

FIRE SAFETY INSPECTION REPORT

Tropical Knitex Ltd.

ACCORD ID: 23816

Chandra, Kaliakoir, 1751, Gazipur

24.035196, 90.256237

Other Factories: None



ACCORD
on Fire and Building Safety in Bangladesh

Inspected by: Md. Rakibul Alam & Pantha Pallob Das

Date: 24 Sep 2019 and 06 Oct 2019



ACCORD
on Fire and Building Safety in Bangladesh

Fire Safety Inspection Report

Tropical Knitex Ltd.

Summary

Tropical Knitex Ltd. complex was surveyed for fire safety on 24 Sep 2019 and 06 Oct 2019 by The Accord 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 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 | <p>Exit stairs are not separated from work areas & other spaces on each floor by fire-rated construction due to unprotected openings and penetrations. (In building-7, Top and ground floor is not provided with fire rated doors. All other fire rated doors at all other buildings are kept open by using external objects. Stairs also are not enclosed by fire rated enclosures at Building-7 top floor and basement floor, and Building-10 ground floor).</p> | <p>Separate the exit stairs from work areas and other building spaces on all floor levels by minimum 2- hr fire-rated construction. Provide minimum 1.5- hr fire rated doors and seal all unprotected openings and penetrations to maintain the fire separation.</p> <p>Ensure that all fire doors are self-closing and positive latching, and are provided with fire exit (panic) hardware where serving production floors or assembly occupancies.</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 |





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| F-2 | Fire Rated Construction | Unsealed electrical shaft is located in the fire-rated floor/ceiling assemblies. (Building-7, Building-10 Building-11) | 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 |
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| F-3 | Fire Rated Construction | Area used for storage of combustible materials open to the factory floors are not properly defined and/or not within limits. (Building-7 ground, 1 st 4 th , 6 th floor and Building-2) | Provide defined storage areas and limit the storage arrangement as follows: Maximum height of 2.45m (8 ft) and maximum area of 23 m ² (250 ft ²). If sprinkler protected: maximum height of 3.66m (12 ft) and maximum area of 93m ² (1000 ft ²). Separate the areas of unenclosed combustible storage by a minimum clear distance of 3 m (10 ft). | Within 3 months |
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| F-4 Fire Rated Construction | Unsealed penetrations and openings are located in required fire separated walls/assemblies. (Building-7, Buiding-8 and where applicable) | Seal all penetrations and openings in fire rated walls/assemblies to maintain required fire separation. Or protect all penetrations and openings by fire rated materials according to Accord standard 4.6 and 4.7. | Within 3 months |
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| F-5 | Fire Rated Construction | Elevators shaft is not provided with fire rated construction and opening protection. Open in factory floor. (Building-7) | Provide 2-hr fire rated shaft and 1.5-hr fire rated lift landing doors or 1.5-hr rated opening protection. Seal and/or protected all openings to maintain the required fire separations. | Within 3 months |
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| F-6 | Fire Rated Construction | Unsealed openings from ground floor located at basement ramp. (Building-7) | Seal all penetrations and openings in exit enclosures and ramps to maintain the required 2-hr fire rated separation. | Within 3 months |
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F-7 Fire Rated Construction

Electrical room is not separated from ground floor generator room. (Building-10).

Separate the electrical and generator room by 2-hr fire rated construction and 1.5-hr opening protection. Seal and/or protected all openings to maintain the required fire separations.

Within 3 months



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| F-8 | Fire Rated Construction | The fire pump room is not provided with adequate fire separation. (Building-10) | 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-9 | Fire Rated Construction | Exterior exit stair is not properly separated from the building. (Building-11) | 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 (10 ft) beyond the ends of the stair structures | Within 3 months |



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| F-10 | Fire Rated Construction | Building expansion joint not sealed by adequate fire rated sealant material. (Building-9 & 10) | Seal the expansion joints by 2-hr fire rated materials to ensure the required fire separation as well as to maintain structural characteristic for the expansion joint. | Within 3 months |
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| F-11 | Fire Rated Construction | Diesel fuel storage was located in front of building-8 | Separate the diesel fuel storage with 2-hr fire rated construction. There shall be no diesel storage in factory production building. | Within 3 months |
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F-12 Fire Protection

The fire alarm system installation requires detailed review to confirm compliance with NFPA 72 and ACCORD standard.

Submit as-built drawings, testing records, equipment certification and other relevant documentation to the ACCORD for review and approval/acceptance test.

Within 2 months



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| F-13 | Fire Protection | The fire pump set installation requires detailed review to confirm compliance with NFPA 20 and ACCORD standard. | Submit as-built drawings, testing records, equipment certification and other relevant documentation to the ACCORD for review and approval/acceptance test. | Within 2 months |
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| F-14 | Fire Protection | The high-rise building has an occupied floor greater than 23m (75 ft) and required sprinkler system installation not completed. (Building-7) | Provide automatic sprinkler protection throughout the building in accordance with NFPA 13 and ACCORD standards. | Design within 2 months Install within 4 months |
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| F-15 | Fire Protection | The standpipe system installation requires detailed review to confirm compliance with NFPA 14 and ACCORD standard. (Building-8,9,10 & 11) | Submit as-built drawings, testing records, equipment certification and other relevant documentation to the ACCORD for review and approval/acceptance test. | Within 2 months |
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| F-16 | 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 (after installation). | Within 7 months |
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| F-17 | Egress | Common path of egress travel exceeds limit. (2 nd and 4 th floor at Building-7 and all floor at Building-9) | Reconfigure the egress arrangement to reduce the maximum common path of travel to not more than 23 m (75 ft) or 30 m (100 ft) when complete sprinkler protection is provided. | Within 3 months |
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| F-18 | Egress | <p>A single means of egress is provided from Building-8 and south part of Building-9 where single exit is not permitted from 2nd and upper floors.</p> <p>S-E mezzanine also provided with single exit where travel distance exceeds limit.</p> | <p>Ground or basement story is allowed a maximum of 50 occupants and 23 m (75ft) travel distance.</p> <p>The second story is allowed a maximum of 30 occupants and 23 m (75ft) travel distance.</p> <p>All other stories require a minimum of 2 egress exits.</p> <p>Provide additional means of egress from said upper floors and said mezzanine floor.</p> | Within 4 months |
| F-19 | Egress | <p>Exit stairs widths were less than 1.5m (59 in) at building-9 & 10. (Both are new building)</p> | <p>Provide minimum 1.5m (60 in) unobstructed and clear width of exit stairs as per Accord 6.5.6.2.1.</p> | Within 6 months |
| F-20 | Fire Rated Construction | <p>Unsealed penetrations and openings are located in exit stair enclosure. (Electrical cable tray at building-10 & 11)</p> | <p>Seal all penetrations and openings in exit stair enclosure and separation walls to maintain the required fire separation. Re-route the cable tray and any other piping penetrating exit enclosures.</p> <p>Penetrations into and through an exit enclosure shall be prohibited with the exception of required exit doors, sprinkler piping, standpipes, electrical raceway for fire alarm equipment, and electrical conduit serving the exit enclosure.</p> | Within 2 months |





F-21 Egress Lighting Exit signage not illuminated, burned out or broken, etc. at Building-7 & 10.

Regularly inspect all exit signage and replace/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/m² may also be used.

Within 1 month



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| F-22 | Egress Lighting | Based on the number and location of emergency lights observed, adequate illumination levels are not anticipated along egress routes. (Building-7) | 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 1 months |
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| F-23 | Egress | Storage was located in the exit stairs. (Building-7 & 10) | Remove all storage from exit stairs. Means of egress shall be maintained continuously free and clear of all obstructions/storage. | Immediately |
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