

ELECTRICAL SAFETY INSPECTION REPORT

MARMA COMPOSITE LTD. (EXTENSION 2)

Tongabari, Ashulia, Savar, Dhaka

GPS Coordinates: 23.900679, 90.319027



Factory List: MARMA COMPOSITE LTD. (EXTENSION), ID-23534
MARMA COMPOSITE LTD., ID-10860

Inspected by : Khitabul Islam
Report Generated by : Khitabul Islam

Inspected on: November 3, 2020

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Address: Tongabari, Ashulia, Savar, Dhaka

1. INTRODUCTION

The Factory was surveyed for electrical safety by RMG Sustainability Council. The purpose of the survey was to identify significant electrical safety issues and to provide recommendations for remediation based on applicable standards specified by the RSC.

Electrical Safety Audit is a methodical approach to evaluate potential electrical hazards and to recommend suggestions for improvement. The scope of this initial electrical safety inspection was limited to the review and identification of major electrical safety issues. The inspection did not include identification of minor deficiencies, which would be further dealt with as part of follow-up inspections.

2. LIMITATIONS

The information in this electrical safety inspection report was obtained during a visit to the facility and during discussion with local factory management. Services performed by the auditors are conducted in a manner consistent with that level of care and skill generally exercised by members of the engineering and auditing profession. However, an effort has made to discover all meaningful areas under the stipulated time available.

In evaluating subject site, Inspector relies in good faith on information provided by factory management or employees. The Inspector assumes that the information provided is factual, accurate and accepts no responsibility for any deficiency, misstatement or inaccuracies contained in this report as a result of omission or misrepresentation of any person interviewed or contacted.

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 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.

3. DEFINITION

3.1. TIME FRAME

The amount of time being allocated based on the remediation work volume of the electrical issues considering the feasibility and ideal status of materials, capital and working condition. Criticality and priority level of the issue is not taken into consideration. It is bound only for the particular finding unless mentioned 'typical', shall include the whole typical findings.

3.2. PRIORITY LEVEL

- 3.2.1. Electrical issues related to code violation and/or non-conformity with codes possessing immediate fire hazard, direct threat to human safety, shall be considered as **P1** Level of priority. The execution of remediation works shall commence immediately without compromising with any other issues and must strictly complete within the allocated remediation time frame. It shall include only the critical issues
- 3.2.2. Electrical issues related to code violation and/or non-conformity with codes, protection of electrical switchgears and equipment, spatial arrangement and location of switchgears and equipment, design and drawings, shall be considered as **P2** Level of priority. The execution of remediation work of **P2** shall commence along with or soon after the **P1** level remediation work has commenced. It shall include only the moderately-critical issues.
- 3.2.3. Electrical issues related to violation of code and/or non-conformity with codes, workmanship of operation and maintenance and obsolete technology of electrical system, shall be considered as **P3** Level of priority. The execution of remediation work of **P3** shall commence along with or soon after the **P2** level remediation work has commenced. It shall include only the non-critical issues.
- 3.2.4. It doesn't take into consideration the remediation time frame and feasibility of remediation. It doesn't take into consideration the capital, materials and working environment.

4. GENERAL BUILDING INFORMATION

1. **Factory Name** : MARMA COMPOSITE LTD. (EXTENSION 2)
2. **Factory Address** : Tongabari, Ashulia, Savar, Dhaka
3. **ID** : 24029
4. **Inspection participates** :
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5. BUILDING DATA

A. General

MARMA COMPOSITE LTD. (Extension 2) is established in its one Admin building, (B+G+3) and one security building(G+1). As reported by the Factory Management, Admin building was constructed in around July 2019 and the Security building began in around July 2019. During the time of the Inspection, these two building accommodated a total of 30 workers.

The floor wise utilization of the buildings is as detailed below:

Security Building (2608 sft):

Ground Floor	:	Security Office, Child Care Room, Waiting Room
1 st Floor	:	Security Change Room, Driver Rest Room, Security Rest Room

Admin Building (7754 sft):

Basement	:	Fire Pump Room
Ground Floor	:	Car Parking
1 st Floor	:	IT Room
2 nd Floor	:	Prayer Room (Worker)
3 rd Floor	:	Rest Room (Proposed)

ELECTRICAL SYSTEM & UTILITY INSTALLATION INFORMATION

Marma Composite Ltd. (Extension 2) premise is connected to grid (REB) supply, the connection is Connected from Substation of Marma Composite Ltd. (Extension), ID: 23534, which is already covered by RSC inspection.

The whole utility system including Generator, Transformer, Boiler and Compressor is shared with previously mentioned factory

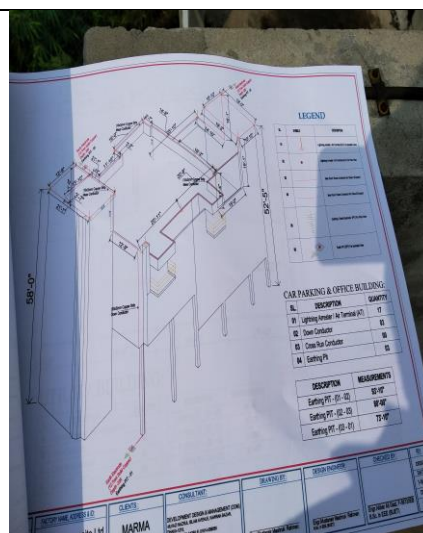
B. ELECTRICAL PRACTICES IN OPERATION AND MAINTENANCE

Maintenance and Operations is done by in-house electrical and maintenance team of the factory. However, the maintenance of major equipment like transformer, generator and boilers are sometimes outsourced to the service centers.

Inspecting teams were presented with the maintenance programs, logs and maintenance schedule of the factory's electrical facilities; Some typical practices are shown below.

Date	Time	Name	Description
05.01.24	11:30 AM	Sukhvir Singh	Work on electrical equipment
05.02.24	07:00 AM	Sukhvir Singh	Work on electrical equipment
13.05.20	04:00 PM	Sukhvir Singh	Work on electrical equipment
11.05.22	12:00 PM	Sukhvir Singh	Work on electrical equipment
25.06.20	07:00 AM	Sukhvir Singh	Work on electrical equipment
07.07.20	12:00 PM	Sukhvir Singh	Work on electrical equipment
25.08.20	10:00 AM	Sukhvir Singh	Work on electrical equipment
05.09.20	11:00 AM	Sukhvir Singh	Work on electrical equipment
12.10.20	12:00 PM	Sukhvir Singh	Work on electrical equipment
22.10.20	12:00 PM	Sukhvir Singh	Work on electrical equipment

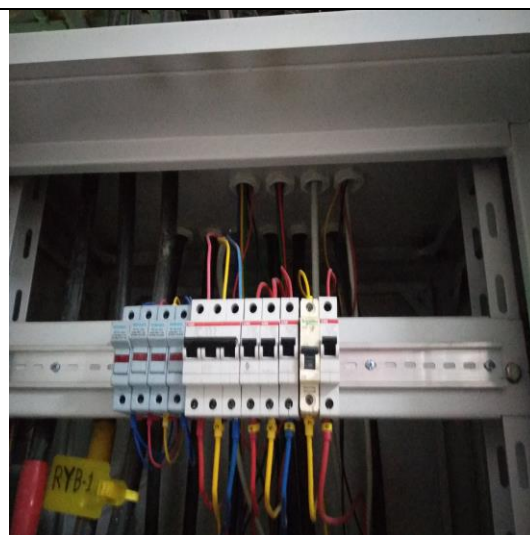
LOTO Log Sheet



LPS Drawing



Typical cable entry system into electrical panel in floors



Cable entry system into electrical panel with cable gland

6. LIGHTNING PROTECTION RISK ASSESSMENT

Calculation of Risk Index Factor (BNBC 2006) for Admin Building			
Index A	Use of Structure	Big industrial plants, telephone exchanges, office blocks, hotels, blocks of flats	7
Index B	Type of Construction	Brick, plain concrete, or masonry with nonmetal roof	4
Index C	Contents or Consequential Effects	Ordinary domestic or office building, factories and workshops not containing valuable materials	2
Index D	Degree of Isolation	Structure located in an area with a few other structures or trees of similar height	5
Index E	Type of Terrain	Flat terrain at any level	2
Index F	Height of Structure	15 – 18 m	5
Index G	Lightning Prevalence	Over 21	21
	Total Risk Index of the building		46
Requirement of installing LPS		Yes	

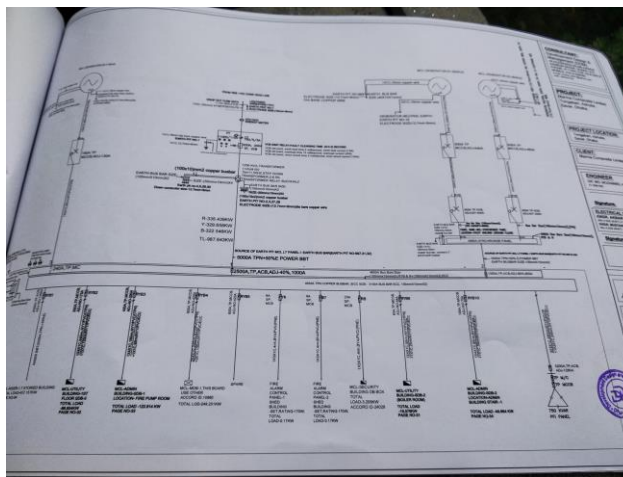
It is required to calculate risk index for all structures, design LPS as per standard and install it properly.

7. FINDINGS AND RECOMMENDATIONS

The table below summarizes the major electrical hazards identified during the walk-through inspection. Recommendations have been provided to each finding.

The 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 an approval.

FINDING NO:	E - 1	
CATEGORY:	DOCUMENTATION	
FINDING:		
Field information has no/less reflection in existing SLD		
RECOMMENDATION:		
Draw as built electrical SLD mentioning all required information by qualified engineer and get it reviewed by Accord. Electrical SLD must be updated properly when electrical system is modified.		
PRIORITY:	P2	
REMEDATION TIME FRAME:	2 MONTHS	



FINDING NO:	E - 2	
CATEGORY:	LIGHTNING PROTECTION SYSTEM	
FINDING:	i. LPS drawing is not as built ii. Air Terminals are missing few area iii. Security building (With Childcare) not under protection zone of LPS.	
RECOMMENDATION:	Factory has to design Lightning Protection System (LPS) for the whole factory (where the Risk index is equal or greater than 40). Once a LPS is designed properly, installation must be done accordingly.	
PRIORITY:	P1	
REMEDATION TIME FRAME:	2 MONTHS	



FINDING NO:	E - 3		
CATEGORY:	DISTRIBUTION BOARD/PANEL		
FINDING:	Instruction for CPR (Cardiopulmonary Resuscitation) or Electrical shock restoration is not present.		
RECOMMENDATION:	CPR instruction shall be hanged near all electrical installations (LT panel, MDB, FDB, DB, SDB) at visible location.		
PRIORITY:	P3		
REMEDIATION TIME FRAME:	1 MONTH		

