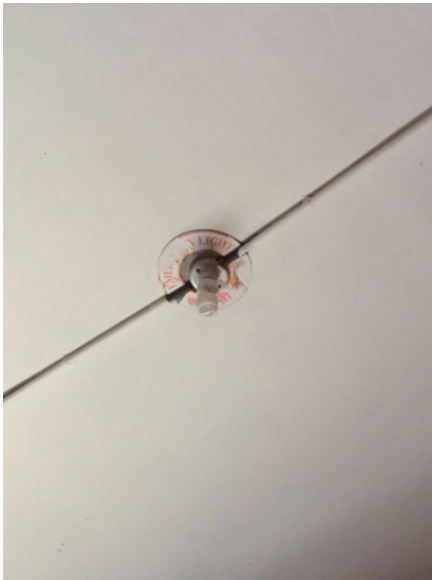
F-14	Fire Protection	Inspection, testing, and maintenance of the fire alarm system is not in accordance with NFPA 72.	Inspect, test and maintain the fire alarm system, and keep written records on-site, in accordance with NFPA 72.	Within 3 months
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F-15	Fire Protection	Based off observations, the existing smoke detectors tied to the fire alarm were not installed correctly (on the bottom of electrical runners).	Based on ceiling configuration, provide additional detectors where needed, and install them in accordance with NFPA 72.	Within 3 months
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F-16	Egress Lighting	Manual on-off switch is provided for emergency lighting units.	Remove manual on/off switches from emergency lighting units to prevent them from being switched off.	Within 1 month
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F-17	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 accordance with The ACCORD standard. Keep written records on-site.	Within 3 months
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Table 2. Findings And Recommendations - Building 4/5

No.	Category	Finding	Recommendation	Remediation Timeframe
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F-1	Fire Rated Construction	The northwest exit stair of Building 5 was unenclosed in fire-rated construction.	Enclose the northwest exit stair and all future exit stairs in 2-hr fire-rated construction on all floors.	Within 3 months
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F-2	Fire Rated Construction	The flammable liquid storage area in Building 4 is not separated by fire-rated construction due to non-rated doors.	Separate the 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-3	Fire Rated Construction	Areas used for combustible storage, open to the factory floor, are not separated by fire-rated construction.	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 2.4m and maximum area of 23m² - 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.	Within 3 months
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F-4	Fire Rated Construction	The exit stairs are not separated from work areas and other spaces on each floor by fire-rated construction.	Provide minimum 1.5-hr fire rated doors and 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.



F-5	Egress	Storage was located in the northwest exit stair of Building 5.	Remove all storage from exit stairs and egress paths.	Immediate
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F-6	Egress	Storage was located in the egress path of the Building 5 southeast exit.	Keep egress paths and stairs clear of storage.	Immediate
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F-7	Egress	Collapsible gates are provided at building exits.	Replace all gates along the means of egress with side-hinged, swinging egress doors.	Within 1 month
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If locks are required for security reasons, utilize special door locking features complying with NFPA 101.



F-8	Egress	The Building 5 northwest exit stair discharged inside the building on the ground floor to production areas. It appeared as though the southwest Building 5 exit stair will do the same.	Modify the exit stairs to discharge directly outside. Alternately, provide 2-hr fire-rated exit passageway leading directly outside (vestibules to separate any storage areas).	Within 6 months
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F-9	Fire Protection	Inspection, testing, and maintenance of 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-10	Fire Protection	Based off observations, the existing smoke detectors tied to the fire alarm were not installed correctly (on the bottom of electrical runners).	Based on ceiling configuration, provide additional detectors where needed, and install them in accordance with NFPA 72.	Within 6 months



F-11	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 accordance with The ACCORD standard. Keep written records on-site.	Within 3 months
F-12	Egress Lighting	Based on the number and location of emergency lights observed, adequate illumination levels are not anticipated along egress routes throughout Building 4/5.	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 3 months