

# **FIRE SAFETY INSPECTION REPORT**

## **MOTHER COLOR LIMITED**

**160, SHASHONGAON, ENASETNAGOR, FATULLAH**

**OTHER FACTORIES: NONE**



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

April 19, 2014

## **SUMMARY**

**Mother Color Limited was surveyed for fire safety on 4/19/2014 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 - Main Factory Building**

No.	Category	Finding	Recommendation	Remediation Timeframe
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F-1	Fire Rated Construction	Hazardous materials / flammable liquid storage areas are not separated by fire-rated construction (openings, non-rated doors, penetrations).	Separate the hazardous materials / flammable liquid storage areas 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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Locations:  
-55 gallon drums of diesel gas are stored inside the generator building and outside, between the two generators.  
-A large tank of H2O2 is adjacent to the generator room  
-The backup generator is in the direct vicinity of large amounts of combustible storage.  
-Numerous jugs of potential flammable liquids are in the direct vicinity of the exposed electric pumps in the generator building.





F-2	Fire Rated Construction	The boilers and generators are not separated from adjacent factory floors, storage areas, or egress paths by fire-rated construction (openings, non-rated doors, penetrations).	Separate the boilers and generators by a minimum 2-hr fire-rated construction. Seal and/or protect 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 are not separated by fire-rated construction.	Provide dedicated storage rooms separated by minimum 1-hr fire-rated construction.	Within 3 months
		Locations: Multiple floors in factory areas.	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 23m <sup>2</sup> - 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.	



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.  If fire doors are required to be held open for functional reasons, provide automatic-closing devices tied to the fire alarm system.	Within 3 months
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F-5	Fire Rated Construction	Unsealed penetrations and openings are located in the fire-rated wall and ceiling assemblies.	Provide a minimum 2-hr fire-rated shaft to separate the utility risers from each floor level.  Seal all penetrations and openings in wall and ceiling assemblies to maintain the fire separation.	Within 3 months
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F-6	Fire Rated Construction	Unsealed penetrations and openings are located in exit stair enclosures.	Seal all penetrations and openings in exit stair enclosure walls to maintain the fire separation.	Within 3 months
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F-7	Fire Rated Construction	Corrugated metal roofing is used to cover the exit stairs at the Roof level, which does not constitute the classification of fire-rated construction for the stairs.	Enclose the stairs with a minimum 2-hr fire-rated construction.	Within 3 months
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F-8 Egress

Egress doors with locking features are provided at building exits, exit stairs, along egress routes, and exit discharge.

Locations:  
Egress doors on all floors. Doors were open and unlocked during the survey.

Remove locking features from all egress doors.

If locks are required for security reasons, utilize special door locking features complying with NFPA 101.

Immediat



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F-9	Egress	Storage was located in the exit stair.	Remove all storage from exit stairs and egress paths.	Immediate
		Locations: Various exit stair landings.		



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F-10	Egress	Storage was located in the egress path.	Keep egress paths and stairs clear of storage.	Immediate
		Location: Third floor.		



F-11 Egress

Sliding doors are provided at building exits, exit stairs, along egress routes, and exit discharge.

Locations:  
Sliding roll-down doors on Ground and Second floors.

Replace all sliding doors along the means of egress with side-hinged, swinging egress doors.

If locks are required for security reasons, utilize special door locking features complying with NFPA 101.

Within 1 month





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F-12	Egress	Although evacuation plans were provided on the First floor, they were not observed on any of the other floors at the time of the inspection.	Provide evacuation plans to indicate relevant exits and to provide adequate exit knowledge.	Within 1 month
F-13	Egress	Exit stair door does not swing in the direction of egress travel.  Locations: Egress doors to exit stairs on First and Second floors.	Modify the egress door to swing in the direction of egress travel.	Within 3 months

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F-14	Egress	<p>Exit stairs discharge inside the building.</p> <p>Location: Exit stair at south side of building discharges to the Ground floor reception area that contains the main exit but is not enclosed in fire-rated construction.</p>	<p>Modify stair to discharge directly outside or provide 2-hr fire-rated exit passageway leading directly outside (vestibules to separate any storage areas).</p>	Within 6 months
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F-15	Fire Protection	<p>The fire alarm system is antiquated, not a listed system, and does not provide alarm and notification features consistent with acceptable standards.</p>	<p>Replace the fire alarm system with a new, listed addressable fire alarm system in accordance with NFPA 72.</p>	Design within 4 months, install within 9 months
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F-16	Fire Protection	Activation of the fire alarm system by a manual fire alarm station provides automatic occupant notification only on the floor of alarm and not throughout the building.	Configure the fire alarm system to initiate automatic occupant notification on all floor levels to facilitate whole-building evacuation upon any manual fire alarm station activation.	Within 1 months
F-17	Fire Protection	Inspection, testing, and maintenance for the fire alarm system was 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-18	Fire Protection	The fire alarm system does not appear to provide adequate audible notification coverage.  All locations and functional test was performed.	Provide additional notification appliances such that the fire alarm system is audible throughout the building in accordance with NFPA 72.	Within 6 months

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F-19	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.	Replace the single-station smoke alarms with automatic smoke detectors tied into the fire alarm system. Configure the fire alarm system to initiate occupant notification upon activation of any two smoke detectors in addition to the manual fire alarm stations.	Within 6 months
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F-20	Egress Lighting	Exit signage not illuminated (burned out, broken, etc.).  Locations: Exit stairs of Second and Third floors.	Regularly inspect all exit signage and replace/install lights as needed to illuminate signs.	Within 1 month
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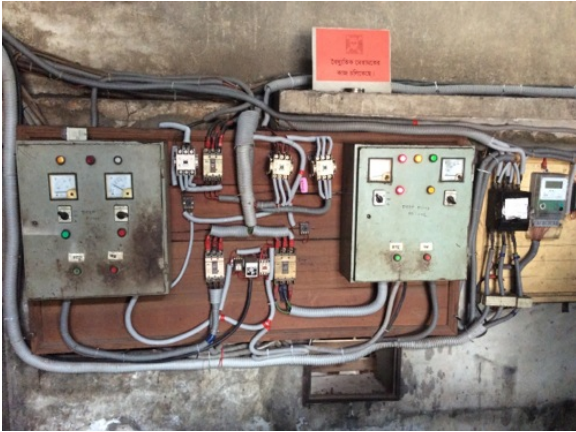


F-21	Egress Lighting	Emergency lighting could not be identified at any location in the factory building.	Identify/install emergency lighting and regularly inspect all lights as needed for appropriate illumination levels.	Within 1 month
F-22	Egress Lighting	Based on the number and location of emergency lights observed, adequate illumination levels are not anticipated along egress routes.  Locations: All areas.	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

**Table 2. Findings And Recommendations - Dyeing Shed**

No.	Category	Finding	Recommendation	Remediation Timeframe
F-1	Fire Rated Construction	<p>Hazardous materials / flammable liquid storage areas are not separated by fire-rated construction (openings, non-rated doors, penetrations).</p> <p>Locations:                      Large amounts of flammable liquid storage near machinery and electrical components secured to wood backings in dyeing shed.</p>	<p>Separate the hazardous materials / flammable liquid storage areas by a minimum 2-hr fire-rated construction. Seal and/or protected all openings to maintain the required fire separations.</p>	Within 3 months





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F-2	Fire Rated Construction	Areas used for combustible storage are not separated by fire-rated construction.	Provide dedicated storage rooms separated by minimum 1-hr fire-rated construction.	Within 3 months
		Locations: Multiple areas on factory floor near machinery.	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 23m <sup>2</sup> - 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.	



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F-3	Fire Rated Construction	The boiler and generator are not separated from adjacent factory areas or other service equipment by fire-rated construction (openings, non-rated doors, penetrations).	Separate the boiler and generator 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 Egress

Egress doors with locking features are provided at building exits.

Doors were open and unlocked during the survey.

Remove locking features from all egress doors.

If locks are required for security reasons, utilize special door locking features complying with NFPA 101.

Immediate



F-5 Egress

Storage was located in the egress path.

Location:  
Egress path to east exit.

Keep egress paths and stairs clear of storage.

Immediate



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F-6	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-7	Fire Protection	Inspection, testing, and maintenance for a fire alarm system was 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-8	Fire Protection	The fire alarm system does not appear to provide adequate audible notification coverage.  All locations and functional test was performed from the main factory location.	Provide additional notification appliances such that the fire alarm system is audible throughout the building in accordance with NFPA 72.	Within 6 months
F-9	Fire Protection	The building did not appear to be equipped with smoke alarms.	Install automatic smoke detectors tied into the fire alarm system. Configure the fire alarm system to initiate occupant notification upon activation of any two smoke detectors in addition to the manual fire alarm stations.	Within 6 months
F-10	Egress Lighting	Emergency lighting could not be identified at any location in the factory building.	Identify/install emergency lighting and regularly inspect all lights as needed for appropriate illumination levels.	Within 1 month
F-11	Egress Lighting	Based on the number and location of emergency lights observed, adequate illumination levels are not anticipated along egress routes.  Locations: All areas.	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
F-12	Egress Lighting	Exit sign not provided at exit.  Locations: All exits.	Provide exit signs above all exits to the exterior and all doors to the exit stairs.	Within 3 months

