

# INITIAL FIRE SAFETY INSPECTION REPORT

**Sisal Composite Limited (Relocated)**

**RSC ID: 24887**

**Purbohati, Natunpara, Hemayetpur, Savar, Dhaka**

Geographical Coordinates: 23.785737, 90.267258

**Other Factories: None**



**Inspected By: Mohammad Anayet Hossain and Md. Najmul Huda**

**Date: 08-Nov-2023**

# Fire Safety Inspection Report

## Sisal Composite Limited (Relocated)

### Introduction:

**Sisal Composite Limited (Relocated)** complex was surveyed for fire safety on **08-Nov-2023** by The RSC 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 RSC. 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.

### Limitations

The information in this fire safety inspection report was obtained during a visit to the facility and during interviews with local factory management. It has not been possible to provide independent verification for all the information and data collected, and, therefore, The RSC cannot accept general responsibility for omissions or errors arising from inaccuracies in this report from the information obtained.

The findings and recommendations in this report are not intended to imply, guarantee, ensure or warrant compliance with any government regulations. Additionally, the results do not imply in any way that compliance with the findings or recommendations as stated in this report will eliminate all hazards, risks or exposures or that hazards, risks or exposures not referred to in this report do not exist. Compliance with the findings and recommendations stated in this report does not relieve the factory owner from obligation to comply with specific project requirements, industry standards, or the provisions of any local government regulations.

## General Factory Information

### Factory Building name(s):

- i. Main Building
- ii. Utility Building
- iii. Doctor & Day care
- iv. Security Shed

**Factory Address: Purbohati, Natunpara, Hemayetpur, Savar, Dhaka**

## Findings & Recommendations :

Table 1 summarize the fire safety non-compliant issues identified during the inspection. Recommendations have been provided to address each issue with specific remediation timeline. 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 RSC for review.

Table-1:

SI No.	Category	Findings	Required Action	Remediation Time Frame
F-01	Fire Rated Construction	<p>The exit stairs are not separated from work areas, other spaces on each floor by fire-rated construction.</p> <p><b>Location:</b>                      i) Main Building.                      ii) Utility Building.</p>	<p>Provide minimum 2-hr fire rated construction for buildings 4 storied or more and 1-hr for up to 3 storied. Seal all unprotected openings to separate the exit stairs from work areas and other spaces on all floor levels by 90 minutes for 2 hr. construction and 60 minutes for 1-hr construction. Ensure that the fire rated doors are self-closing and positive latching and that they are provided with fire exit (panic) hardware where serving production floors. If fire rated doors are required to be held open for functional reasons, provide automatic closing devices tied to the fire alarm system.</p>	Within 3 months



F-02	Fire Rated Construction	<p>Storage room discharges directly into exit stair enclosure.</p> <p><b>Location:</b> 3rd Floor, Stair-02(South) &amp; Stair-03(N-E)</p>	<p>Openings from exit enclosure to storage room, shall be provided with a vestibule with fire rated construction and openings.</p> <p>Provide a 1.5 hr. fire rated door on the exit stair side and a 1-hr. fire rated door on the store side. Ensure that the fire rating of the vestibule construction matches that of the exit stair enclosure.</p>	Within 4 months
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F-03	Fire Rated Construction	<p>Penetrations through floor/ceiling assemblies are found unsealed.</p> <p><b>Location(s):</b> Plumbing pipes, Electrical Cable and Steam Line at several locations of <b>Main Building</b></p>	<p>Seal all penetrations and openings in floor/ceiling (full thickness of the floor/ceiling) assemblies by fire rated materials to maintain the fire resistance rating. Provide a minimum 3-hr fire rated shaft to separate the utility risers from each floor if required.</p>	Within 3 months
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F-04	Fire Rated Construction	<p>Dining and Prayer room was not separated from other occupancies (Storage Area)</p> <p><b>Location:</b> 5th Floor of Main Production Building</p>	<p>Re-locate the dining area or          Provide 3 Hr. fire separation of Assembly occupancy (E3) from Storage (H2) to meet the requirement as per BNBC 2006, part III chapter 2 table 3.2.1. Seal all penetration and opening to maintain the separation.</p>	Within 3 Months
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F-05	Fire Rated Construction	Liquefied or compressed gas cylinders/CNG appliances (high pressure CNG pipeline and pressure reducing unit) used in a fuel of boiler were located within the factory (CNG Cylinder found in <b>front of the utility building and CNG high pressure line &amp; pressure reducing control unit located inside the boiler room</b> ).	<p>The RSC Technical Guideline (Standard) V1, section 3.4.2.1.11 prohibits the storage or use of liquefied or compressed flammable gas (LPG/CNG) cylinders within the factory building.</p> <p>However, if it is not feasible then conditionally those are permitted to be stored in a separate dedicated building on the factory premises within its boundaries if the building meets the following conditions.</p> <ol style="list-style-type: none"> <li>1. The storage building must be at least 3 meters away from any other building and boundaries.</li> <li>2. The exterior walls of the building must have a fire resistance rating of 3 hours using noncombustible construction.</li> <li>3. Doors and other openings in the exterior walls must be protected with suitable closing devices having a fire protection rating of 3 hours.</li> <li>4. The building is to be used for no other purpose than the storage of LPG/CNG cylinders.</li> <li>5. The building must be mechanically ventilated to control the accumulation of flammable vapors.</li> <li>6. The installations must be approved and accepted by the requirements of the AHJ, Gas supply company regulations, manufacturers/supplier's instructions/guidance, CIOB and all other applicable agencies, codes and standards.</li> </ol>	Within 3 months
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F-06	Fire Rated Construction	<p>The boiler, generator, compressor and substation rooms are not fire separated with fire rated construction barrier or assemblies.</p> <p><b>Location:</b> Ground floor of utility building.</p>	<p>Separate the boiler and compressor rooms by a minimum 1-hr fire-rated construction with 0.75-hr fire rated opening protective assemblies like fire rated door.</p> <p>Similarly separate generator and substation room by a minimum 2-hr fire rated construction with 1.5-hr fire rated opening protective assemblies like fire rated door. Provide proper ventilation and consult a qualified engineer for overall solution.</p> <p>When located to the exterior of a building by at least 3m (10 ft.) distance from surroundings then fire rated construction barrier is not mandatory.</p>	Within 3 months
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F-07	Fire Rated Construction	The fire pump room was not provided with adequate fire rated separation with the boiler room.	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. In the case exterior it shall be 50 ft away from another occupancy.	Within 3 months
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F-08	Fire Rated Construction	<p>Storage of hazardous materials/flammable liquids (diesel) was located at near of the egress path that were not separated by fire-rated construction.</p> <p><b>Location:</b> In front of the utility building</p>	<p>Remove all diesel fuel storage from the egress paths 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 separate the diesel fuel storage with 2- hr. fire rated construction.</p>	Within 3 months
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F-9	Fire Rated Construction	<p>Rooms used for storage of combustible materials located at several floors are not separated from the surrounding occupancy/areas.</p> <p><b>Locations:</b> Main Building.</p>	<p>Rooms used for storage of combustible materials shall be separated from the surrounding occupancy with a minimum 1 hour construction.</p>	Within 3 months
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F-10	Fire Rated Construction	<p>Areas used for in-process storage of combustible materials are open to the surrounding occupancy.</p> <p>Combustible materials has kept under cutting table which is non compliant.</p> <p><b>Location:</b> Main Building at several locations.</p>	<p>Provide defined storage areas and limit the storage arrangement as follows: -</p> <ol style="list-style-type: none"> <li>1. General Condition: Maximum height of 2.4m and maximum area of 23m<sup>2</sup>. Separate areas of unenclosed combustible storage by a minimum clear distance of 3m.</li> <li>2. 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.</li> <li>or</li> <li>3. Enclose the storage area from the surrounding occupancy with a minimum 1-hour construction.</li> </ol>	Within 3 months
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F-11	Means of Egress	<p>Exit stair enclosures are not free from unsealed penetrations and openings (Elevator/Lift core, Electrical cable tray and duct)</p> <p><b>Locations:</b> Main building &amp; Utility building.</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. Remove Steam Pipe/ cable raceway/busbar riser/ plumbing pipes and electrical pipes from the exit stair enclosures. Seal all penetrations and openings in the wall of exit enclosure (lift/elevator core penetrations) by fire rated materials to maintain the fire resistance rating.</p>	Within 1 month
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F-12	Means of Egress	<p>Outward swinging type doors were not provided at the building exits, exit stairs, along egress routes and exit discharge.</p> <p><b>Location:</b> All stairs to the roof top of the main building.</p>	<p>Replace all gates, sliding doors and rolling shutters along the means of egress with side-hinged, swinging egress doors, swinging in the direction of egress travel. If locks are required for security reasons, utilize special door locking features complying with NFPA 101</p>	Within 1 month
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F-13	Means of egress	<p>Exit stairs serve more than 5 stories and do not have required re-entry provisions.</p> <p><b>Location:</b> Main Building.</p>	<p>Every door in a stair enclosure serving more than 5 stories shall be provided with re-entry unless it meets RSC standard 6.8.3.1.</p>	Within 1 month
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F-14	Means of Egress	Non compliant locking system were observed at several floors of means of egress path.	<ol style="list-style-type: none"> <li>1. Remove all non compliant locking features from egress doors.</li> <li>2. If locks are required for security reasons, utilize special door locking features complying with NFPA 101.</li> <li>3. Doors may be locked where the latch and lock are disengaged with one motion where the occupant load does not exceed 49 persons.</li> <li>4. Doors may be provided with locking hardware from the ingress side provided that a panic bar is installed on any door with an occupant load exceeding 49 persons.</li> </ol>	Immediately
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F-15	Means of Egress	Storage was located in exit stair	Remove storage from the exit stairs and egress path	Immediately
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F-16	Means of Egress	Building did not have stair designation signs and occupant load signs at the required locations.	Provide stair designation signs and occupant load signs at the required locations.	Within 1 month
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F-17	Means of Egress	<p>Uneven path of travel and blockage in exit access.</p> <p><b>Locations:</b> Utility Building, Exit-02(N-W)</p>	<p>Remove unnecessary items and level exit path to the public way.</p>	<p>Within 1 month</p>
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F-18	Means of Egress	<p>Electrical panels were located in the exit stair enclosures.</p> <p><b>Location:</b> Roof Top, Stair-3(N-E), of Main Building.</p>	<p>Remove and re-locate all electrical panels from exit stair enclosures.</p>	<p>Within 1 month</p>
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F-19	Egress Lighting	Exit sign and Directional Sign are not provided at and towards exit at several floors.	Lighted exit signs shall be placed at entrance to an exit. Additional exit signs shall be placed throughout the facility anywhere the continuation of the egress is not obvious. Lighted exit signs shall be provided with either battery backup or uninterruptable power supply systems and shall be continuously illuminated.	Within 1 month
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F-20	Egress Lighting	Based on the number and location of emergency lights observed, adequate illumination levels are not anticipated along egress routes at several floors..	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
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F-21	Fire Alarm & Detection system	Automatic fire alarm and detection system installation has been found complete which requires detailed review to confirm compliance with NFPA 72 and The RSC Technical Guidelines (Standard).	Submit the fire alarm system design to RSC for review. Once the design is reviewed, install and modify the fire detection and alarm system throughout the buildings in accordance with review comment, Accord/ RSC Technical Guidelines (Standard) and NFPA 72. After installation the owner shall conduct internal testing and commissioning and then contact the RSC for witness of final acceptance testing. Also inspect, test and maintain the fire alarm system, and keep written records on-site, in accordance with Table-14.3.1 of NFPA 72.	Design Review within 2 months and installation/modification within 4 months
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F-22	Fire Alarm & Detection system (ITM of FADS)	Inspection, testing and maintenance for the fire alarm system is not in accordance with NFPA 72 and and The RSC Technical Guidelines (Standard).	Inspect, test and maintain the fire alarm system and keep written records on-site, in accordance with NFPA 72 and The RSC Technical Guidelines (Standard) and keep written records on-site	Within 1 month (after installation)
F-23	Fire Protection System (Standpipe)	Fire pump, water supply & standpipe system installation requires detailed review to confirm compliance with NFPA 14, 20, 22, 25 and RSC Technical Guideline (Standard).	Submit as built drawings, testing records, listing information and other relevant documentation to the RSC for review and approval, modification shall have to done as per the reviewed design (if required). Upon approval & modification (if required) the factory shall inform RSC to conduct final testing and commissioning verification of the system for final acceptance.	Design within 2 months, installation/modification on within 4 months



F-24	Fire Protection System(ITM of fire pump)	Inspection, testing, and maintenance for the fire pump is not in accordance with NFPA 20, 25 and RSC Technical Guideline (Standard).	Inspect, test and maintain the fire pump in accordance with NFPA 20, 25 and RSC Technical Guideline (Standard) and keep written records on-site.	Within 1 Month (after installation)
F-25	Fire Protection System(ITM of Standpipe)	Inspection, testing, and maintenance for the Standpipe system is not in accordance with NFPA 14, 25 and RSC Technical Guideline (Standard).	Inspect, test and maintain the standpipe system in accordance with NFPA 14, 25 and RSC Technical Guideline (Standard) and keep written records on-site.	Within 1 Month (after installation)
F-26	ITM of Fire Extinguishers	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 onsite, in accordance with NFPA 10 and The RSC Technical Guidelines (Standard).	Within 3 months
F-27	Egress Lighting ITM	Inspection, testing, and maintenance for the emergency lighting system were not in accordance with The RSC Technical Guidelines (Standard).	Inspect, test and maintain the emergency lighting system in the accordance with The RSC Technical Guidelines (Standard) and keep written records on-site.	Within 3 months