LABS
Life And Building Safety

LABS - GOOD PRACTICES SHARING

22 March 2023

AGENDA

Time	Contents	PIC
9:00AM - 9:15AM	LABS Program Overview– 15’	LABS
9:15AM - 9:35AM	LABS Assessment & Remediation Review – 20’	LABS
9:35AM - 9:45AM	Helpline Updates – 10’	LABS Helpline Team
9:45AM - 10:30AM	Good Practices Sharing – 45’	LABS/Factories
10:30AM - 10:40AM	LABS Graduation – 10’	LABS
10:40AM – 11:00AM	Q&A – 20’	LABS/Factories

PARTICIPANTS

PARTICIPANTS

REPRESENTATIVES OF:

- **MINISTRY OF CONSTRUCTION (MOC)**
- **VIETNAM TEXTILE AND APPAREL ASSOCIATION (VITAS)**
- **VIETNAM LEATHER, FOOTWEAR AND HANDBAG ASSOCIATION (LEFASO)**
- **LABS PARTICIPATED BRANDS (GAP, WALMART, VFC, TARGET)**
- **LABS PARTICIPATED FACTORIES**
- **LABS ASSOCIATED FIRMS (INSPECTION FIRMS, QA FIRM, TRAINING FIRMS)**
- **LABS VIETNAM**

LABS PROGRAM OVERVIEW

Fire in a shoes factory on 5 June and 17 October 2022

*** Source: https://vtc.vn/chay-ngun-ngut-o-nha-may-dong-cong-nhan-nhat-dong-nai-ar707834.html*

Life and Building Safety Initiative (LABS)

LABS is a collaborative program by a group of brands focused on shared assessments and a shared standard for Life and Building Safety.

LABS organizes activities around identifying and solving risks related to:

- Fire safety
- Electrical safety
- Structural safety

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Gap Inc.

Walmart

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Overall Operations Overview

Process	Overall Progress (Till Date)	Progress achieved (specifically in 2022)	India	Vietnam	Cambodia
			Overall Progress	Overall Progress	Overall Progress
Factories Onboarded	411	134	128	213	70
Assessments Conducted	409	147	129	214	66
Follow-up visits conducted	685	367	223	433	29
Safety Trainings Conducted	640	326	179	406	55
Workers Reached	837,819	258,325	163,780	505,312	168,727
Total People Trained	12,090 [Men: 7,246 (60%); Women: 4,784 (40%)]	8,070 [Men: 4,410 (54%); Women: 3,600 (46%)] ↑	3,882 (Men: 2,668; Women: 1,154)	7,700 (Men: 4,460; Women: 3,240)	1,030 (Men: 398; Women 632)
Remediation Rate Achieved	76%	11% ↑	70%	81%	-

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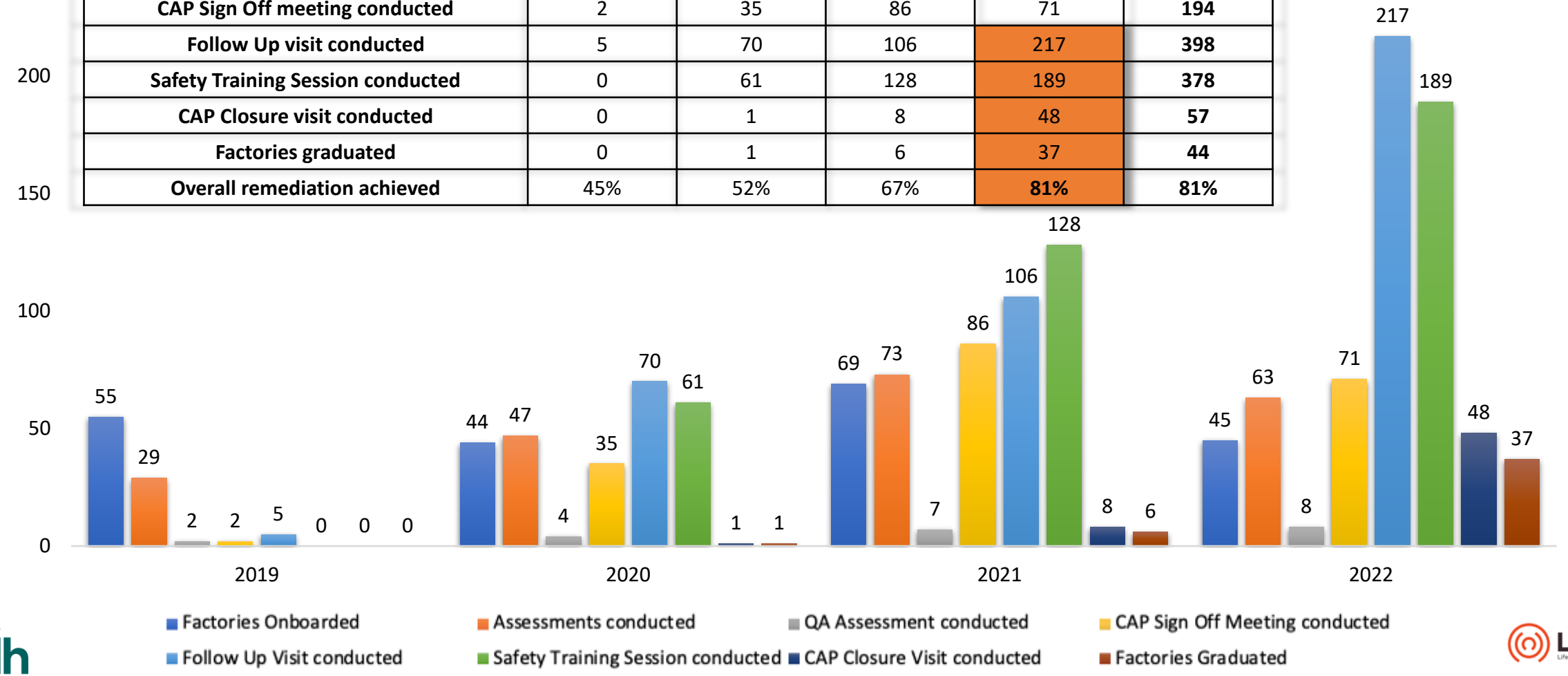
Year-wise Operational Progress – LABS Vietnam

LABS Operational	2019	2020	2021	2022	Total
Factories onboarded	55	44	69	45	**213**
Assessments conducted	29	47	73	63	**212**
QA Assessment conducted	2	4	7	8	**21**
CAP Sign Off meeting conducted	2	35	86	71	**194**
Follow Up visit conducted	5	70	106	217	**398**
Safety Training Session conducted	0	61	128	189	**378**
CAP Closure visit conducted	0	1	8	48	**57**
Factories graduated	0	1	6	37	**44**
Overall remediation achieved	45%	52%	67%	**81%**	**81%**



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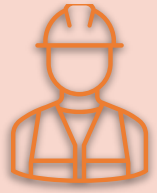
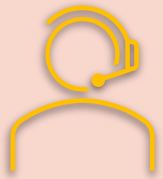
LABS VIETNAM SUCCESS STORY



Almost **6,420** Electrical, Fire and Structural Safety Issues found in **209 factories**

94% of priority 1 safety issues and **81%** of total issues have been remediated

406 LABS Safety Training Sessions provided for **7700 members (4460 men and 3240 women)** of Factory OHS Committees to strengthen Factory Safety Management Systems

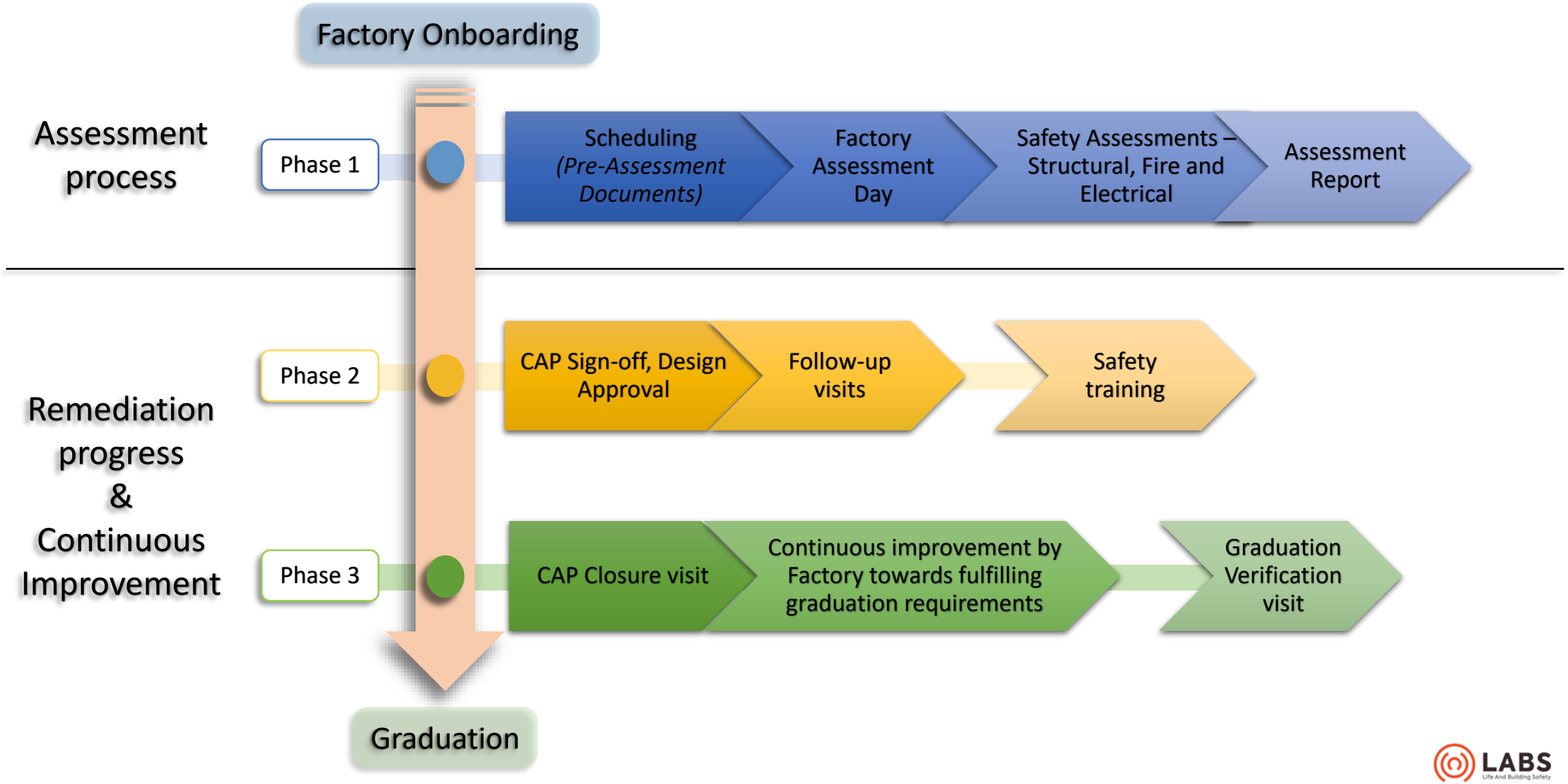


213 factories promoted LABS Helpline for over **505,312 workers** to raise their concerns regarding working place's safety

63 factories have completed and graduated program to ensure the Safety working conditions for **171,577 workers**

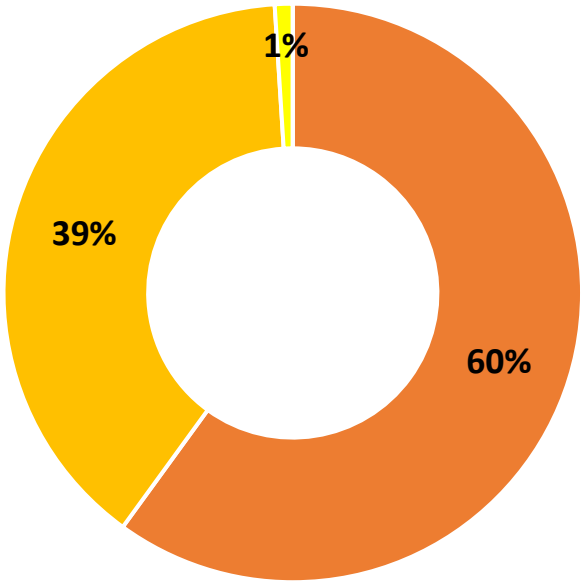
LABS ASSESSMENT & REMEDIATION REVIEW

Assessment & Remediation phases

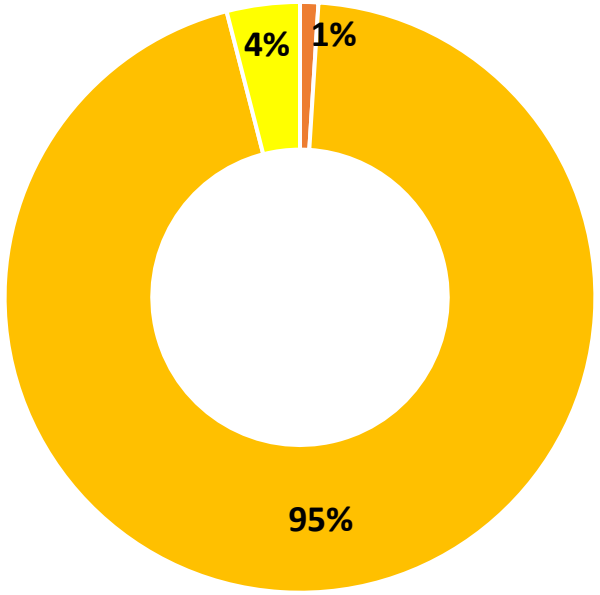


LABS ASSESSMENT RATINGS

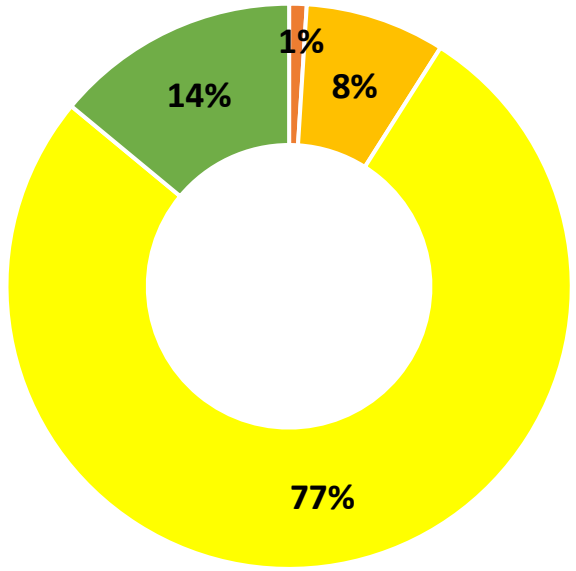
Electrical Assessment Rating

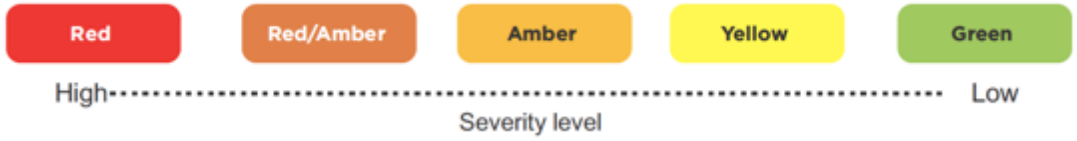


Fire Assessment Rating



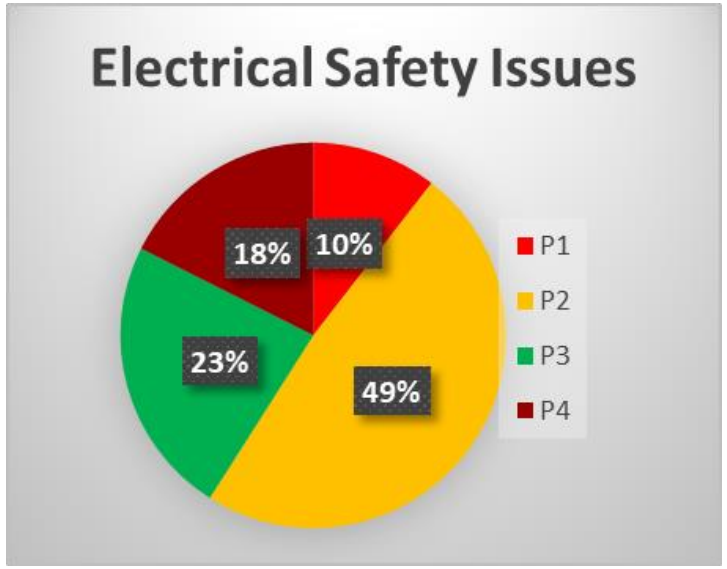
Structural Assessment Rating





** Data is from 214 assessments reports issued by LABS Inspection Firms*

LABS ASSESSMENT – ELECTRICAL COMMON ISSUES



Immediate — P1

- Temperatures higher than 70°C observed in the Electrical panels
- Backup Power of Fire Control Panel not working during testing

2 weeks — P2

- Temperatures higher than 60°C observed in the Electrical panels
- No Protective Earth (PE) connection or small size of PE conductor using
- Inadequate coordination between cable, load and protection devices
- No cable sockets was used for cable with cross-sectional area from 6mm2 and above

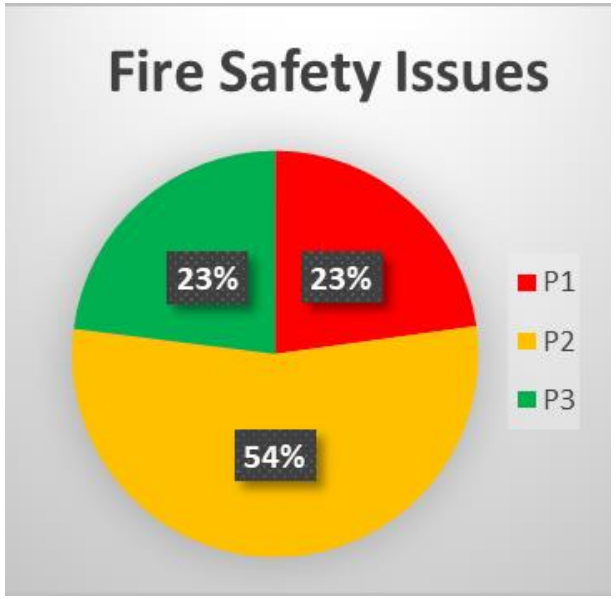
4 weeks — P3

- Phase, Neutral and PE conductors were not distinguished clearly and consistently
- No Emergency first aid signage and equipment at the Substation areas
- No oil soak pit of Transformers was observed
- Lint & dust was observed inside Electric Panels
- Incorrect type of insulating mat / no mat was used for panels

2 months — P4

- No Single Line Diagram was available for review
- No Lightning Protection System (LPS) protection zone layout was available
- No maintenance records for Transformer substations and Generators
- Thermographic scanning has not been done periodically

LABS ASSESSMENT – FIRE COMMON ISSUES



Immediate — P1

- Locking mechanism was observed on the exit doors
- Exit doors not side hung to swing correctly in direction of escape
- Escape paths not clear of temporary obstacles
- Emergency lighting and exit signages were not working properly
- Inadequate battery back-up was observed in Fire Alarm Control Panel
- Fire Detection and Alarm system was not working during testing
- Combustible materials were observed near heat sources

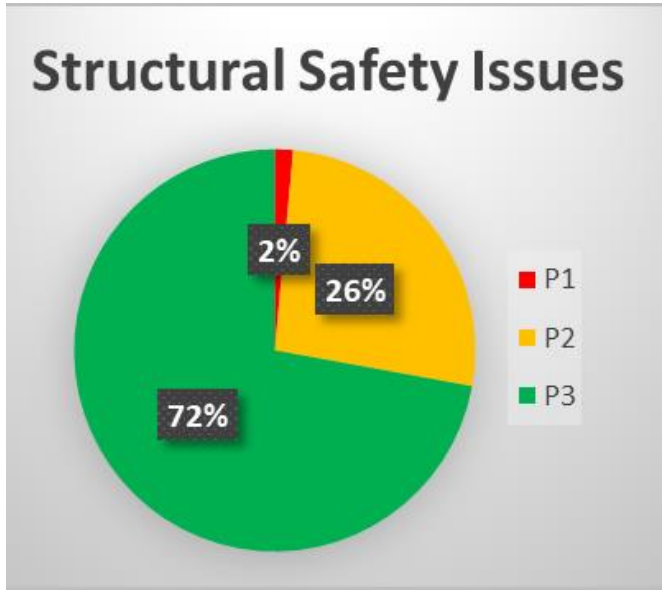
6 weeks — P2

- Inadequate escape path width observed
- Excessive travel distances were observed
- Overhead signage was not provided at the end indicating changes of directions
- The exterior stair not completely separated by exterior wall from the building
- High-risk areas were lacked fire separation (Generator, Boiler, Transformer, Chemical room, Liquefied or compressed flammable gas cylinders and compressor room)
- Lack of fire separation between storage area and production area
- No Self-closing fire rated doors to protect exit stairs
- The materials were stocked close to sprinkler heads

6 months — P3

- Handrails are not provided on both sides of the stairway
- Improper layout of the in-process storage
- Solid shelves were applied in the storage
- The sprinkler system were far below the ceiling
- The coverage of fire hose was inadequate

LABS ASSESSMENT – STRUCTURAL COMMON ISSUES



Immediate

P1

- Severe corrosion on the steel structures may lead to the damage
- Severe cracks observed on the concrete beams, slabs, columns

6 weeks

P2

- No available load posted at place on the floors
- Missing of lateral column bracings, roof bracings in the steel buildings
- Cracks observed on the Structural members (concrete beams, slabs, columns)
- The non-engineered structural additions were observed

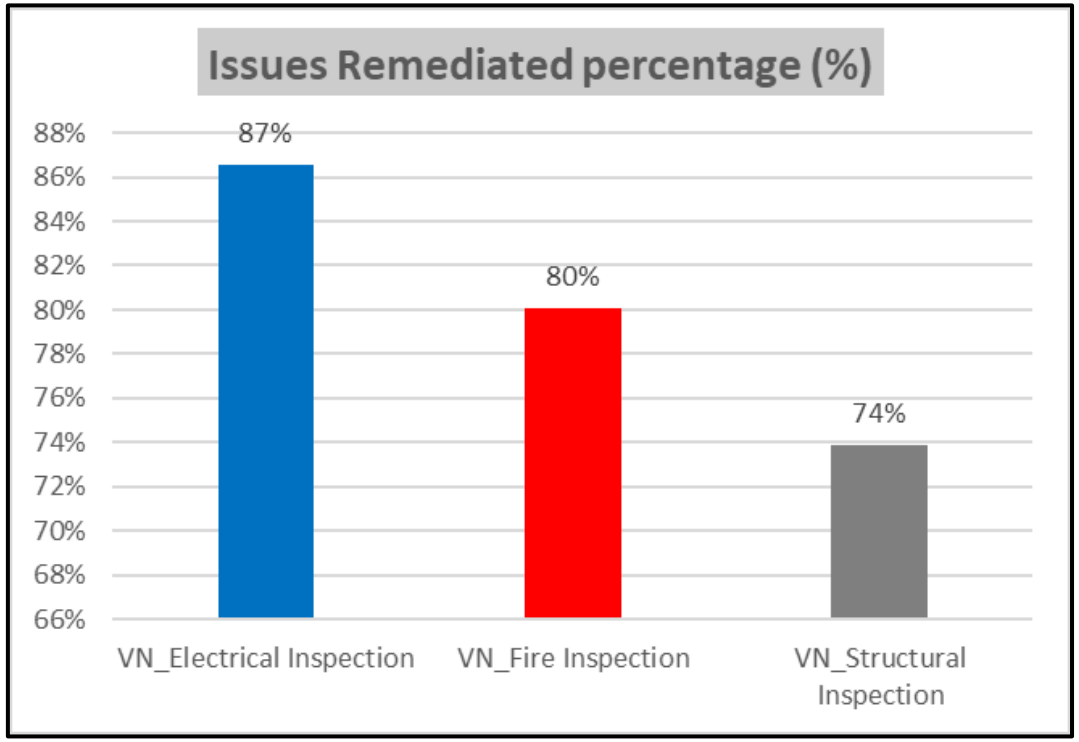
6 months

P3

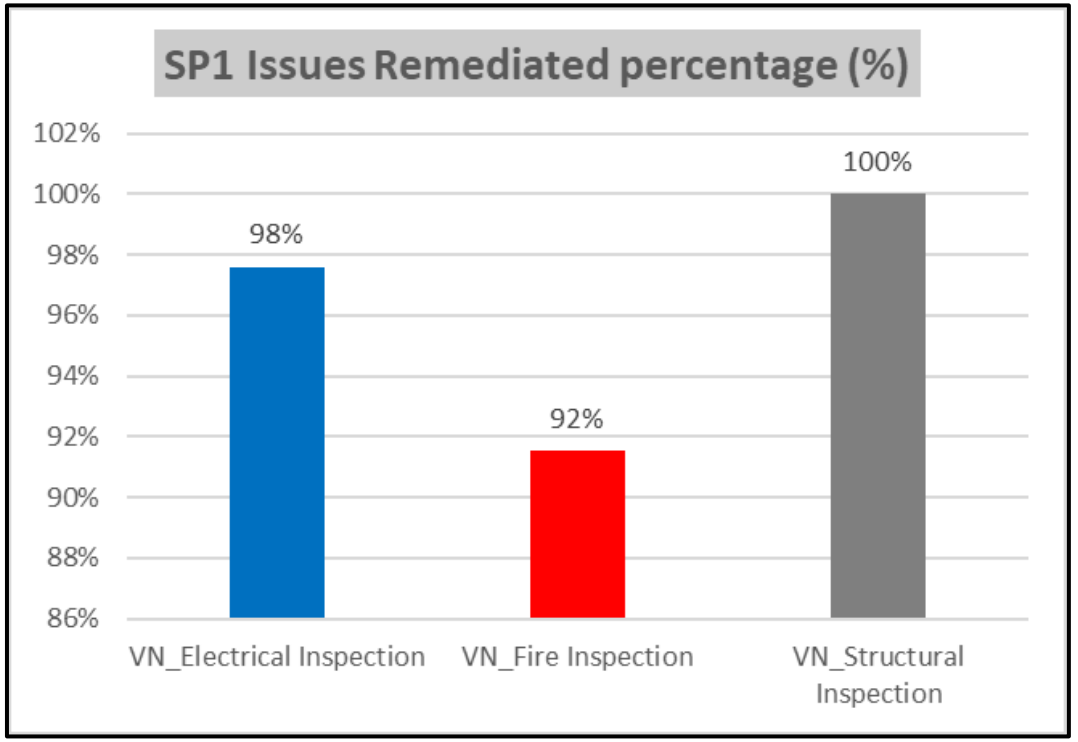
- No as-built document for review
- Sagging column bracings
- Cracks observed on the Non-Structural members (walls)
- Lack of maintenance works (corrosions)
- Dampness marks are observed on the external & internal walls

REMEDIATION REVIEW – OVERVIEW

81% issues have been remediated



94% P1 issues have been remediated



Note: *- Remediation data is based on the observations during the Follow up visits conducted by LABS team.*
- All issues will be verified by Inspection Firms during the CAP Closure visits

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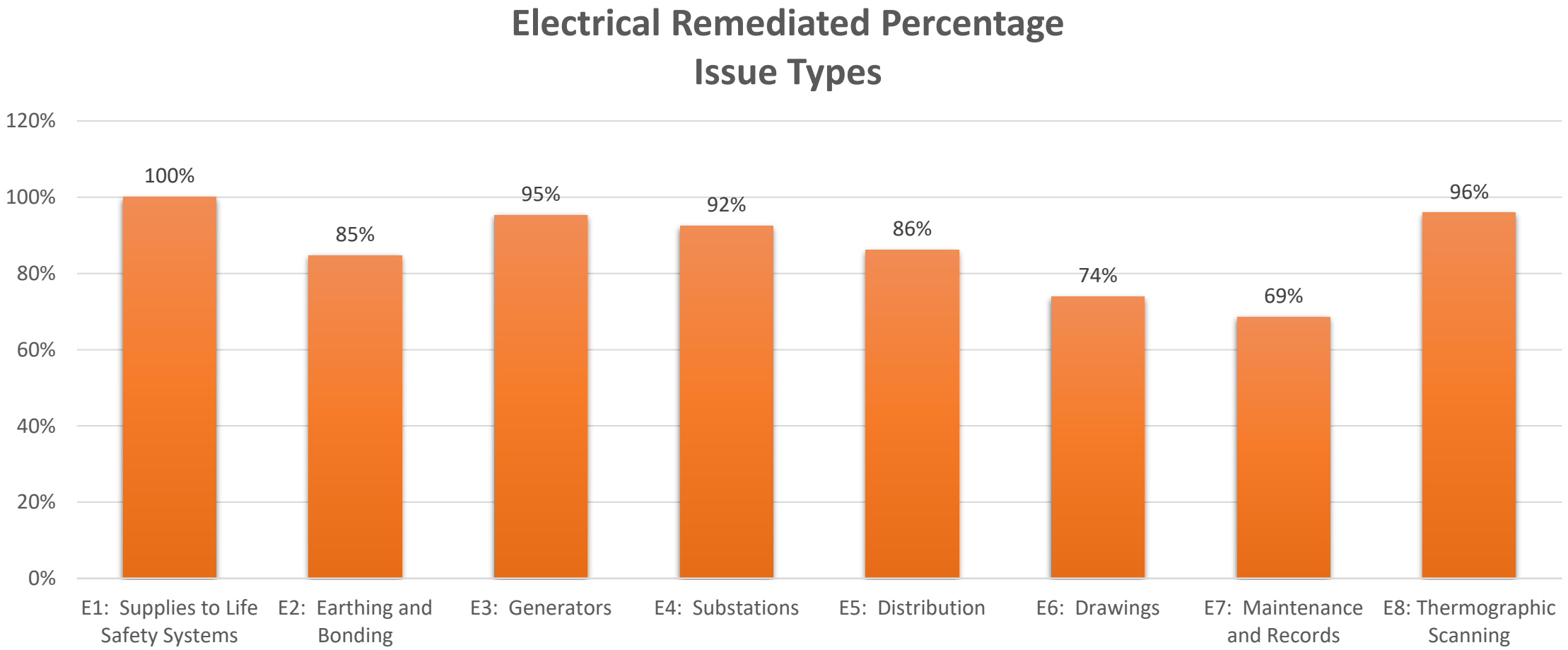
REMEDIATION REVIEW – OVERVIEW



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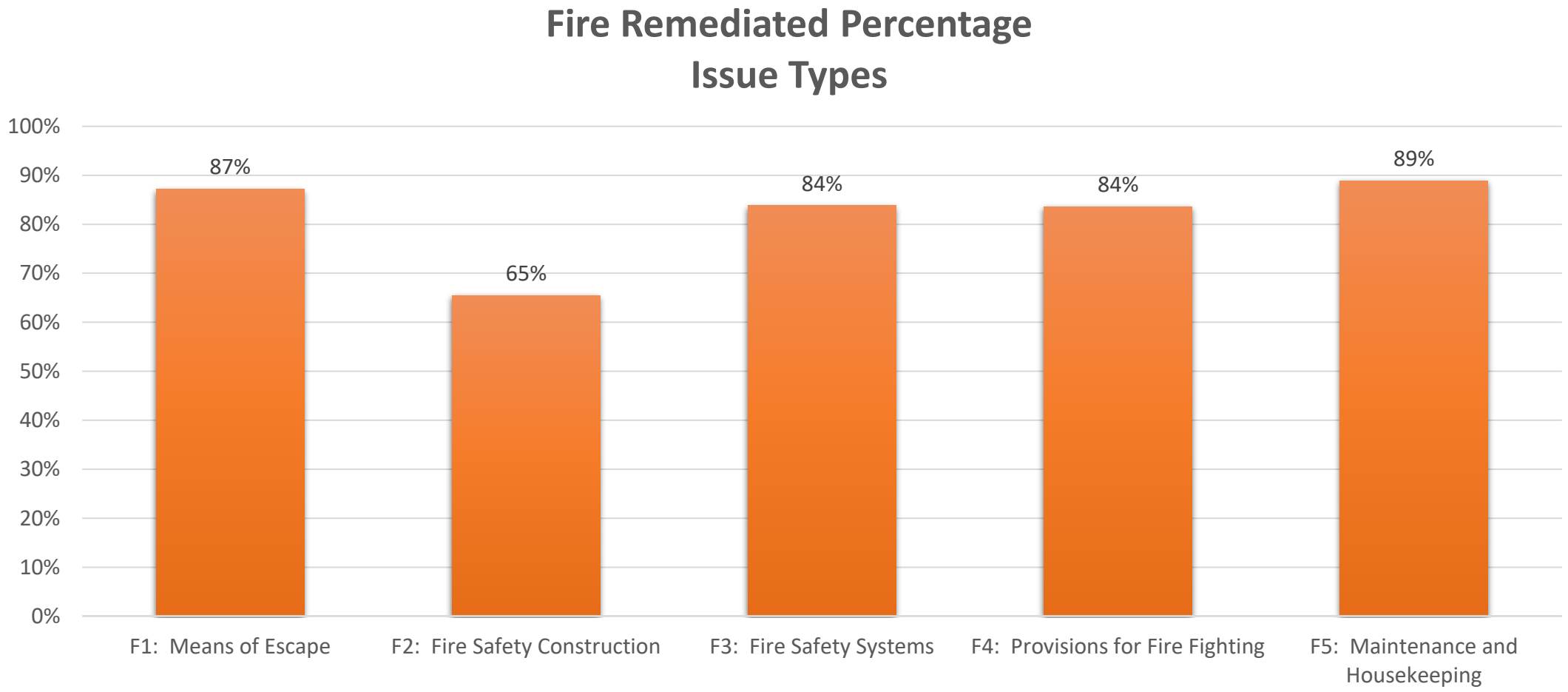

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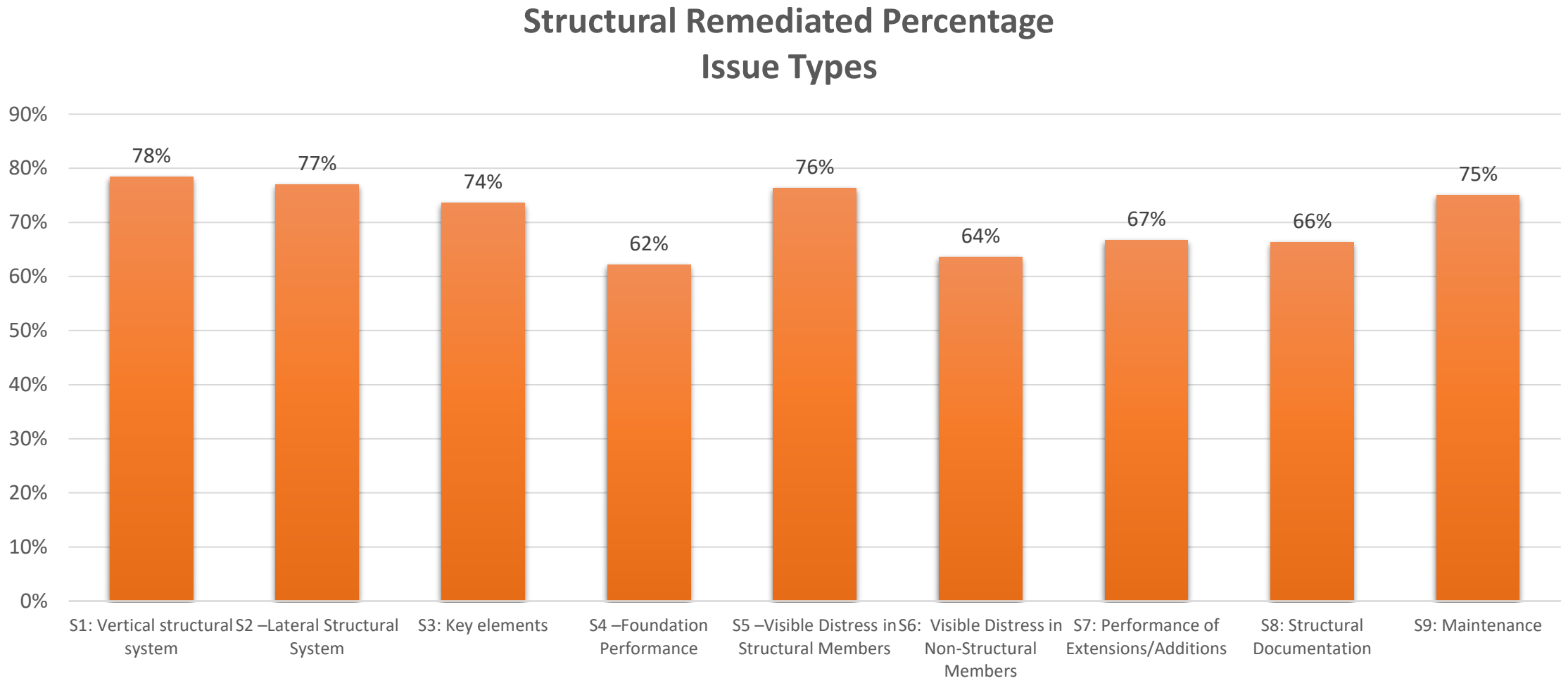

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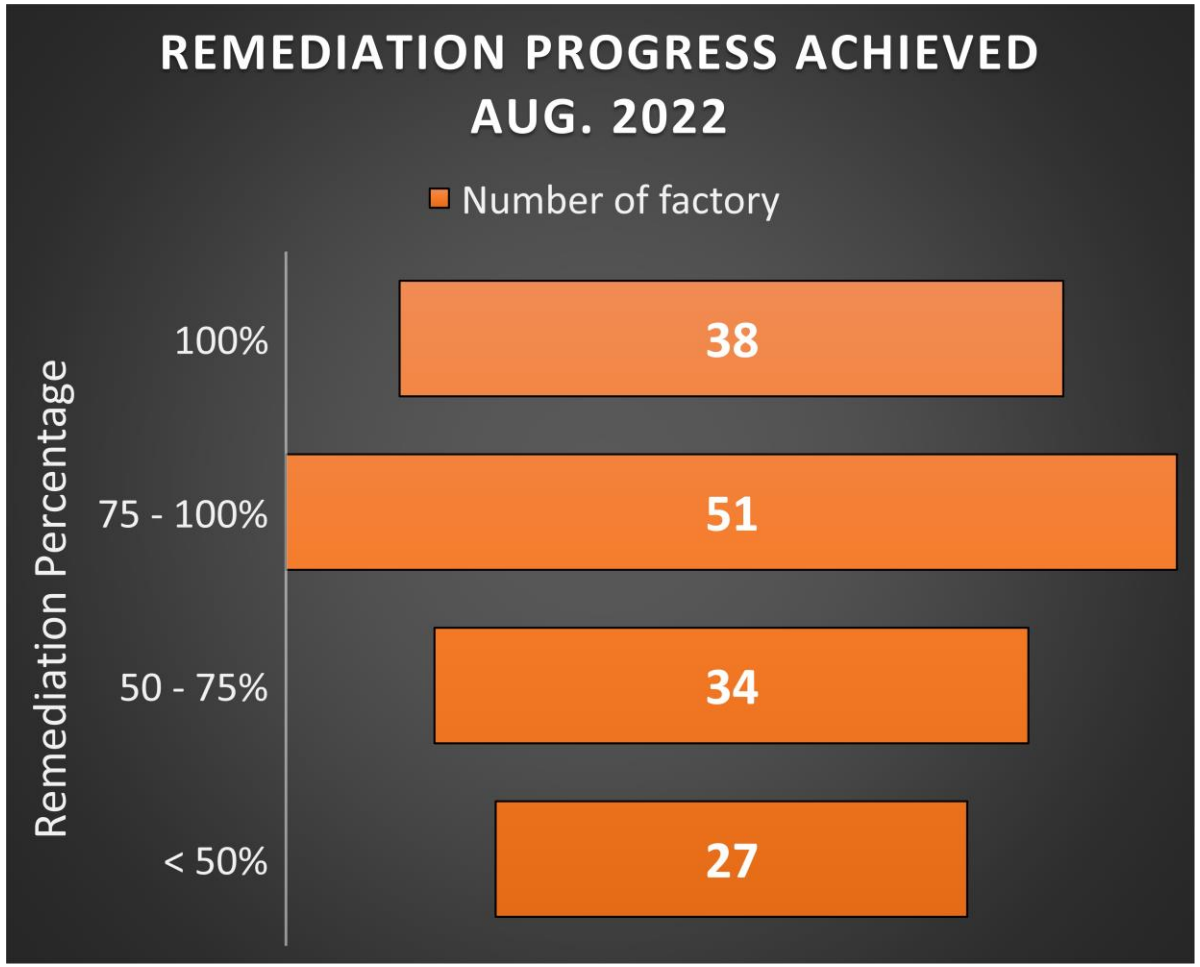

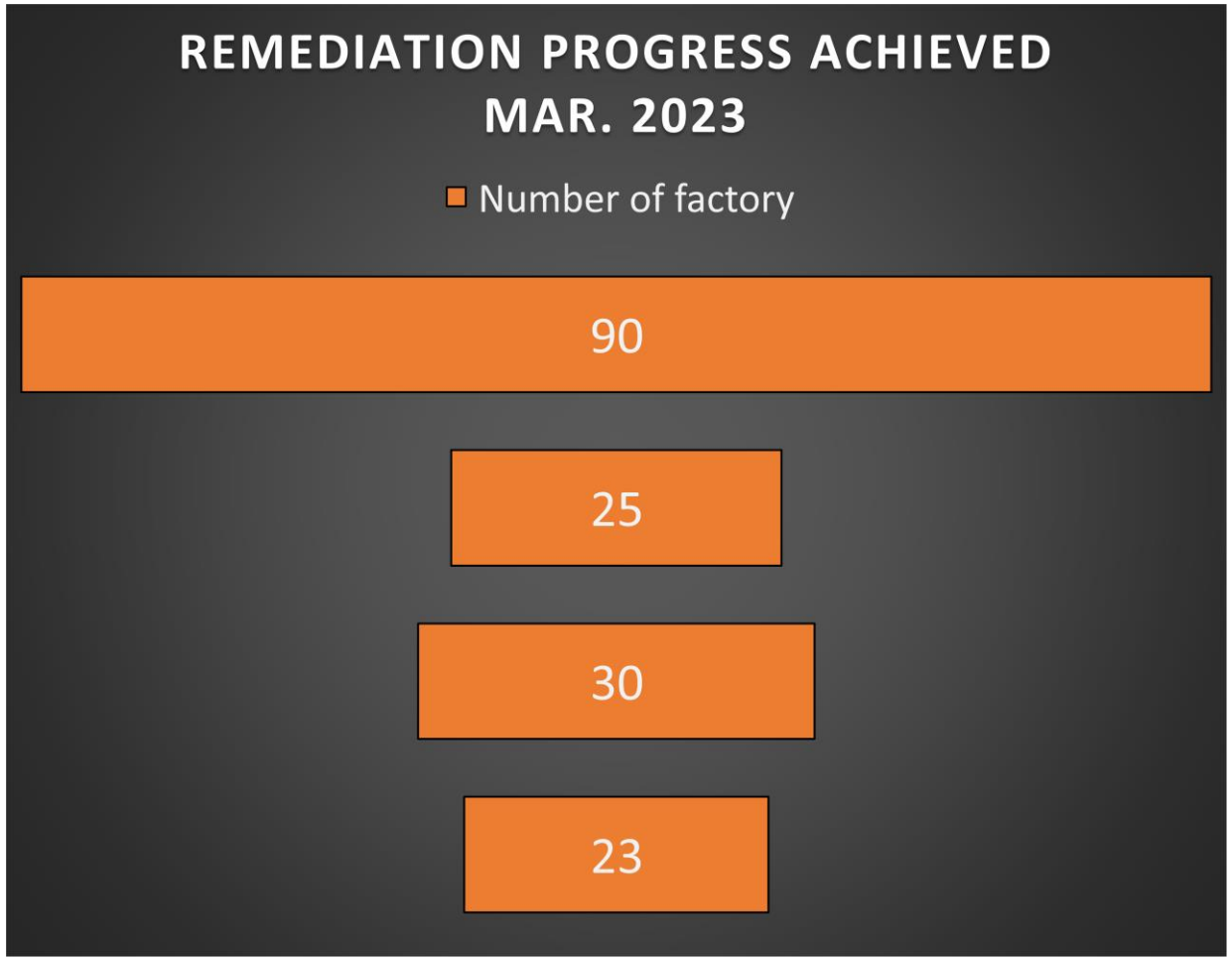

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Safety Training & Building Safety Helpline

Through associated safety training firms, LABS trains staff members and key safety personnel to build up their skills around flagging safety issues, evacuation, and create additional awareness around structural, electrical, and fire safety proficiency

LABS Helpline provides an opportunity to workers to directly report issues related to fire, electrical and structural safety issues in their workplace.

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HELPLINE UPDATES

LABS Helpline - ChatBot Inclusion

Electrical Safety

Structural Safety

Fire Safety

GOOD PRACTICES SHARING

FIRE SAFETY PRACTICES

Means of Escape

Description	LABS Standard
Replace locks on the exit doors with locking mechanisms that allow easy opening from inside without the use of a key	6.9.4

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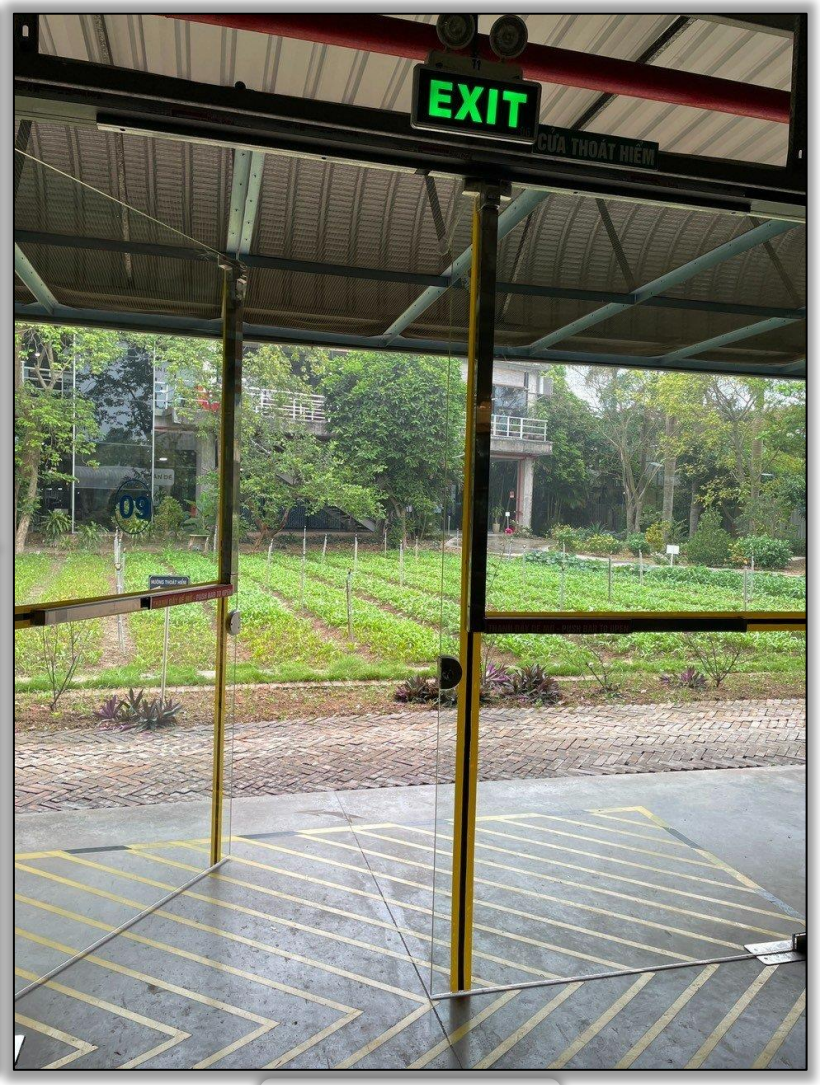
FACTORY SHARING – TAN DE 1

FACTORY SHARING – TAN DE 1
Locking mechanism on the exit doors

Identified



Remediated

Highlights:

1. **LABS Standard 6.9.4**: Doors shall not be locked in the direction of egress under any conditions. All existing hasps, locks, slide bolts, and other locking devices shall be removed.
2. **Challenges**
3. **Remediation quantity and cost**
4. **Remediation timeline**

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FIRE SAFETY PRACTICES

Means of Escape

Description	LABS Standard
Replace sliding/rolling doors with side-hinged swinging that open in the direction of escape	6.9.1

FIRE SAFETY PRACTICES

Means of Escape

Description	LABS Standard
The minimum door width should be 810mm	6.5.6.1

FIRE SAFETY PRACTICES

Means of Escape

Description	LABS Standard
The pathways on the exit routes must be clear of all temporary storage and other obstacle	6.3.9

FIRE SAFETY PRACTICES

Means of Escape

Description	LABS Standard
Aisles shall be provided with a minimum unobstructed clear-width of 915mm	6.5.1

FIRE SAFETY PRACTICES

Means of Escape

Description	LABS Standard
The total capacity of the means of egress shall for any story, floor, or other occupied space shall be sufficient for the occupant load. The capacity factors as below	6.5.4

Table 6.5.4 Capacity Factors

Area	Stairways (mm / person)	Corridors, doors, other level components and ramps (mm / person)
All others	7.6	5
High Hazard Contents	18	10
Board and Care	10	5

Minimum numbers of exits

- 500 people or less - minimum of 2 exits
- 501-1000 people - minimum of 3 exits
- More than 1000 people - minimum of 4 exits

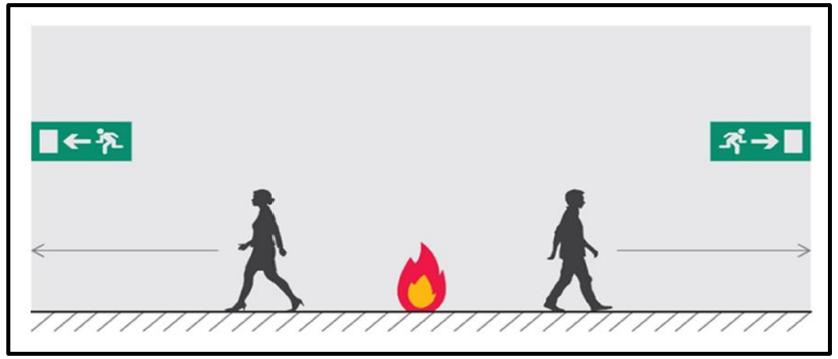
FIRE SAFETY PRACTICES

Means of Escape

Description	LABS Standard
Travel distance to reach an exit for new or existing building shall not be exceed the values listed as below	6.7

Table 6.7 Common path, Dead-End and Travel Distance Limits (by occupancy)

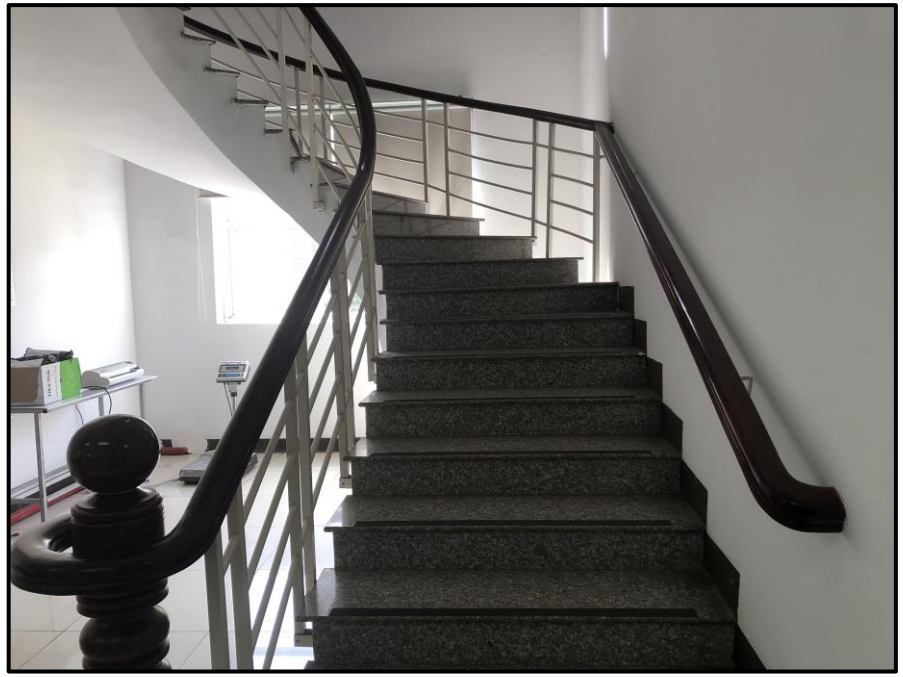
Occupancy Type	Common Path Limit (single way)		Dead-End Limit (closed corridor branch)		Travel Distance Limit (alternate ways)	
	No auto suppression system	Automatic suppression system	No auto suppression system	Automatic suppression system	No auto suppression system	Automatic suppression system
Industrial - General	15 m	30 m	15 m	15 m	61 m	76 m
Industrial - Special Purpose	15 m	30 m	15 m	15 m	91 m	122 m
Industrial - High Hazard	Prohibited	Prohibited	Prohibited	Prohibited	Prohibited	23 m
Storage - Low Hazard	Unrestricted	Unrestricted	Unrestricted	Unrestricted	Unrestricted	Unrestricted
Storage - Medium Hazard	15 m	30 m	15 m	30 m	61 m	122 m
Storage - High Hazard	Prohibited	Prohibited	Prohibited	Prohibited	23 m	30 m
Parking - Open	15 m	15 m	15 m	15 m	91 m	122 m
Parking - Enclosed	15 m	15 m	15 m	15 m	46 m	60 m
Other	Refer to NFPA 101 (2015) Table A.7.6					



FIRE SAFETY PRACTICES

Means of Escape

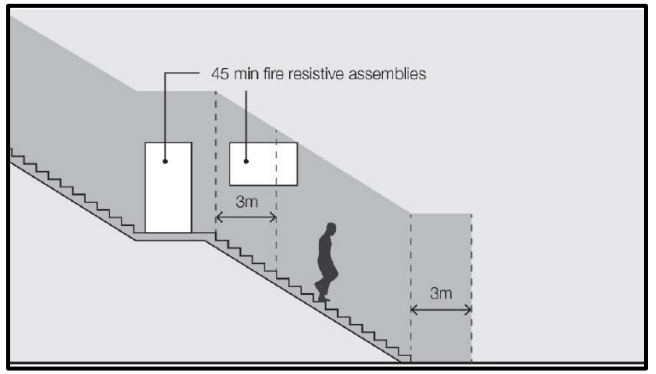
Description	LABS Standard
Provide handrails on both side of staircase	6.10.2.4

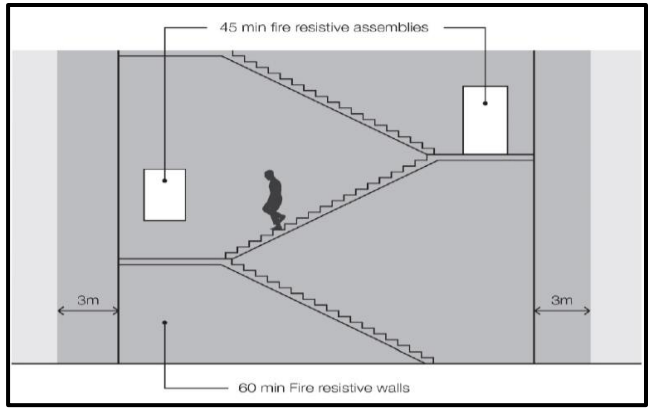


FIRE SAFETY PRACTICES

Means of Escape

Description	LABS Standard
Ensure exterior exit stairs separated from building interior 3.1 m beyond the ends of the stair structure	6.10





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FIRE SAFETY PRACTICES

Means of Escape

Description	LABS Standard
Provide illuminated signage at end of long aisles, or provide adequate overhead signage to indicate direction change in escape route to nearest floor exit	6.12

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FIRE SAFETY PRACTICES

Fire Safety Construction

Description	LABS Standard
Provide fire rated protective enclosures to the exit stairs	4.8, 4.10 ,6.14

FACTORY SHARING – PRO KINGTEX

FACTORY SHARING – PRO KINGTEX VIETNAM
Fire rated enclosure of exit stairs

Identified

Inadequate fire rated enclosure of stairs for the multiple floors building

Remediated

The fire rated protective enclosures to the stairs provided

Highlights:

1. **LABS Standard 6.3.1.2**: Exit stairs connecting three or fewer stories shall be enclosed with a minimum 1-hr fire-resistance rating and Exit stairs connecting four or more stories shall be enclosed with a minimum 2-hr fire-resistance rating.
2. **Challenges**
3. **Remediation quantity and cost**
4. **Remediation timeline**

FIRE SAFETY PRACTICES

Fire Safety Construction

Description	LABS Standard
Separate storage areas from adjacent areas by means of 1-hour fire rated construction	3.10 & 3.11

FIRE SAFETY PRACTICES

Fire Safety Construction

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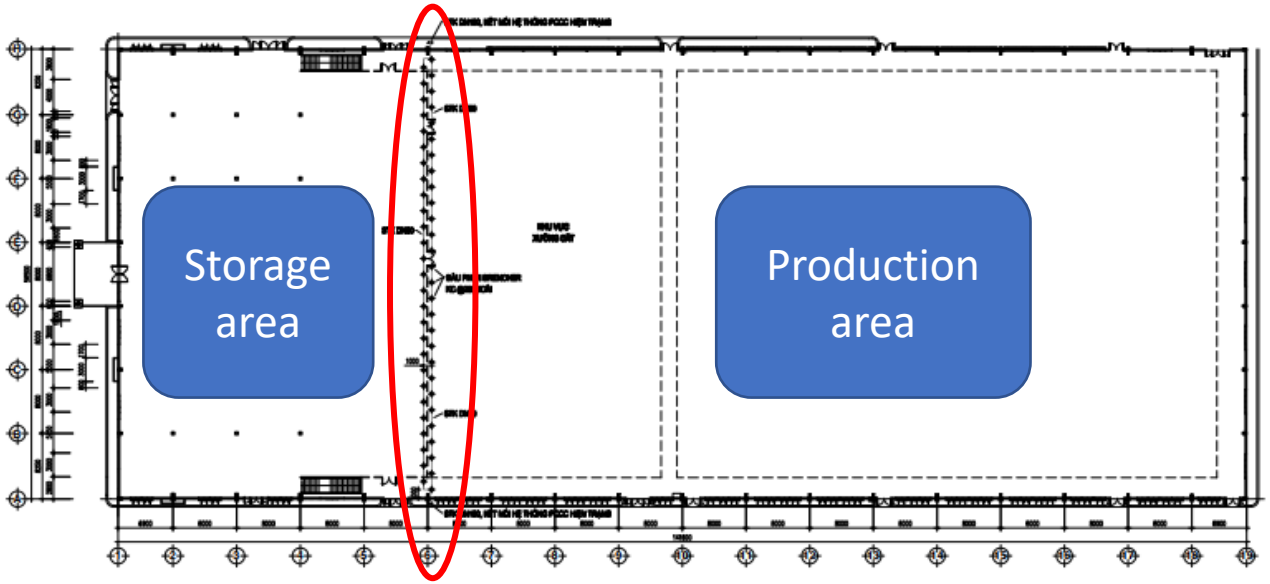

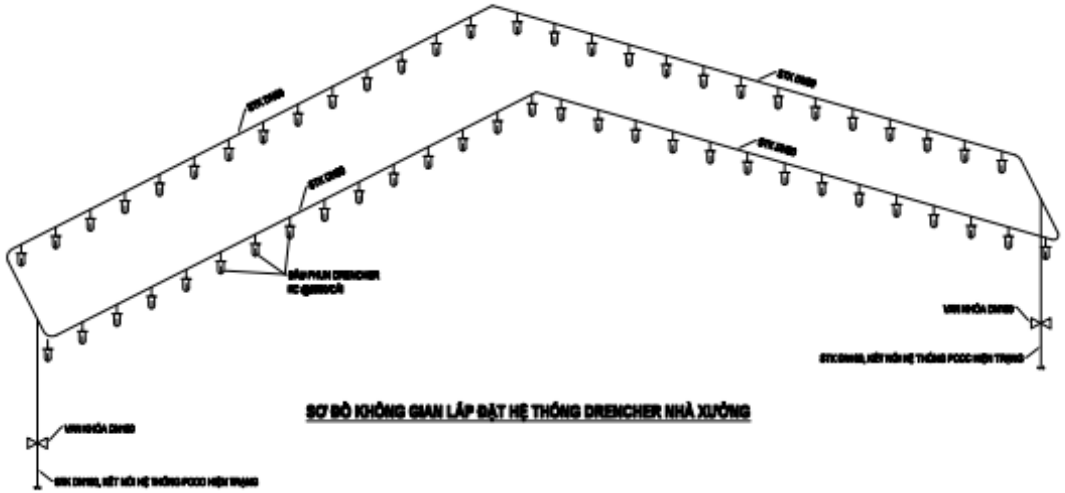

Alternative Option
Drencher System Installing

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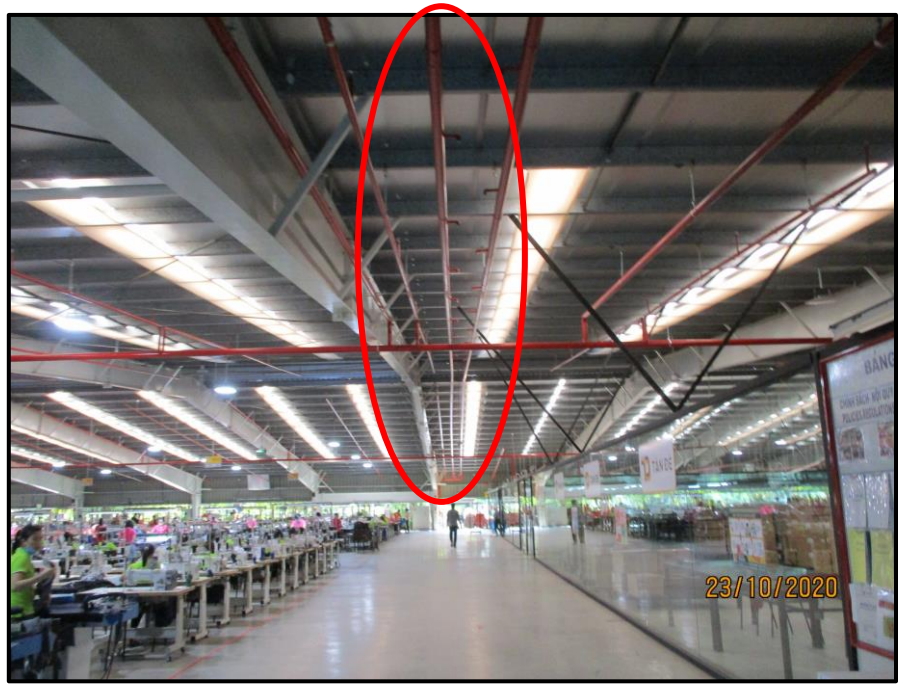
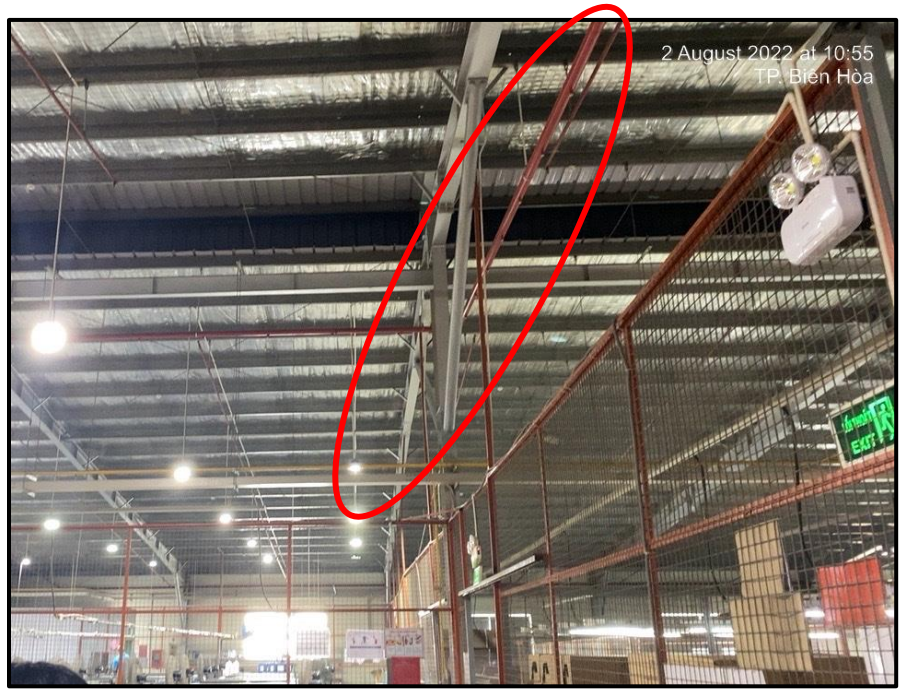
LABS Life And Building Safety

FIRE SAFETY PRACTICES

Fire Safety Construction

Description	LABS Standard
Separate storage areas from adjacent areas by means of 1-hour fire rated construction	3.10 & 3.11



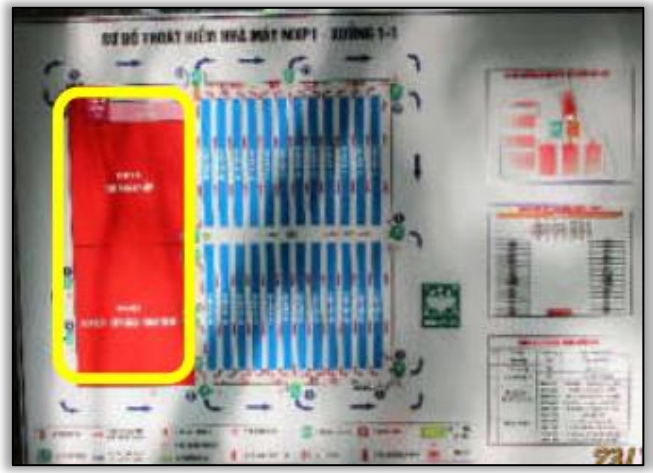


Alternative Option
Drencher System Installing

FACTORY SHARING – TAN DE 1

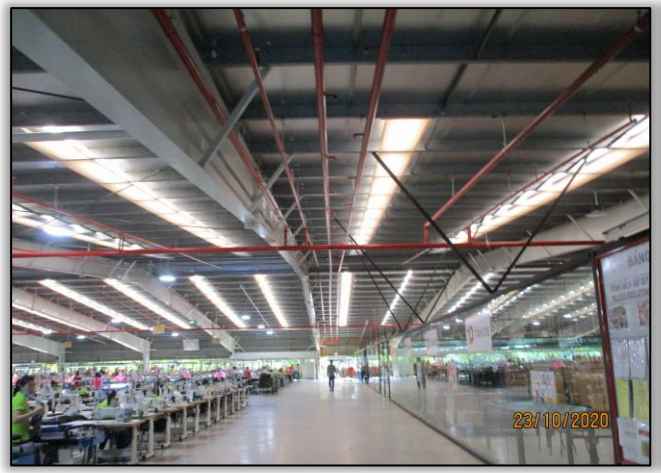
Fire rated separation between production and storage areas

Identified



No Fire rated separation between production and storage areas

Remediated



Drencher system has been installed between the production and storage areas

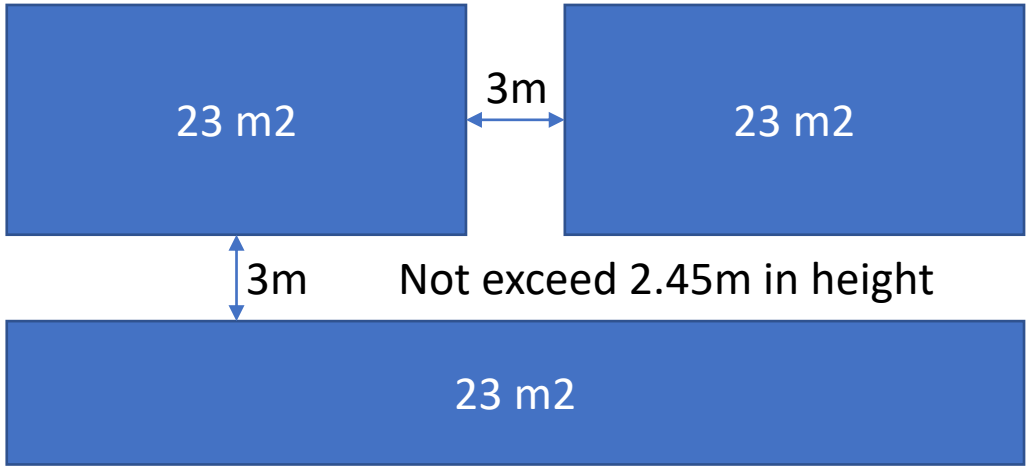
Highlights:

1. **LABS Standard 3.10 & 3.11**: Separate storage areas from adjacent areas by means of 1-hour fire rated construction.
2. **Challenges**
3. **Remediation quantity and cost**
4. **Remediation timeline**

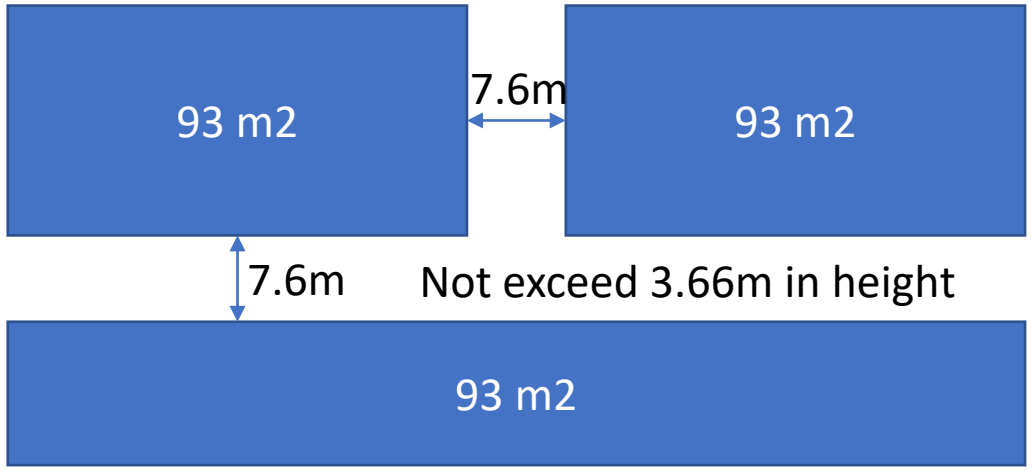
FIRE SAFETY PRACTICES

Fire Safety Construction

Description	LABS Standard
To restrict the spread of fire, the in-process temporary storage **(<25% floor area)** should be arranged in order to compliance with LABS standard	3.11.5.6



Non-Sprinkler area



Sprinkler area

FIRE SAFETY PRACTICES

Fire Safety Construction

Description	LABS Standard
To restrict the spread of fire, the in-process temporary storage **(<25% floor area)** should be arranged in order to compliance with LABS standard	3.11.5.6

FACTORY SHARING – YOUNGONE HUNG YEN

FACTORY SHARING – YOUNGONE HUNG YEN
Fire rated separation between production and storage areas

Identified

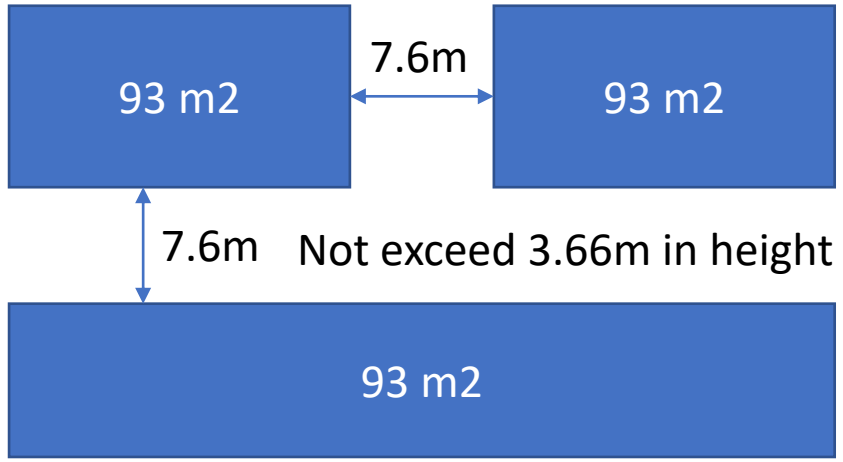
No fire rated separation of production and storage areas (Storage area = 45%)

Remediated

Material storage was reduced under 25% and re-arranged as per LABS Cl 3.11.5.6

Highlights:

1. **LABS Standard 3.10 & 3.11**: Separate storage areas from adjacent areas by means of 1-hour fire rated construction or the storage needs to be re-arranged blocks by blocks as per LABS CL 3.11.5.6



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LABS Life And Building Safety

FIRE SAFETY PRACTICES

Fire Safety Systems

Description	LABS Standard
Automatic and manual fire alarm and detection systems shall be provided throughout all new and existing buildings, regardless of occupancy type	5.9.3

FIRE SAFETY PRACTICES

Fire Safety Systems

Description	LABS Standard
Test decibel levels of alarm sounders in all areas. Add sounders for all areas where the alarm decibel level is not sufficient **Note: Minimum sound level usually around 65dB throughout the building but importantly 5dBA above any background noise**	5.9

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LABS Life And Building Safety

FIRE SAFETY PRACTICES

Fire Safety Systems

Description	LABS Standard
Emergency illumination shall be provided for not less than **90 minutes** in the event of failure of normal lighting	6.8.3

Escape lighting luminaires should be sited to cover the following locations:

- Near each intersection of corridors
- At exits and at each exit door
- Near each change of direction in the escape route
- Near each staircase so that each flight of stairs receives direct light
- Near any other change of floor level
- Outside each final exit and close to it
- Near each fire alarm call point
- Near firefighting equipment

For the purpose of above clause ‘near’ is normally considered to be within 2m measured horizontally.

FIRE SAFETY PRACTICES

Provisions for Fire Fighting

Description	LABS Standard
Provide adequate fire water pumps and water storage tanks with capacity required by Cl.5.7 of the LABS standards.	5.7

Notes:

- Two pumps of equal capacity are to be provided
- These two pumps shall operate in a “run and standby” arrangement
- The run pump shall be electric
- The standby pump may be electric also, but must be supplied with an emergency power supply (emergency generator or diesel engine drive pump)

FIRE SAFETY PRACTICES

Provisions for Fire Fighting

Description	LABS Standard
To ensure the protection coverage of sprinkler for materials , all storage shall be maintained with 460 mm minimum clearance from the top of storage to sprinkler deflector	5.3.8

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LABS Life And Building Safety

FIRE SAFETY PRACTICES

Provisions for Fire Fighting

Description	LABS Standard
Unless in-rack automatic sprinklers have been designed and installed, solid shelf racking shall not be used	5.3.8.2

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LABS Life And Building Safety

FIRE SAFETY PRACTICES

Provisions for Fire Fighting

Description	LABS Standard
Unless in-rack automatic sprinklers have been designed and installed, solid shelf racking shall not be used	5.3.8.2

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LABS Life And Building Safety

FIRE SAFETY PRACTICES

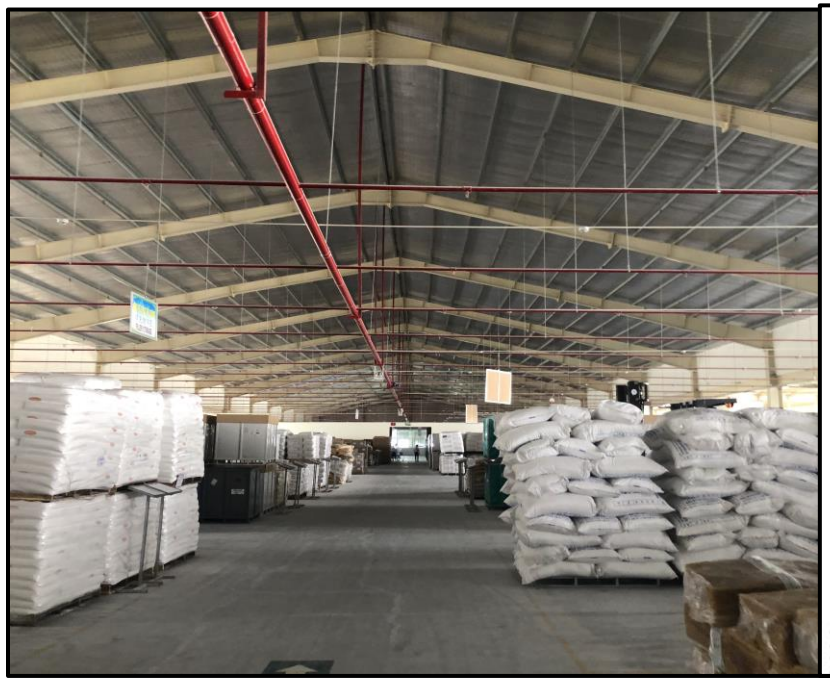
Provisions for Fire Fighting

Description	LABS Standard
Unless in-rack automatic sprinklers have been designed and installed, solid shelf racking shall not be used	5.3.8.2

FIRE SAFETY PRACTICES

Provisions for Fire Fighting

Description	LABS Standard
The distance between the sprinkler deflector and the ceiling shall be from 1 in. (25 mm) to 12 in. (300 mm) throughout the area of coverage of the sprinkler	5.3.4 TCVN 7336:2003 (Cl 6.6)



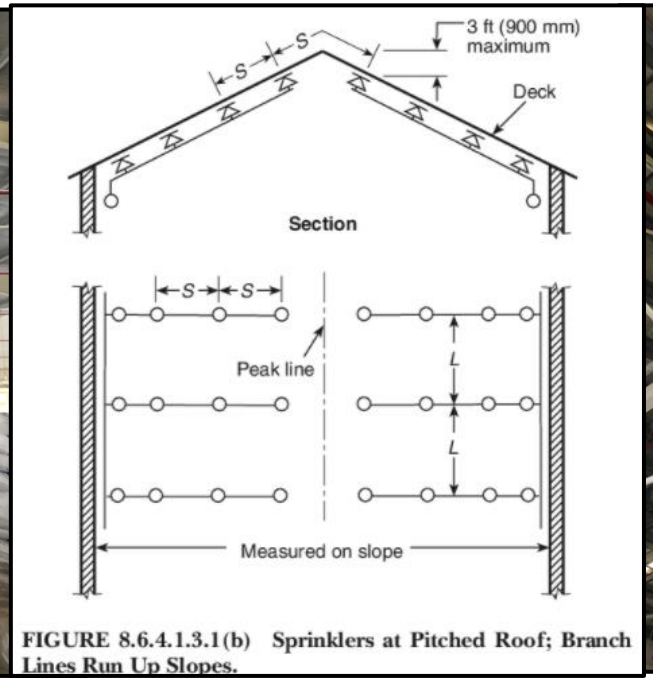
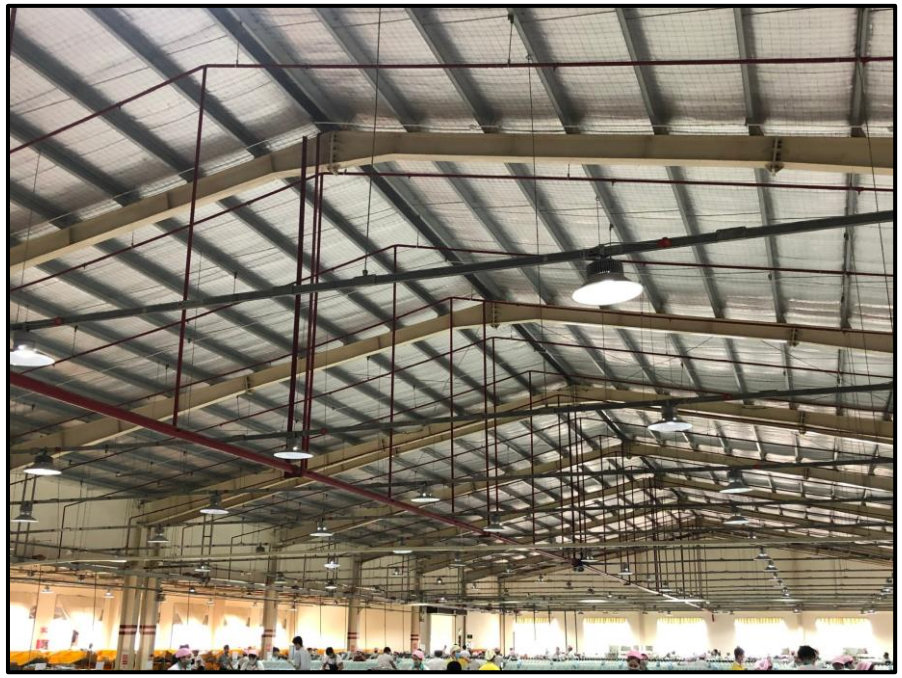


FIGURE 8.6.4.1.3.1(b) Sprinklers at Pitched Roof; Branch Lines Run Up Slopes.

FIRE SAFETY PRACTICES

Provisions for Fire Fighting

Description	LABS Standard
The distance between the sprinkler deflector and the ceiling shall be from 1 in. (25 mm) to 12 in. (300 mm) throughout the area of coverage of the sprinkler	5.3.4 TCVN 7336:2003 (Cl 6.6)

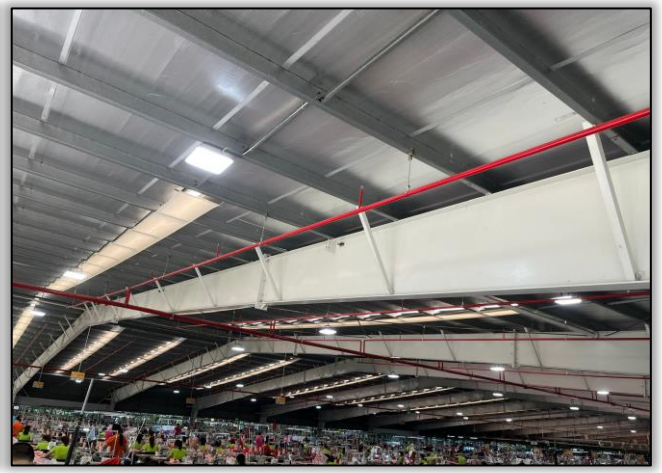


FACTORY SHARING – TAN DE 1
The sprinkler heads were far away the ceiling

Identified

The sprinkler heads were far away ceiling 3.3m to 5.3m

Remediated



The sprinkler heads have been installed close to the ceiling under 400mm

Highlights:

1. According to NFPA13 CL8.6.4, TCVN 7336-2003 Cl 6.6 the distance between the sprinkler deflector and the ceiling shall be a mini- mum of 1 in. (25 mm) and a maximum of 12 in. (300 mm) throughout the area of coverage of the sprinkler.
2. **Challenges**
3. **Remediation quantity and cost**
4. **Remediation timeline**

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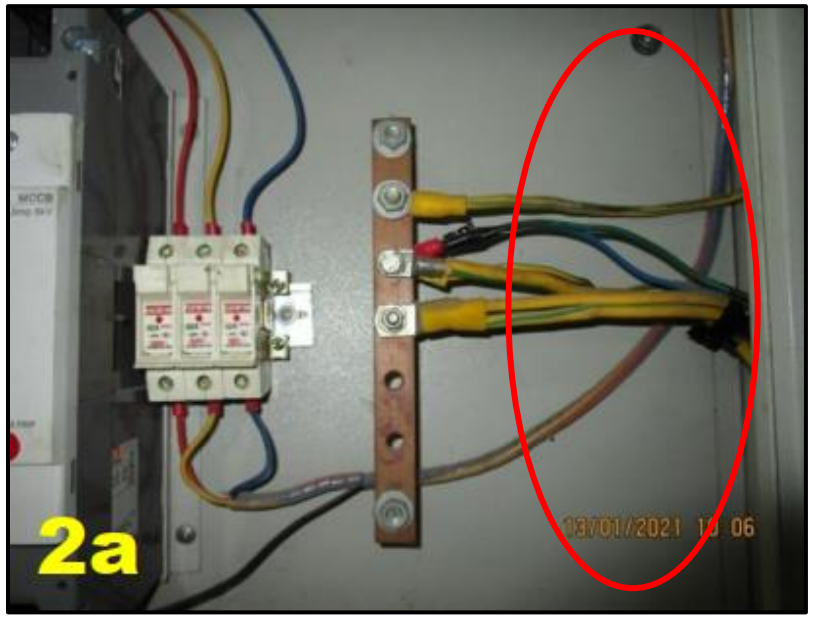
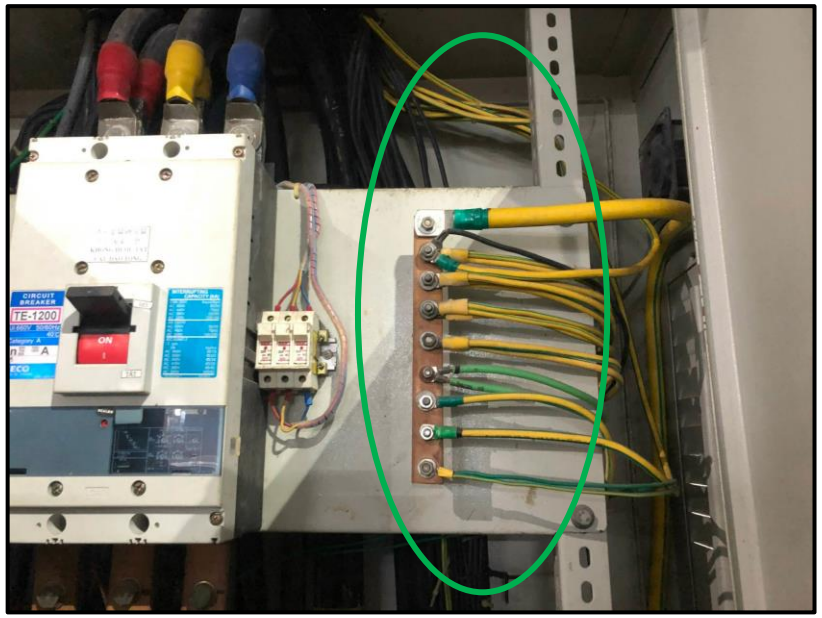
LABS Life And Building Safety

ELECTRICAL SAFETY PRACTICES

Earthing and Bonding

Description	LABS Standard
Electrical panels, motors and metal frames should be connected to Earth Minimum Cross-sectional Area of Earth conductor should be followed as IEC 60364-5-54 Table A54.7	10.25.2.2 and 10.32.1 10.33.2.5





Cross-sectional area of line conductors	Minimum cross-sectional area of the PE
(mm^2)	(mm^2)
S<=16	S
16<S<=35	16
S>35	S/2

ELECTRICAL SAFETY PRACTICES

Substations

Description	LABS Standard
Post first aid signage and provide first aid equipment in Main distribution panel room	10.7.6

ELECTRICAL SAFETY PRACTICES

Substations

Description	LABS Standard
Transformers having large oil content (more than 600 liters), soak pit should be provided	10.7.7

ELECTRICAL SAFETY PRACTICES

Substations

Description	LABS Standard
Post adequate warning/danger, voltage level signage & also it should be legible at transformer/substation areas	10.7.6

ELECTRICAL SAFETY PRACTICES

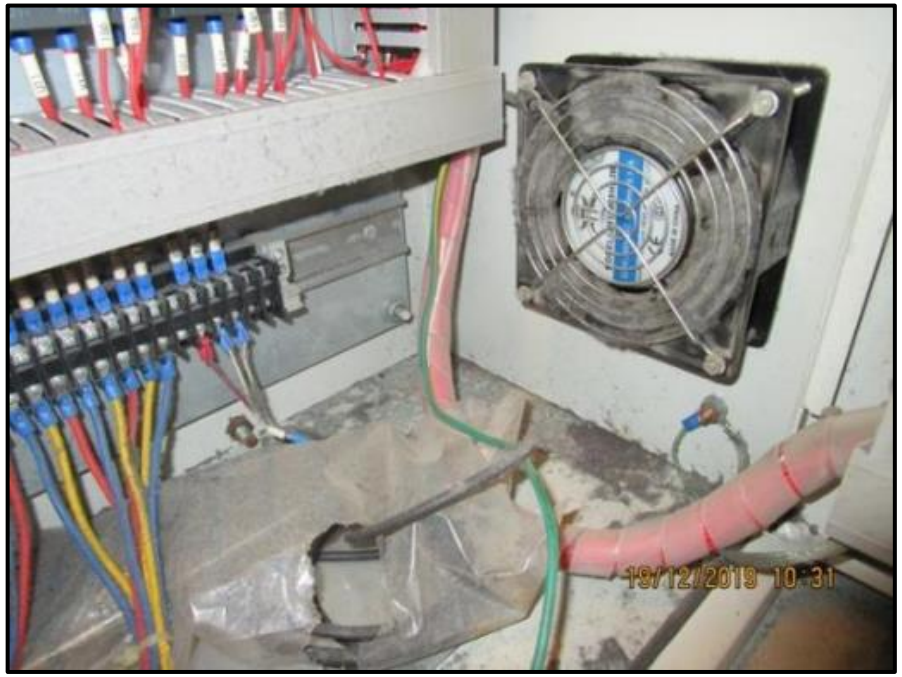
Substations

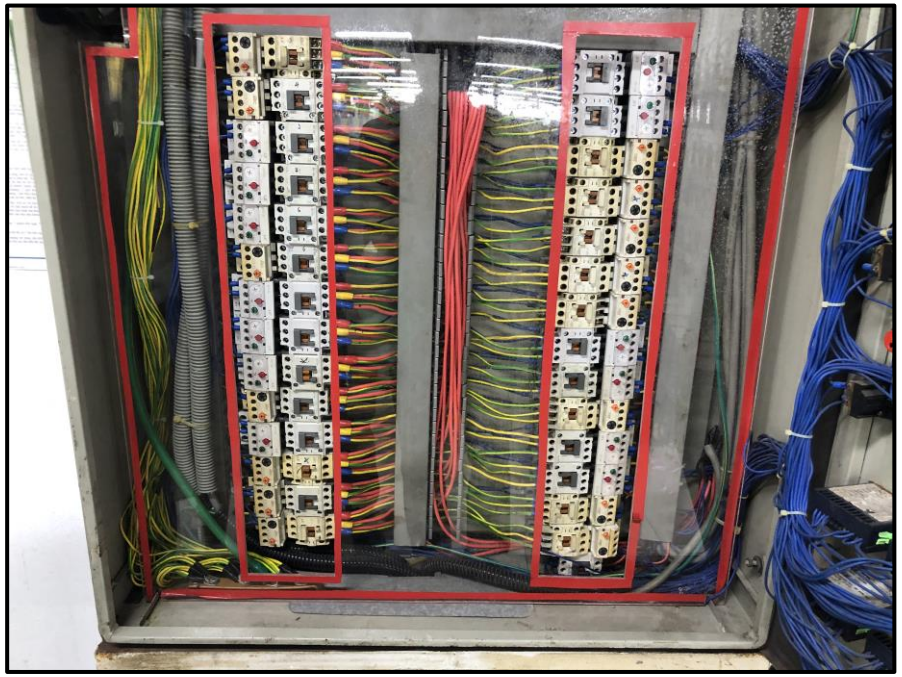
Description	LABS Standard
All material should be removed from the substation	10.6.3

ELECTRICAL SAFETY PRACTICES

Distributions

Description	LABS Standard
Remove dust /lint inside the panel board	10.11.1.2





ELECTRICAL SAFETY PRACTICES

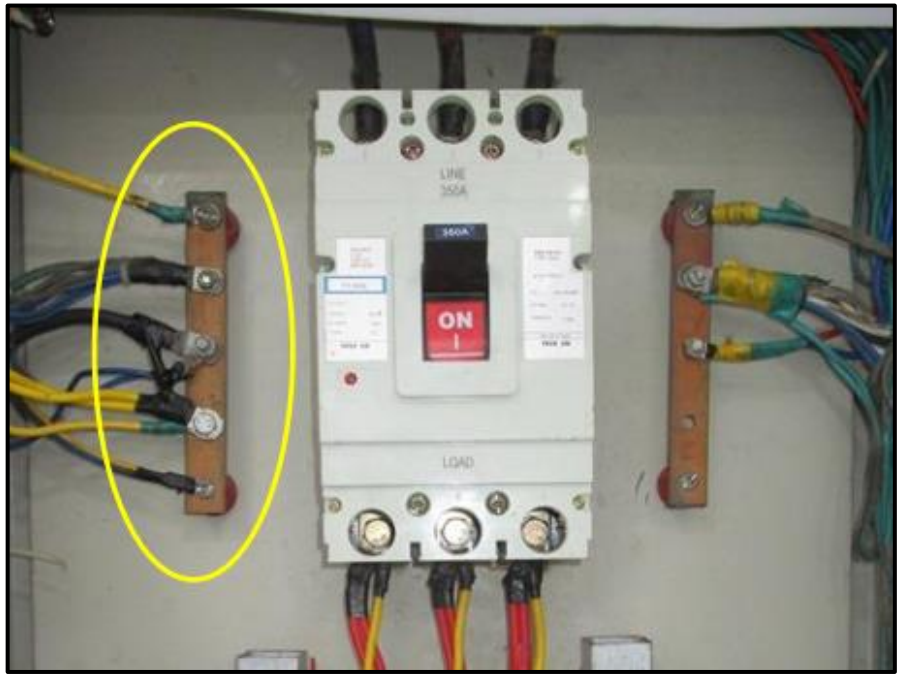
Distributions

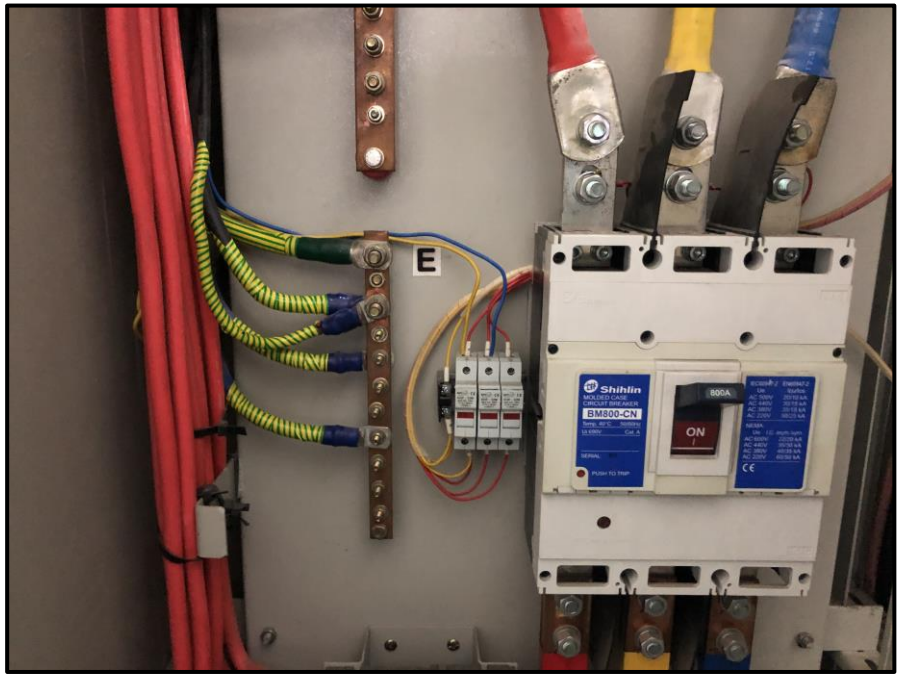
Description	LABS Standard
Cable should be on the cable tray/ladder	10.16.4

ELECTRICAL SAFETY PRACTICES

Distributions

Description	LABS Standard
PE and Neutral cable should be identified with proper installation	10.15.1.4





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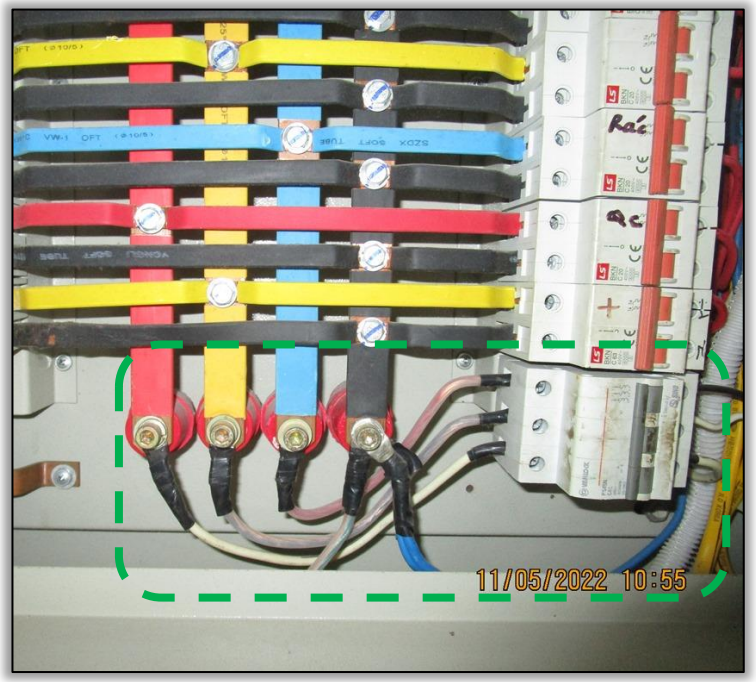
LABS Life And Building Safety

ELECTRICAL SAFETY PRACTICES

Distributions

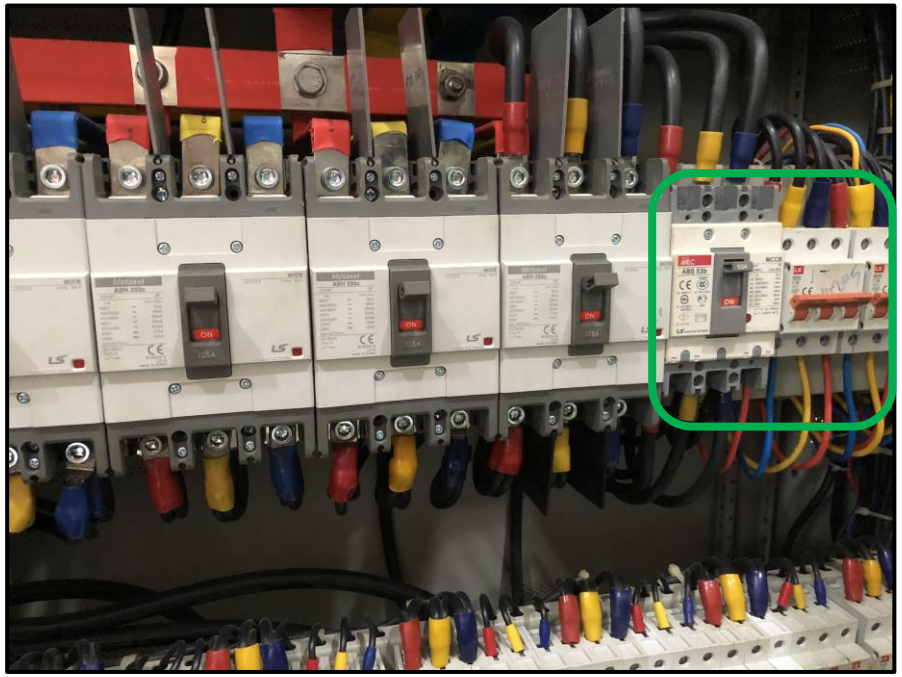
Description	LABS Standard
The circuit should be protected by suitable Protective Devices	10.27.1 and 10.29



ELECTRICAL SAFETY PRACTICES

Distributions

Description	LABS Standard
The small cable should be separated with the suitable Protective Device	10.27.1 and 10.29



ELECTRICAL SAFETY PRACTICES

Distributions

Description	LABS Standard
Insulation mat should be used for panels	10.5.2.1

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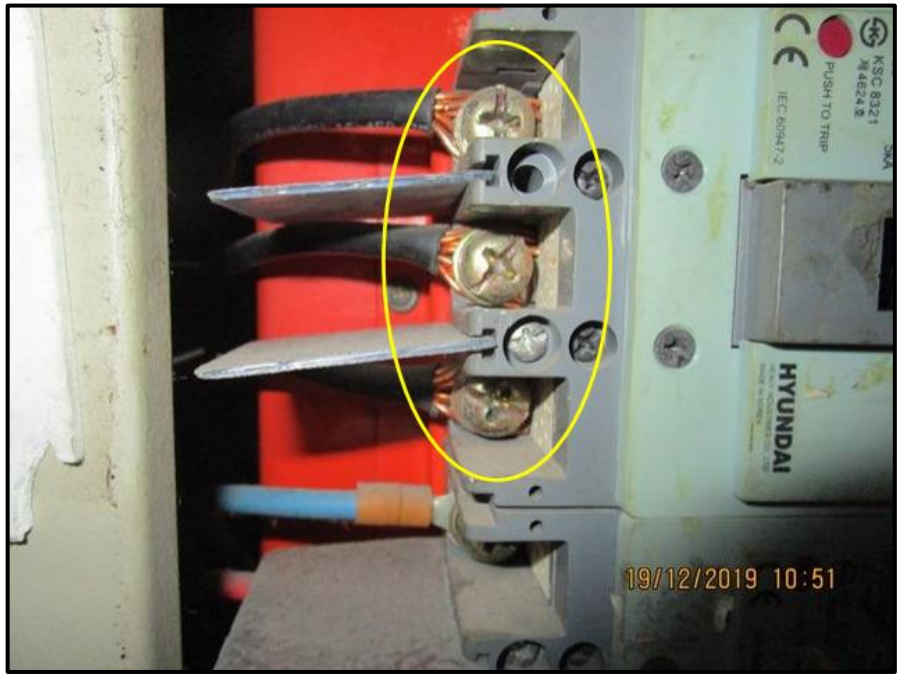
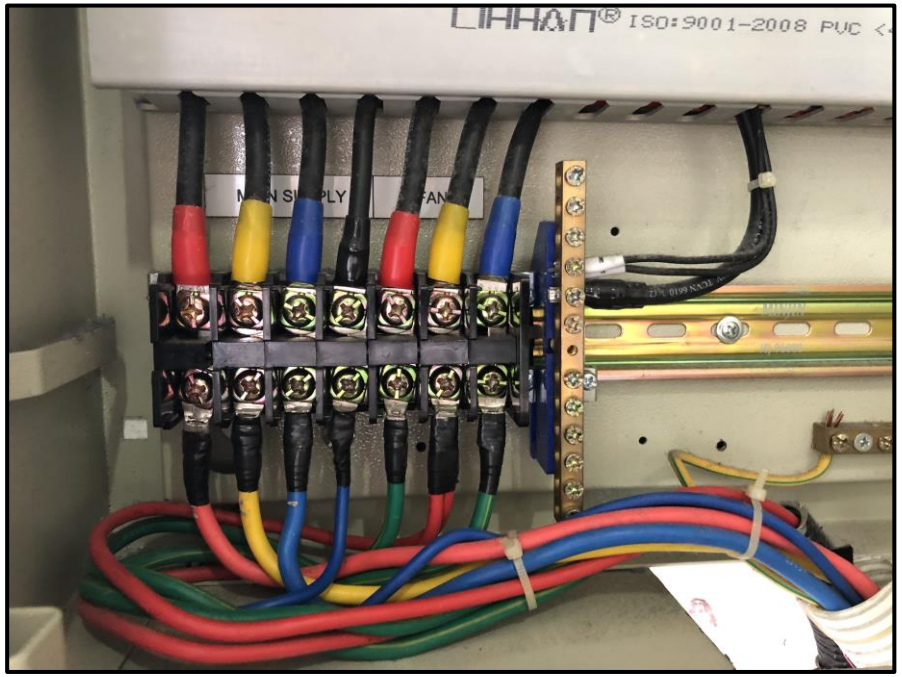
LABS Life And Building Safety

ELECTRICAL SAFETY PRACTICES

Distributions

Description	LABS Standard
Cable sockets/ferrules should be used for cable with the cross-sectional area from 6mm2 and above	10.15.3





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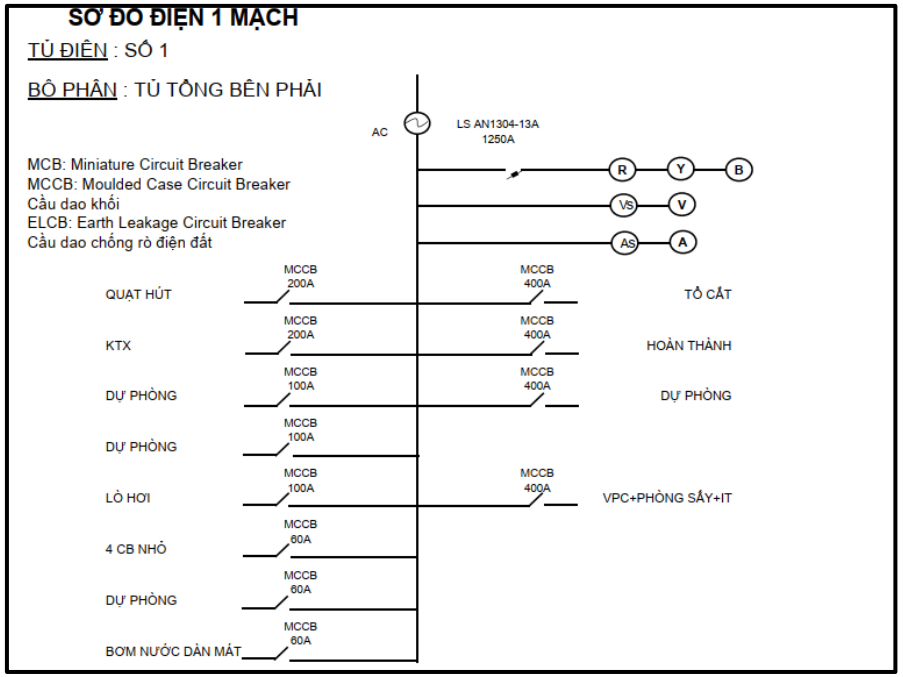
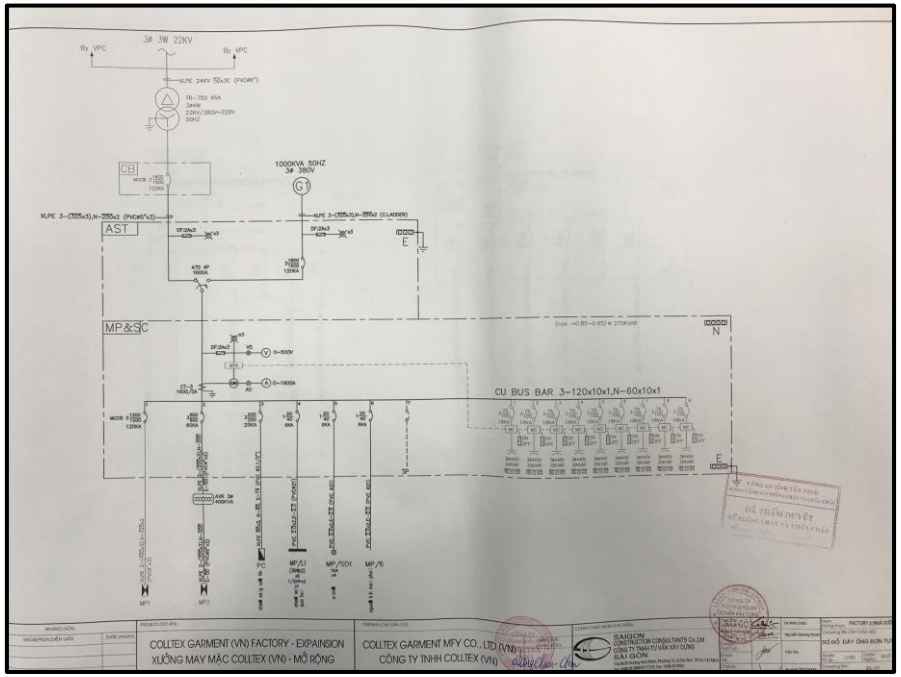
LABS Life And Building Safety

ELECTRICAL SAFETY PRACTICES

Drawings

Description	LABS Standard
Single Line Diagram drawing should be updated continuously and posted in Electrical room	10.22

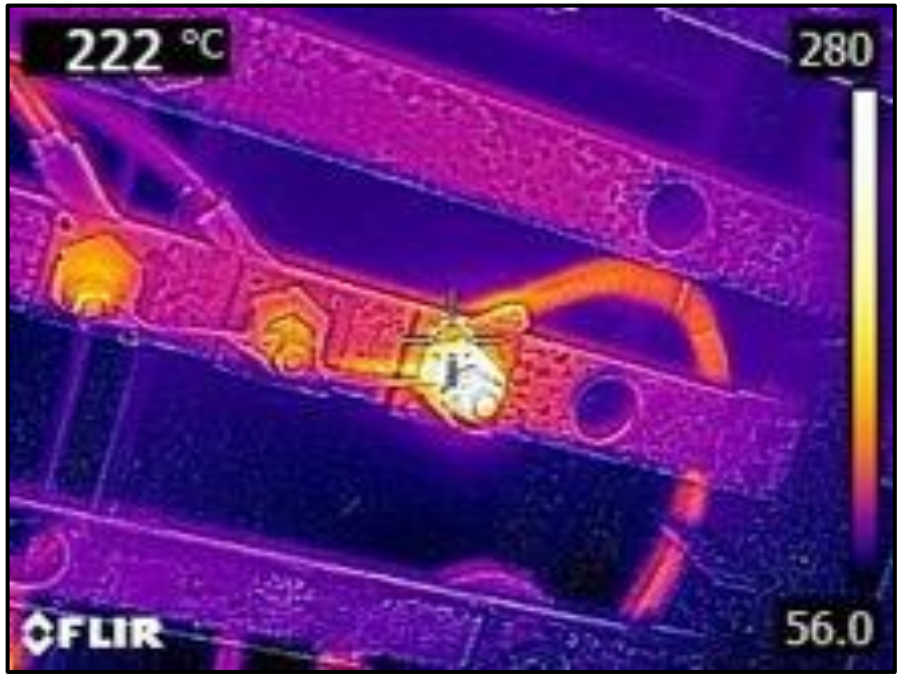




ELECTRICAL SAFETY PRACTICES

Thermographic Scanning

Description	LABS Standard
Thermographic inspection of electrical equipment shall be provided on a tri-annual basis	10.38.2.2

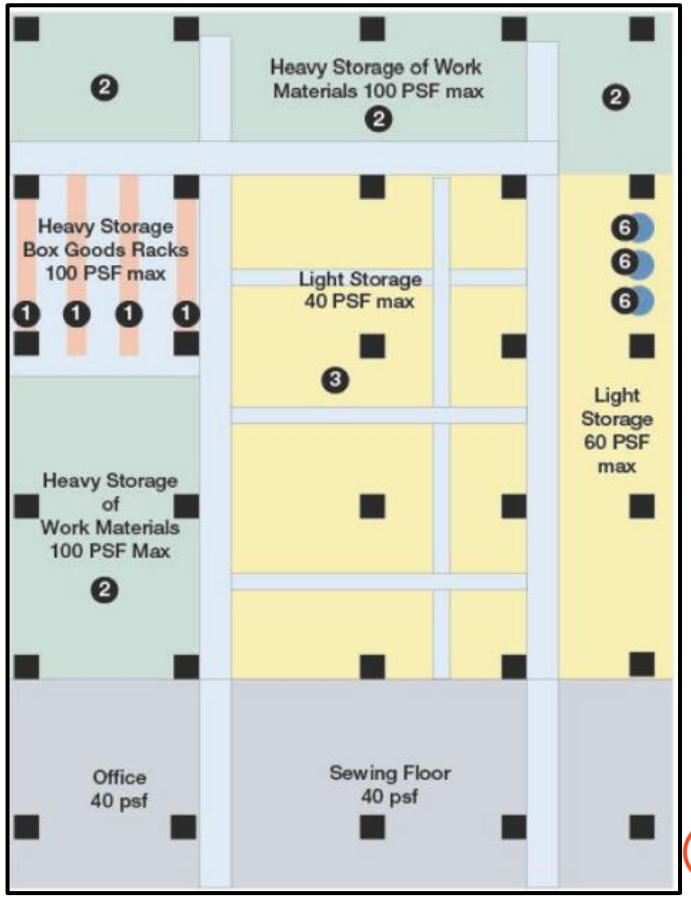


STRUCTURAL SAFETY PRACTICES

Vertical Structural System

Description	LABS Standard
Appoint Structural Engineer to produce safe load plans for all mezzanine/ second floors, giving consideration to floor capacity and column capacity.	8.8, 8.9 and 8.10

No	Type	Item	Max PSF Load	Description
1	HS	Box Goods Rack	120	W36" x H72", Max 6 boxes high, 15kg/box
2	HS	Denim Rolls Storage	150	13" dia, 72" long, 150kg/roll, 6 high max
3	LS	Bundled Box Storage	40	Max 48" high, 24" aisle each bay
4	Light	Office	40	W36" x H72", Max 6 boxes high, 15kg/box
5	Light	Sewing Tables	40	Typical sewing tables
6	Special	Water Tanks	N/A	4000 lbs, 60" dia, 84" tall, 5000 gal



Notes:

HS – Heavy Storage

LS – Light Storage

Floor x Load Plan

Factory name:……

Date Approved:……

Prepared by: ……

Approved by: ……

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LABS Life And Building Safety

STRUCTURAL SAFETY PRACTICES

Vertical Structural System

Description	LABS Standard
Appoint Structural Engineer to produce safe load plans for all mezzanine/ second floors, giving consideration to floor capacity and column capacity.	8.8, 8.9 and 8.10

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LABS Life And Building Safety

STRUCTURAL SAFETY PRACTICES

Lateral Structural System

Description	LABS Standard
Installing the missing or sagging column/roof bracings in the steel buildings	8.18

STRUCTURAL SAFETY PRACTICES

Lateral Structural System

Description	LABS Standard
Installing the missing or sagging column/roof bracings in the steel buildings	8.18

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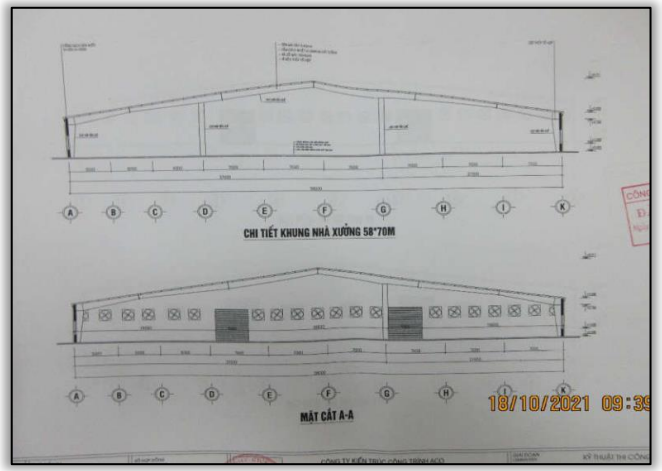
LABS Life And Building Safety

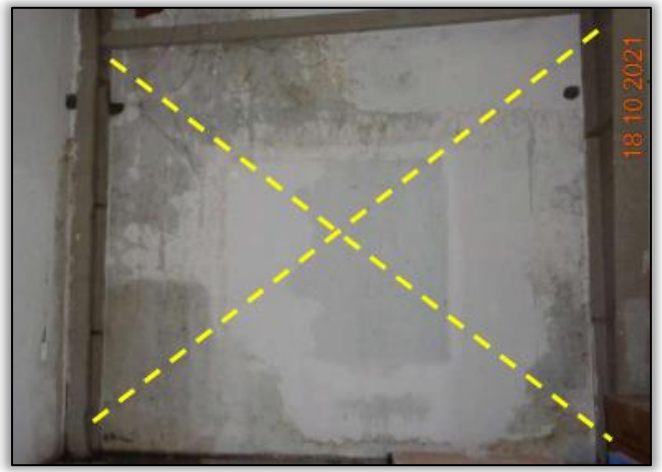
FACTORY SHARING – HIGH ROCK RECREATION PRODUCTS CO., LTD

FACTORY SHARING – HIGH ROCK RECREATION PRODUCTS CO., LTD

Missing column bracings

Identified





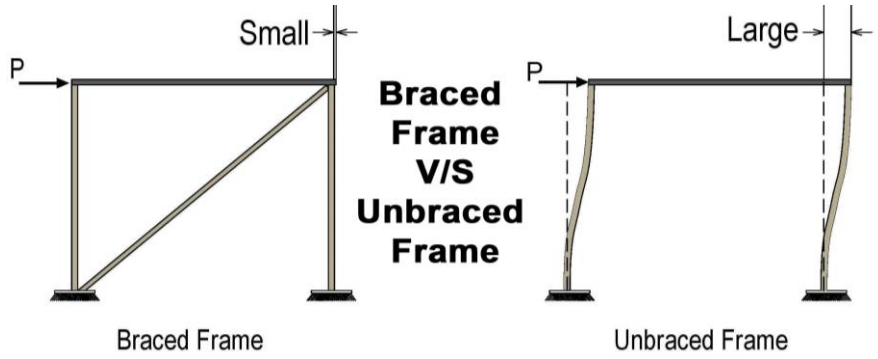
Missing column bracings in the production buildings

Remediated

The column bracings have been installed

Highlights:

1. **LABS Standard 8.18.1**: Every building, structure or portions thereof shall be designed to resist lateral loads due to notional, wind or seismic loads in compliance with the forces, Load Factors and Load Combinations as stated in the Vietnam National Construction Regulations .
2. **Challenges**
3. **Remediation quantity and cost**
4. **Remediation timeline**



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LABS Life And Building Safety

STRUCTURAL SAFETY PRACTICES

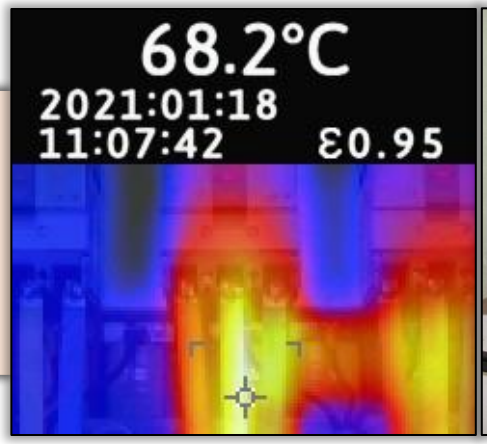
Visible Distress

Description	LABS Standard
Appoint Structural Engineer to study the cracks and propose the remedial measures	8.5

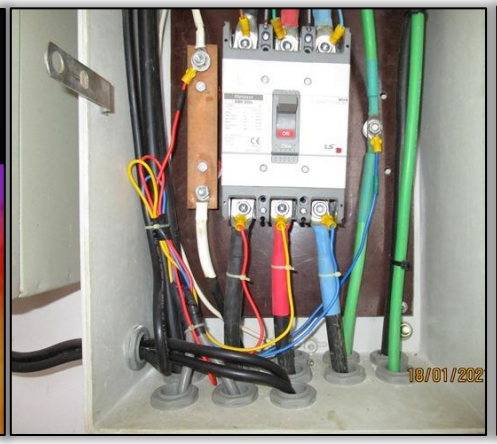
FACTORY SHARING – UNISOLL VINA CO LTD

FACTORY SHARING – UNISOLL VINA CO LTD
Remediation Achievements

Identified

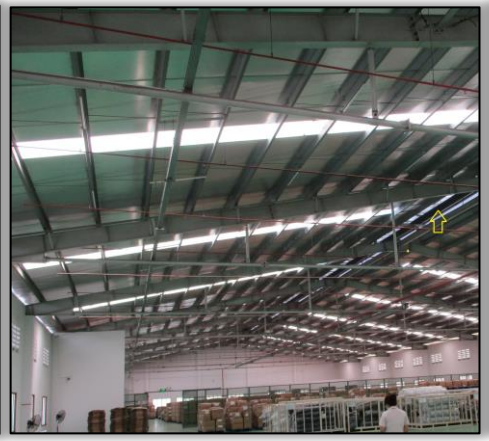


High temperature were recorded inside the electrical panels



Small cables 2mm2 connected to MCCB 250A

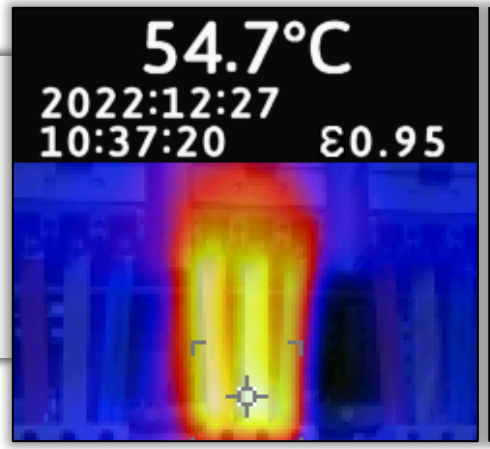
Openings next to the external exit stairs



The sprinkler heads were far away ceiling

Cracks on the mezzanine floors

Remediated



The temperature has been controlled under 60°C

Suitable CB has been provided for small cables

Openings have been covered by the fire rated material

The sprinkler heads have been installed close to the ceiling under 400mm

Cracks have been remediated by contractor

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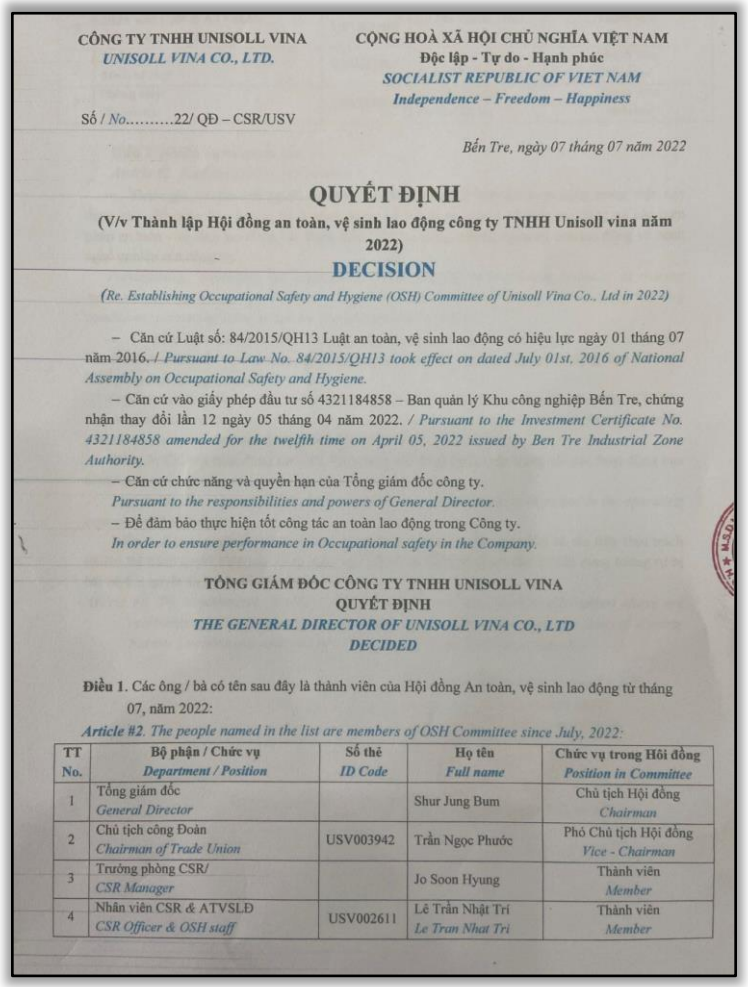
LABS Life And Building Safety

FACTORY SHARING – UNISOLL VINA CO LTD
Safety Management System – Procedures & Manpower



CÔNG TY TNHH UNISOLL VINA
UNISOLL VINA CO., LTD.

CỘNG HOÀ XÃ HỘI CHỦ NGHĨA VIỆT NAM
Độc lập - Tự do - Hạnh phúc
SOCIALIST REPUBLIC OF VIET NAM
Independence – Freedom – Happiness

Số / *No*.....22/ QĐ – CSR/USV

Bến Tre, ngày 07 tháng 07 năm 2022

QUYẾT ĐỊNH

(V/v Thành lập Hội đồng an toàn, vệ sinh lao động công ty TNHH Unisoll vina năm 2022)

DECISION

(Re. Establishing Occupational Safety and Hygiene (OSH) Committee of Unisoll Vina Co., Ltd in 2022)

– Căn cứ Luật số: 84/2015/QH13 Luật an toàn, vệ sinh lao động có hiệu lực ngày 01 tháng 07 năm 2016. / *Pursuant to Law No. 84/2015/QH13 took effect on dated July 01st, 2016 of National Assembly on Occupational Safety and Hygiene.*

– Căn cứ vào giấy phép đầu tư số 4321184858 – Ban quản lý Khu công nghiệp Bến Tre, chứng nhận thay đổi lần 12 ngày 05 tháng 04 năm 2022. / *Pursuant to the Investment Certificate No. 4321184858 amended for the twelfth time on April 05, 2022 issued by Ben Tre Industrial Zone Authority.*

– Căn cứ chức năng và quyền hạn của Tổng giám đốc công ty.
Pursuant to the responsibilities and powers of General Director.

– Để đảm bảo thực hiện tốt công tác an toàn lao động trong Công ty.
In order to ensure performance in Occupational safety in the Company.

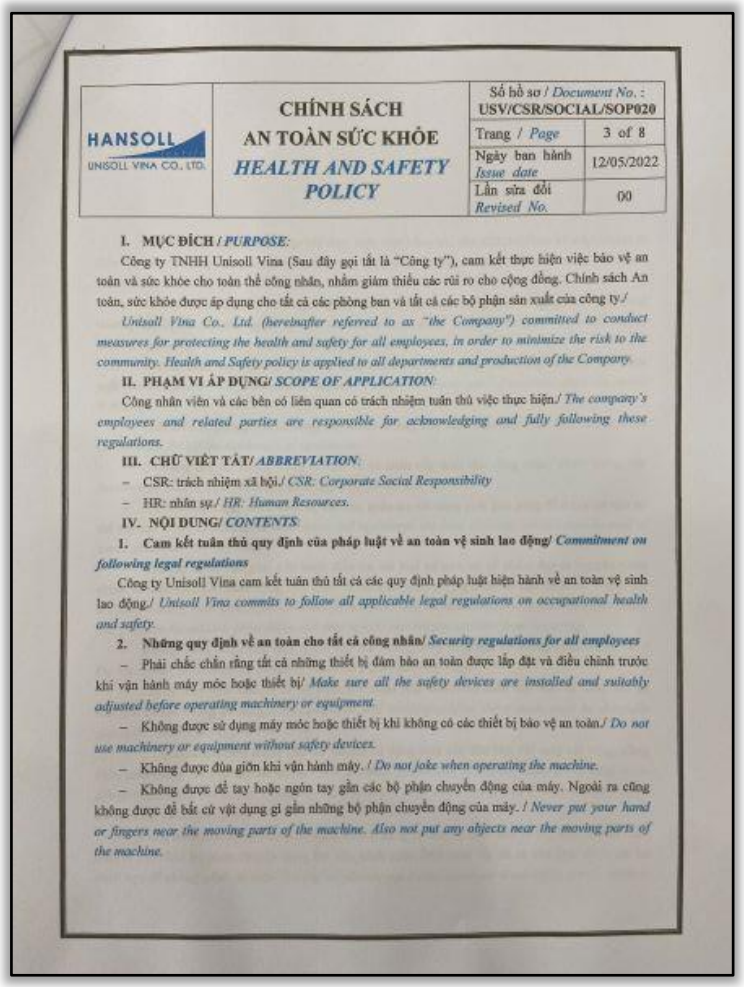
TỔNG GIÁM ĐỐC CÔNG TY TNHH UNISOLL VINA
QUYẾT ĐỊNH
THE GENERAL DIRECTOR OF UNISOLL VINA CO., LTD
DECIDED

Điều 1. Các ông / bà có tên sau đây là thành viên của Hội đồng An toàn, vệ sinh lao động từ tháng 07, năm 2022:

***Article #2**. The people named in the list are members of OSH Committee since July, 2022:*

TT No.	Bộ phận / Chức vụ *Department / Position*	Số thẻ *ID Code*	Họ tên *Full name*	Chức vụ trong Hội đồng *Position in Committee*
1	Tổng giám đốc *General Director*		Shur Jung Bum	Chủ tịch Hội đồng *Chairman*
2	Chủ tịch công Đoàn *Chairman of Trade Union*	USV003942	Trần Ngọc Phước	Phó Chủ tịch Hội đồng *Vice - Chairman*
3	Trưởng phòng CSR/ *CSR Manager*		Jo Soon Hyung	Thành viên *Member*
4	Nhân viên CSR & ATVSLĐ *CSR Officer & OSH staff*	USV002611	Lê Trần Nhật Trí *Le Tran Nhat Tri*	Thành viên *Member*

Safety Management System established



HANSOLL UNISOLL VINA CO., LTD.

CHÍNH SÁCH AN TOÀN SỨC KHỎE
HEALTH AND SAFETY POLICY

Số hồ sơ / *Document No.* : USV/CSR/SOCIAL/SOP020	
Trang / *Page*	3 of 8
Ngày ban hành *Issue date*	12/05/2022
Lần sửa đổi *Revised No.*	00

I. MỤC ĐÍCH / *PURPOSE*:

Công ty TNHH Unisoll Vina (Sau đây gọi tắt là "Công ty"), cam kết thực hiện việc bảo vệ an toàn và sức khỏe cho toàn thể công nhân, nhằm giảm thiểu các rủi ro cho cộng đồng. Chính sách An toàn, sức khỏe được áp dụng cho tất cả các phòng ban và tất cả các bộ phận sản xuất của công ty./

Unisoll Vina Co., Ltd. (hereinafter referred to as "the Company") committed to conduct measures for protecting the health and safety for all employees, in order to minimize the risk to the community. Health and Safety policy is applied to all departments and production of the Company.

II. PHẠM VI ÁP DỤNG/ *SCOPE OF APPLICATION*:

Công nhân viên và các bên có liên quan có trách nhiệm tuân thủ việc thực hiện./ *The company's employees and related parties are responsible for acknowledging and fully following these regulations.*

III. CHỮ VIẾT TẮT/ *ABBREVIATION*:

– CSR: trách nhiệm xã hội./ *CSR: Corporate Social Responsibility*
– HR: nhân sự./ *HR: Human Resources.*

IV. NỘI DUNG/ *CONTENTS*:

1. Cam kết tuân thủ quy định của pháp luật về an toàn vệ sinh lao động/ *Commitment on following legal regulations*

Công ty Unisoll Vina cam kết tuân thủ tất cả các quy định pháp luật hiện hành về an toàn vệ sinh lao động./ *Unisoll Vina commits to follow all applicable legal regulations on occupational health and safety.*

2. Những quy định về an toàn cho tất cả công nhân/ *Security regulations for all employees*

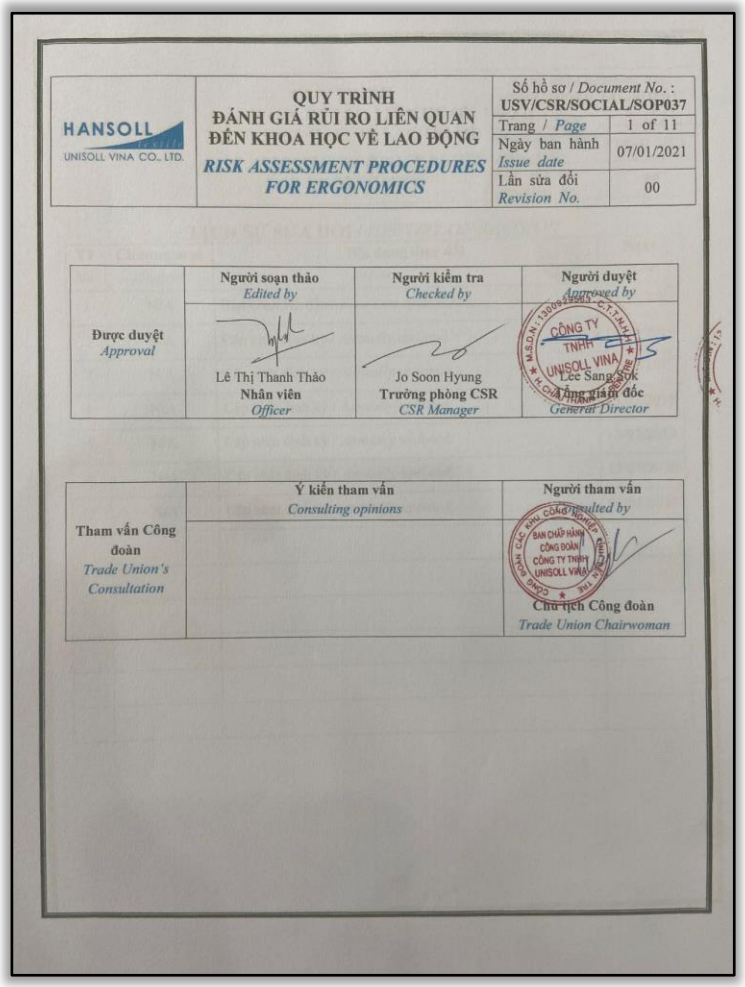
– Phải chắc chắn rằng tất cả những thiết bị đảm bảo an toàn được lắp đặt và điều chỉnh trước khi vận hành máy móc hoặc thiết bị/ *Make sure all the safety devices are installed and suitably adjusted before operating machinery or equipment.*

– Không được sử dụng máy móc hoặc thiết bị khi không có các thiết bị bảo vệ an toàn./ *Do not use machinery or equipment without safety devices.*

– Không được đùa giỡn khi vận hành máy. / *Do not joke when operating the machine.*

– Không được để tay hoặc ngón tay gần các bộ phận chuyển động của máy. Ngoài ra cũng không được để bất cứ vật dụng gì gần những bộ phận chuyển động của máy. / *Never put your hand or fingers near the moving parts of the machine. Also not put any objects near the moving parts of the machine.*

Health and Safety Policy



HANSOLL UNISOLL VINA CO., LTD.

QUY TRÌNH ĐÁNH GIÁ RỦI RO LIÊN QUAN ĐẾN KHOA HỌC VỀ LAO ĐỘNG
RISK ASSESSMENT PROCEDURES FOR ERGONOMICS

Số hồ sơ / *Document No.* : USV/CSR/SOCIAL/SOP037	
Trang / *Page*	1 of 11
Ngày ban hành *Issue date*	07/01/2021
Lần sửa đổi *Revision No.*	00

	Người soạn thảo *Edited by*	Người kiểm tra *Checked by*	Người duyệt *Approved by*
Được duyệt *Approval*	Lê Thị Thanh Thảo **Nhân viên** *Officer*	Jo Soon Hyung **Trưởng phòng CSR** *CSR Manager*	Lee Sang Sok **Tổng giám đốc** *General Director*

	Ý kiến tham vấn *Consulting opinions*	Người tham vấn *Consulted by*
Tham vấn Công đoàn *Trade Union's Consultation*		**Chủ tịch Công đoàn** *Trade Union Chairwoman*

Risk Assessment Procedure

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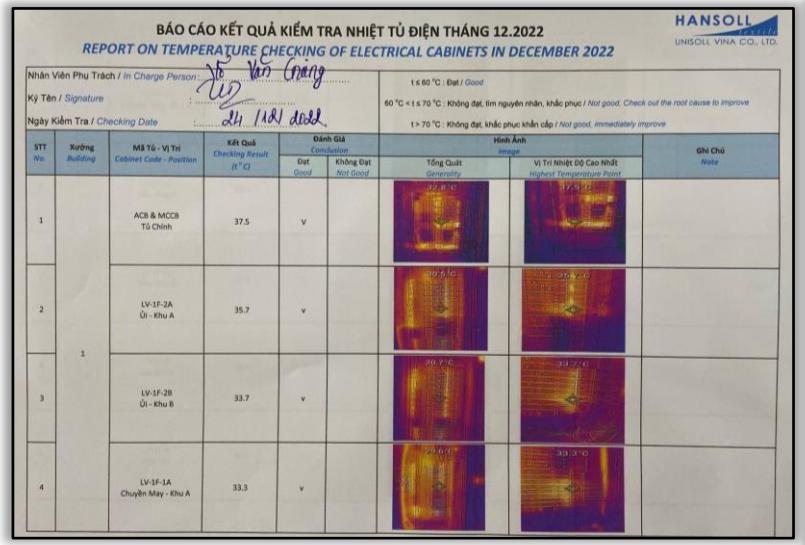
LABS Life And Building Safety

FACTORY SHARING – UNISOLL VINA CO LTD
Safety Management System – Implementation & Improvement



BÁO CÁO KẾT QUẢ KIỂM TRA NHIỆT TỦ ĐIỆN THÁNG 12.2022

REPORT ON TEMPERATURE CHECKING OF ELECTRICAL CABINETS IN DECEMBER 2022

HANSOLL — UNISOLL VINA CO., LTD.

Nhân Viên Phụ Trách / In Charge Person: Võ Văn Giang

Ký Tên / Signature:

Ngày Kiểm Tra / Checking Date: 21/ 12/ 2022

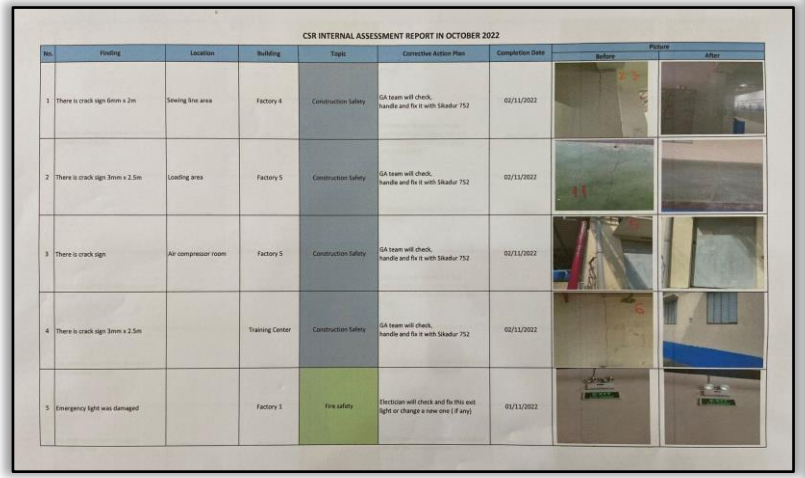
t ≤ 60 °C : Đạt / Good

60 °C < t ≤ 70 °C : Không đạt, tìm nguyên nhân, khắc phục / Not good. Check out the root cause to improve

t > 70 °C : Không đạt, khắc phục khẩn cấp / Not good, immediately improve

STT No.	Xưởng Building	Mã Tủ - Vị Trí Cabinet Code - Position	Kết Quả Checking Result (°C)	Đánh Giá Conclusion: Đạt Good	Đánh Giá Conclusion: Không Đạt Not Good	Hình Ảnh Image: Tổng Quát Generality	Hình Ảnh Image: Vị Trí Nhiệt Độ Cao Nhất Highest Temperature Point	Ghi Chú Note
1	1	ACB & MCCB Tủ Chính	37.5	V				
2		LV-1F-2A Ủi - Khu A	35.7	v				
3		LV-1F-2B Ủi - Khu B	33.7	v				
4		LV-1F-1A Chuyền May - Khu A	33.3	v				

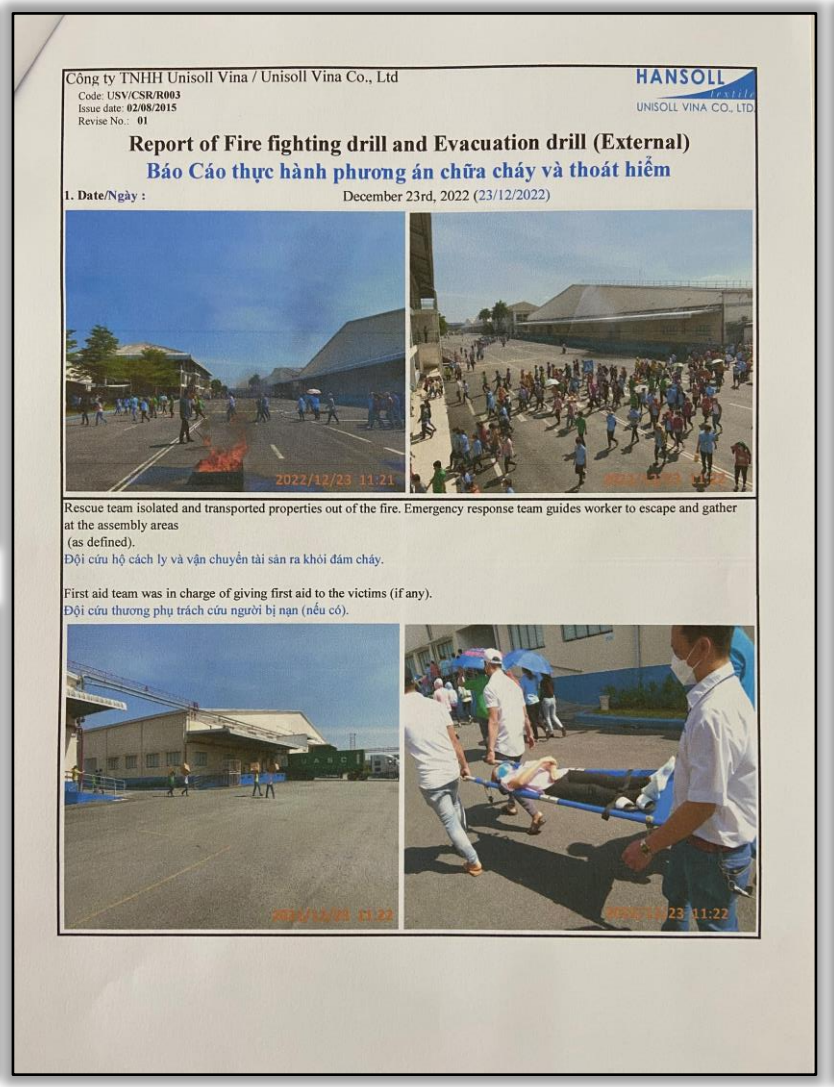
Electric thermographic survey report



CSR INTERNAL ASSESSMENT REPORT IN OCTOBER 2022

No.	Finding	Location	Building	Topic	Corrective Action Plan	Completion Date	Picture: Before	Picture: After
1	There is crack sign 6mm x 2m	Sewing line area	Factory 4	Construction Safety	GA team will check, handle and fix it with Sikadur 752	02/11/2022		
2	There is crack sign 3mm x 2.5m	Loading area	Factory 5	Construction Safety	GA team will check, handle and fix it with Sikadur 752	02/11/2022		
3	There is crack sign	Air compressor room	Factory 5	Construction Safety	GA team will check, handle and fix it with Sikadur 752	02/11/2022		
4	There is crack sign 3mm x 2.5m		Training Center	Construction Safety	GA team will check, handle and fix it with Sikadur 752	02/11/2022		
5	Emergency light was damaged		Factory 1	Fire safety	Electrician will check and fix this exit light or change a new one (if any)	01/11/2022		

Monthly Internal Safety Assessment Report



Công ty TNHH Unisoll Vina / Unisoll Vina Co., Ltd

Code: USV/CSR/R003

Issue date: 02/08/2015

Revise No.: 01

HANSOLL — UNISOLL VINA CO., LTD.

Report of Fire fighting drill and Evacuation drill (External)

Báo Cáo thực hành phương án chữa cháy và thoát hiểm

1. Date/Ngày : December 23rd, 2022 (23/12/2022)

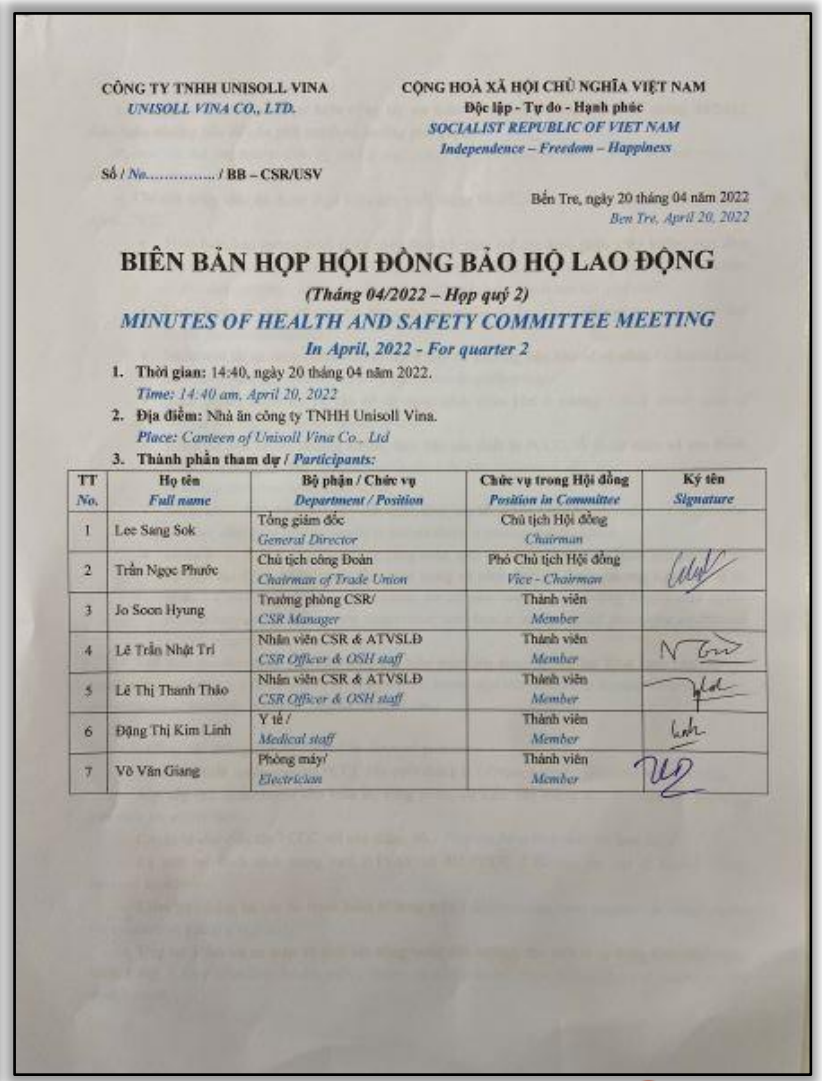
Rescue team isolated and transported properties out of the fire. Emergency response team guides worker to escape and gather at the assembly areas (as defined).

Đội cứu hộ cách ly và vận chuyển tài sản ra khỏi đám cháy.

First aid team was in charge of giving first aid to the victims (if any).

Đội cứu thương phụ trách cứu người bị nạn (nếu có).

Fire Fighting and Evacuation Drills



CÔNG TY TNHH UNISOLL VINA
UNISOLL VINA CO., LTD.

CỘNG HOÀ XÃ HỘI CHỦ NGHĨA VIỆT NAM
Độc lập - Tự do - Hạnh phúc
SOCIALIST REPUBLIC OF VIET NAM
Independence – Freedom – Happiness

Số / No...../ BB – CSR/USV

Bến Tre, ngày 20 tháng 04 năm 2022
Ben Tre, April 20, 2022

BIÊN BẢN HỌP HỘI ĐỒNG BẢO HỘ LAO ĐỘNG

(Tháng 04/2022 – Họp quý 2)

MINUTES OF HEALTH AND SAFETY COMMITTEE MEETING

In April, 2022 - For quarter 2

1. Thời gian: 14:40, ngày 20 tháng 04 năm 2022.
   Time: 14:40 am, April 20, 2022
2. Địa điểm: Nhà ăn công ty TNHH Unisoll Vina.
   Place: Canteen of Unisoll Vina Co., Ltd
3. Thành phần tham dự / Participants:

TT No.	Họ tên Full name	Bộ phận / Chức vụ Department / Position	Chức vụ trong Hội đồng Position in Committee	Ký tên Signature
1	Lee Sang Sok	Tổng giám đốc General Director	Chủ tịch Hội đồng Chairman	
2	Trần Ngọc Phước	Chủ tịch công Đoàn Chairman of Trade Union	Phó Chủ tịch Hội đồng Vice - Chairman	
3	Jo Soon Hyung	Trưởng phòng CSR/ CSR Manager	Thành viên Member	
4	Lê Trần Nhật Trí	Nhân viên CSR & ATVSLĐ CSR Officer & OSH staff	Thành viên Member	
5	Lê Thị Thanh Thảo	Nhân viên CSR & ATVSLĐ CSR Officer & OSH staff	Thành viên Member	
6	Đặng Thị Kim Linh	Y tế / Medical staff	Thành viên Member	
7	Võ Văn Giang	Phòng máy/ Electrician	Thành viên Member	

HSE Committee Meeting

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LABS Life And Building Safety

LABS GRADUATION CRITERIA

LABS GRADUATION CRITERIA

Key requirements for factory graduation:

1. **All issues have been remediated as per LABS Standard guideline and confirmed with the CAP Closure report by the Inspection Firm (IF)**
2. **Basic Safety Training, Advanced Safety Training Level-1 and Advanced Safety Training Level-2 have been completed**
3. OHS Committee has been established and the LABS mandated trainings are further being conducted with a process established to cover 100 % workers and record participation rates
4. Dedicated safety manager is available in the factory
5. No infrastructural changes made to the building after the CAP Closure visit
6. No more than 30% increase of workers within the factory after the CAP Closure visit
7. Factory supports that the Helpline is operating and functioning well
8. Demonstrated capacities to maintain Structural, Fire and Electrical Safety

NEXT STEPS

Key parameters of Safety Management System to be ensured in a factory for managing safety are as per below:

- Safety procedures and instructions should be displayed at workplaces
- Workers comply with safety procedures and instructions relevant to their work and/or about which they have been trained or notified.
- Ensure workers know what to do if an emergency occurs at their place of work.
- Identify safety hazards and manage/control risks arising from work and factory routines and planned operations, activities and services.
- Report all incidents, accidents and near misses, including thorough investigation, follow-up and communication of lessons learned.
- Factory management have overall operational responsibility for safety at factory location.
- Establish and maintain an appropriate safety work management system for the factory and their teams, including the appointment of committees, managers, competent experts and a system for gathering employees, channels for employees to raise their concerns/inputs.
- Regularly review and comply with all applicable local and LABS Safety Standards, including relevant organizational safety policies.

Q & A

For further queries, contact –

Hang Phan, Country Manager - phan@labsinitiative.com

Tien Le, Program Manager – le@labsinitiative.com

Son Ngo, Assistant Manager – ngo@labsinitiative.com

Phu Do, Senior Factory Coordinator – do@labsinitiative.com

Tuan Le, Senior Factory Coordinator – tle@labsinitiative.com

LABS Website: https://labsinitiative.com/


THANK YOU

Remediation TOOL BOX

LABS

Life And Building Safety

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ISSUE DESCRIPTION:- FIRE RATED SELF CLOSING DOORS

Requirement of fire door –
Fire rated door is an important safety component in any premises. It prevents fire and smoke from spreading across the building and contains fire to the demarcated compartment of the building. Fire doors are used as a part of lift lobby, staircase, corridors and other areas which are prone to fire hazards. Fire door enables safe evacuation for employees in case of fire.

Process for Remediation-: Before submission of draft CAP (Corrective action Plan) factory needs to consult with their remediation firm for design of fire doors, or factory can check with fire door supplier and procure the test certificates to get CAP approval and subsequently get the design approval form the Inspection Firm

LABS standard reference-:
4.5.2.1-Fire doors assemblies shall conform to IS 3614 Part 2: 1996 or NFPA 252.
Also refer standard 4.5(Page no -25) for more details about fire doors.

Remediation-

- Installed fire rated door should be certified for providing required fire resistance.
- Fire rated door must be installed by competent person/authority in accordance with manufacturer guidelines.
- Fire rated door must be inspected for smooth movement of its hinges, latches, smoke seals, fire rated glass or any alteration.

ISSUE DESCRIPTION:- FIRE RATED COMPARTMENTATION FOR STAIRCASES

Purpose of Remediation

Fire compartmentation is proposed in staircase to provide enclosure that separate staircase from vertical opening between floors using fire rated/non combustible material.

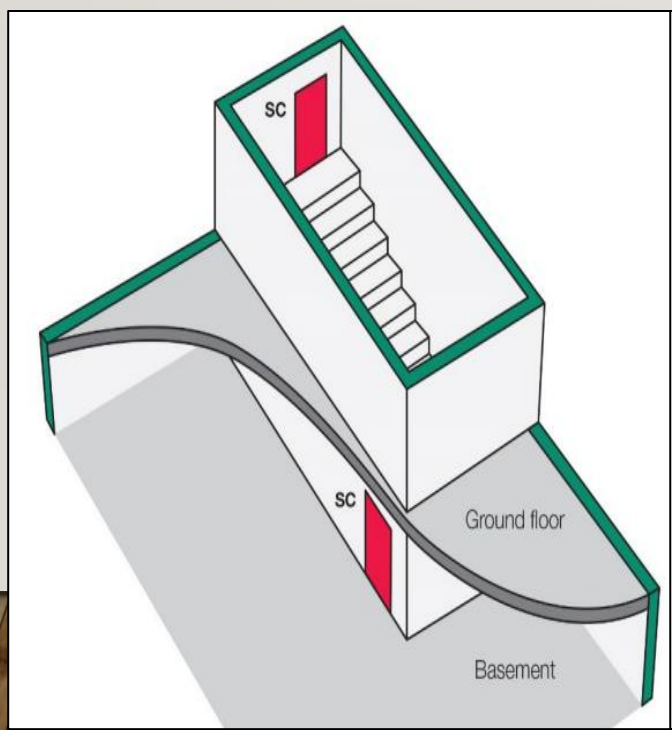
- It is provided for life safety purpose to protect internal staircase escape route from fire.
- Fire compartmentation provides occupants of building additional time to safely evacuate.
- Fire compartmentation is provided to protect property by preventing or limiting spread of fire from one floor to another.

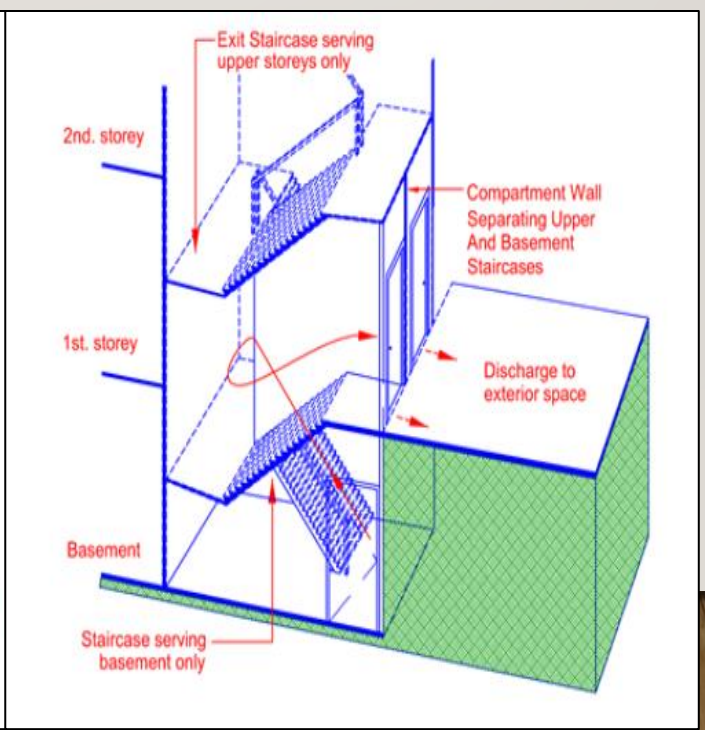
Process to remediate issue-: Before submission of CAP(Corrective action Plan) factory needs to consult with their remediation firm for design of compartmentation along with material to be used and get cap approval & design approved during design sign off by inspection firm before commencing remediation.

LABS standard reference-: Refer Part 4 fire protection construction(Pg 23)

Remediation

Fire stairs compartmentation is achieved through the provision of fire resisting wall around staircase and will include measure to address any opening in the compartment such as service line doors.



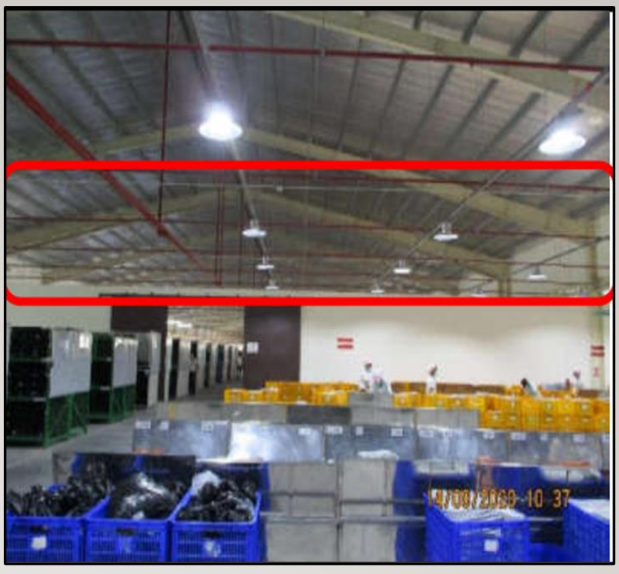


ISSUE DESCRIPTION:- FIRE RATED SEPARATION IN STORE

Purpose of Remediation

Storage segregation is proposed to prevent chances of fire in store by separating fire hazards due to machinery, electrical fixture and chemicals used in shop floor, It also prevent spread of fire from store to other areas or vice versa.

Storage segregation is not required if factory has installed fire sprinklers & incidental to other occupancy.

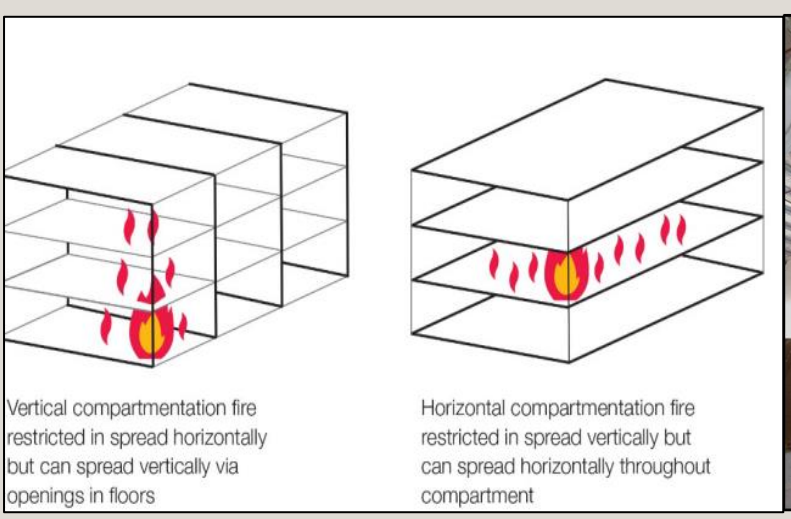


Process to remediate issue:- Before submission of CAP (Corrective action Plan) factory needs to consult with their remediation firm for design of compartmentation along with material to be used and get Cap approval & design approved during design sign off by inspection firm before commencing remediation.

LABS standard reference-: Refer 3.13 & 3.14 Use and Occupancy (Pg 14)

Remediation

Compartmentation is achieved through the provision of fire resisting wall that separate two area completely and will include measure to address any opening in the compartment.



Design of Remediation

ISSUE DESCRIPTION:- IN RACK SPRINKLERS

Purpose of Remediation
In-rack sprinklers are design for protection of storage racks in case of fire. Ceiling mounted sprinklers will not be able to extinguish fire inside solid shelved storage racks as there is no space available for water to percolate in between racks where as in-rack sprinkler ensure fire that begin in the middle of the rack can be extinguished.

Process to remediate issue: Before submission of CAP(Corrective action Plan) factory need to consult with their remediation firm for design of in rack sprinkler along with connection to water resource and get Cap approval & design approved during design sign off by inspection firm before commencing remediation.

LABS standard reference-: Refer 5.3.9.3 Racks(Pg 30)

Remediation

- Sprinklers pipe line can be designed inside material storage rack or could be design parallel to rack beam.
- Sprinkler detector need to be placed within close proximity to stored materials and equipment with minimum clearance of 6 inches.

Design of Remediation

ISSUE DESCRIPTION:- LPS (LIGHTNING PROTECTION SYSTEM)

Purpose of Remediation

The purpose of installing lightning protection system is to transfer a lightning strike surge safely into earth. It protects building structure, Electronic system and people from effects of a lightning current. Lightning strike can cause electrocution, fire, explosion and failure to mechanical and electrical equipment's.

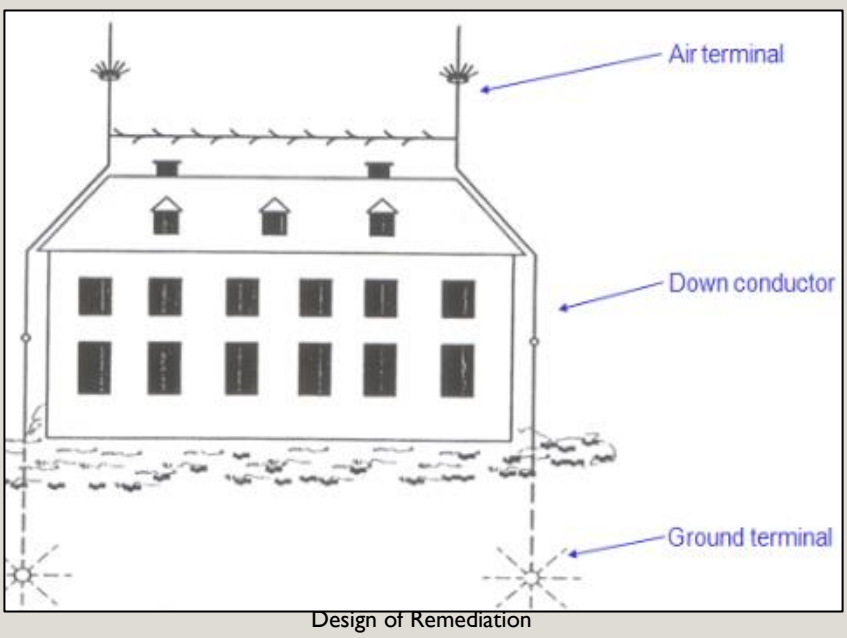
LPS is installed on highest point of building based on the calculations as per the design of the particular Air terminal.

Process to remediate issue: Before submission of CAP (Corrective action Plan) factory needs to consult with their remediation firm for design of LPS system, type of LPS, requirement calculations and get Cap approval & design approved during design sign off by inspection firm before commencing remediation.

LABS standard reference-:Refer 10.26 Lightning Protection system(Pg 85)

Remediation

- Lightning protection system to be installed under supervision of competent person, all its components should be installed as per calculation.
- LPS down conductor must be insulated from building structure.
- LPS earthing should be kept separate.
- Commissioning certificate to be submitted post installation



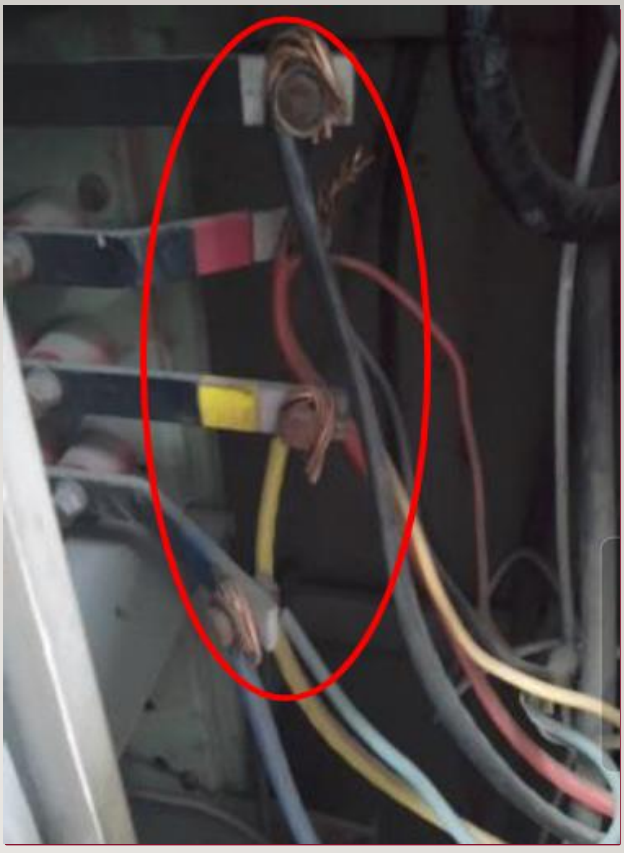
Design of Remediation

ISSUE DESCRIPTION:- USAGE OF LUGS & GLANDS

Purpose of Remediation

A stranded cable if inserted into a terminal, the screw used to tightening cable will push some strands aside leaving few strands making contact and reducing the current carrying capacity which in turn means that the actual load could cause over heating of cable leading to fire

The purpose of installing cable lugs allows supply and distribution of electric current uniformly without any hindrance between electrical cables



Process to remediate issue: Factory team need to ensure that each cable terminating into electrical panel or MCB must have provided with lugs/thimble. Factory team can introduce SOP for wiring which include use of Lugs for wire termination

LABS standard reference-: Refer 10.8.15.2 Wiring of distribution board(Pg 77)

Remediation

- Select proper Lugs as per size of wire
- Outgoing cables shall be connected to terminals only by soldered or welded lugs
- Provide sleeves over remaining part of lugs

Design of Remediation

ISSUE DESCRIPTION:- USAGE OF GLANDS IN ELECTRICAL PANEL

Purpose of Remediation

Cable Gland are proposed as they act as a seal and terminating device to ensure the protection of electrical equipment inside junction boxes. It prevents entry of rodents, dust & vapor from entering in electrical panel. Dust & rodent entry into panels may led to short circuit and fire.

Glands provide additional support to cables in electrical panel.

Process to remediate issue: Factory team need to ensure that all unused openings in such equipment's to be closed/concealed properly. Factory team can introduce SOP for wiring which include use of glands and sealing of openings after use.

LABS standard reference-:Refer 10.8.8 Switchgear(Pg 75)

Remediation

Opening in the panel could be closed by providing glands over electrical cables or by putting sealant into them however glands are advised for better maintenance.

Design of Remediation

ISSUE DESCRIPTION:- INSULATIVE RUBBER MATS

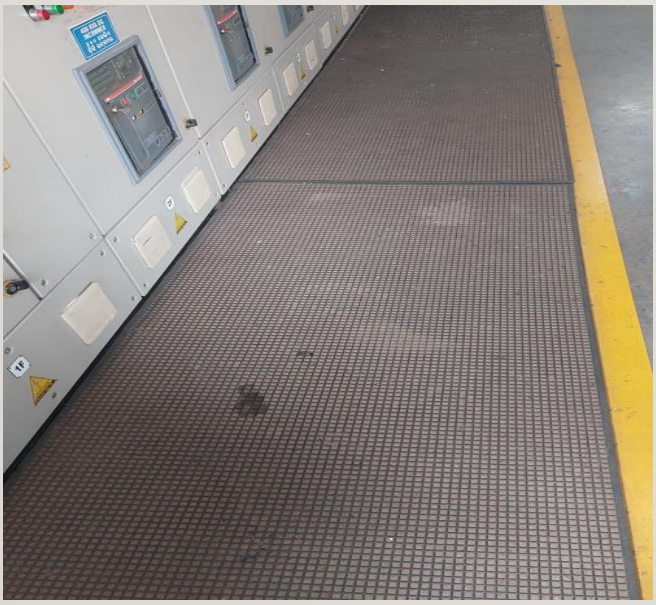
Purpose of Remediation
Insulation rubber mats are special rubber mats that are designed to prevent electric shock by enabling high insulation between ground and person standing above it. Rubber mats are used in front of high voltage equipment's. Electrical panel are advised to be kept in 3ft clearance area of panel for effective movement of maintenance personnel working on panel.

Process to remediate issue: For obtaining maximum practical safety in adverse working conditions, the mat should be permanently pasted, All joints and comers shall be filled/covered with insulating material of matching color.. Wherever the floor is porous in nature and attracts moisture, waterproofing compound is recommended to be used to protect insulating and electrical properties

LABS standard reference-: Refer 1,5.5.11,10.5..4.6 of LABS standard

Remediation

Insulation rubber mats installed under electrical panel

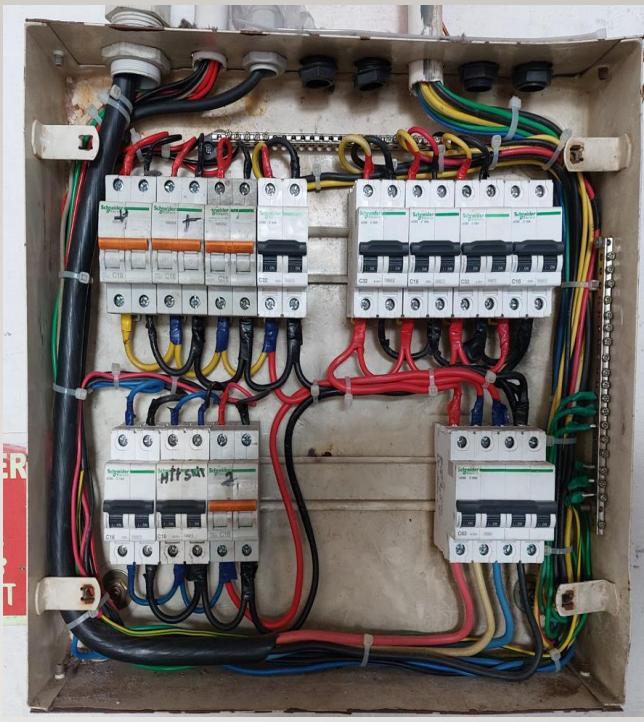


Design of Remediation

ISSUE DESCRIPTION:- SURGE PROTECTION DEVICE

Purpose of Remediation

Surge protection device is used to limit voltage surge in normal electrical system to protect electrical installation from over voltages.
An electric surge is caused due to spike in voltage of ac current which could damage your live equipment. At the time of surge, Surge device can absorb this spike and release it in the form of heat or divert the current to earth.

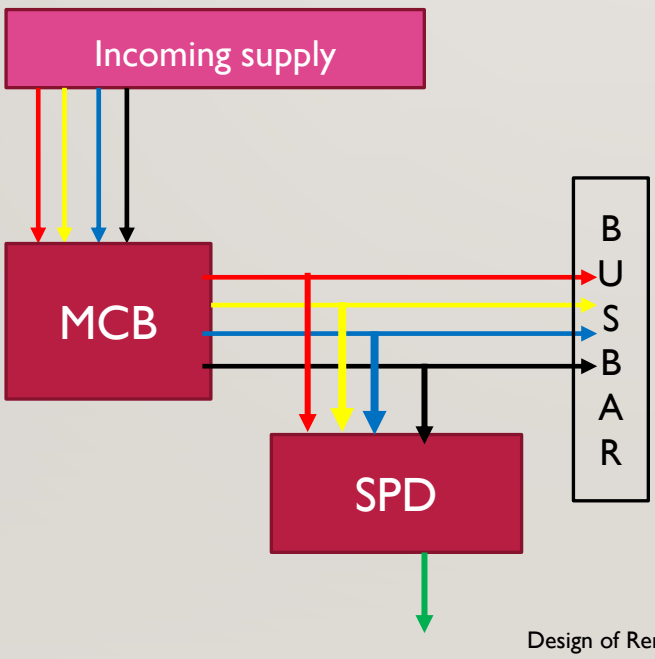


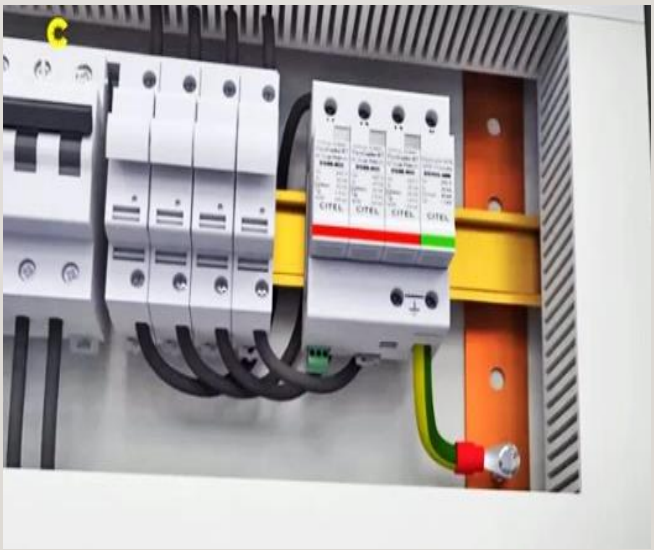
Process to remediate issue: Factory team/Remediation firm need to layout design of power supply distribution with SPD install such that current is passing through SPD into machine installed.

LABS standard reference-:Refer 10.23 protection of circuits (Pg 83) of LABS standard

Remediation

SPD is connected to the conductor before it enters the equipment. The surge arrester is also connected to earth and functions by routing energy from an over-voltage transient to ground if one occurs.





Design of Remediation

ISSUE DESCRIPTION:- LAYING OF CABLE THROUGH CABLE TRAY

Purpose of Remediation

Cable tray are used to provide support to electrical cables for power distribution to prevent open wiring or conduit wiring system.

Cable tray allowed efficient heat dissipation, identification and easy maintenance and repair of electrical cables.

Process to remediate issue: Factory team need to lay cable on cable tray affixed on wall or suspended through ceiling .

LABS standard reference-: Refer 10.11.4 installation of LABS standard(Pg78)

Remediation

Installed electrical cable on cable tray, to be clear from the gas/fuel/water pipelines

Design of Remediation

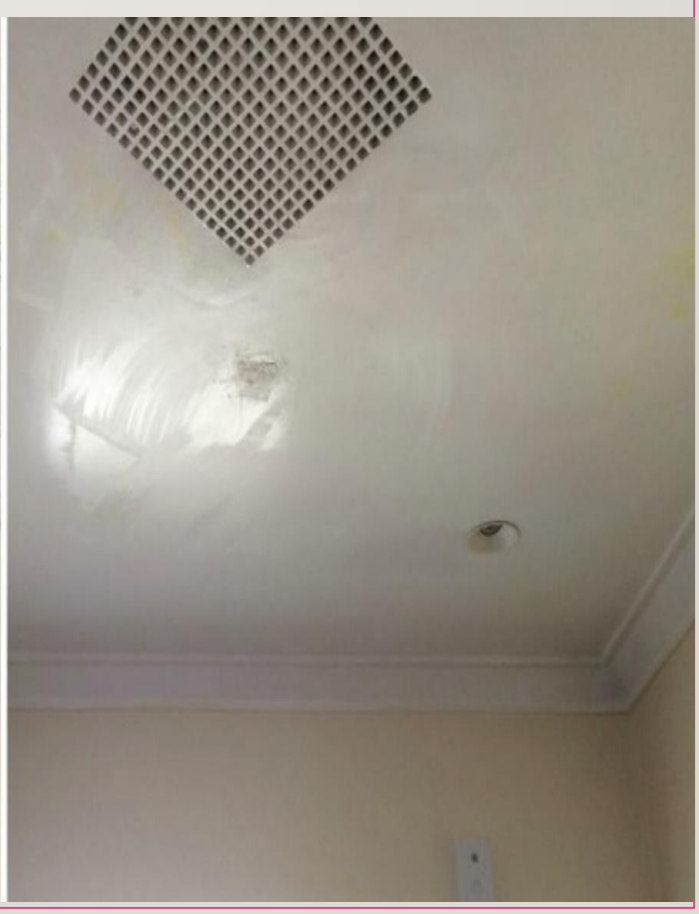
ISSUE DESCRIPTION:- DAMPNESS/ WATER INGRESS

Purpose of Remediation
Dampness tends to cause secondary damage to a building. The unwanted moisture enables the growth of various fungi in wood, causing rot or mould health issues. Dampness along with warmth and darkness germs of dangerous diseases such as tuberculosis, neuralgia, rheumatism etc.

Process to remediate issue: The most effective way of preventing dampness problems in buildings, including those resulting in damp masonry at the foot of walls, is to minimize moisture sources and provide adequate passive moisture sinks to dissipate any penetrative moisture so as to make the system fail safe.

LABS standard reference-:Refer 8.25 of LABS standard(Pg 63)

Remediation
Dampness prevention and control.



ISSUE DESCRIPTION:- STRUCTURAL STEELWORK CORROSION

Purpose of Remediation
The surface of a reactive metal slowly reacts with the moisture and air present in the atmosphere; as a result, a brownish compound is formed on the surface. The compound formed on the surface makes the metal appear dull and deteriorate which results in the structural integrity fail (Load Bearing capacity) this leads to injuries and metal structure collapse accidents.

Process to remediate issue: The rusting of metal can be prevented by greasing, painting, galvanizing, anodizing.

LABS standard reference-: Refer 8.25 of LABS standard(Pg 63)

Remediation
Corrosion prevention and control.

ISSUE DESCRIPTION:- VISUAL INSPECTION OF THE BUILDING & STRUCTURES

Purpose of Remediation
Physical examination of the building & structures to identify visual signs of subsidence, cracks on walls/ beams/ columns/ slabs, exposure of reinforcements, corrosion of steel structural, roof top water proofing conditions, buckling/ bending of members, seepages/ leakages, etc., or any other structural distress, including inaccessible areas. Such inspection to be carried out once in 3 years by a competent Civil Engineer with sufficient experience in inspection.

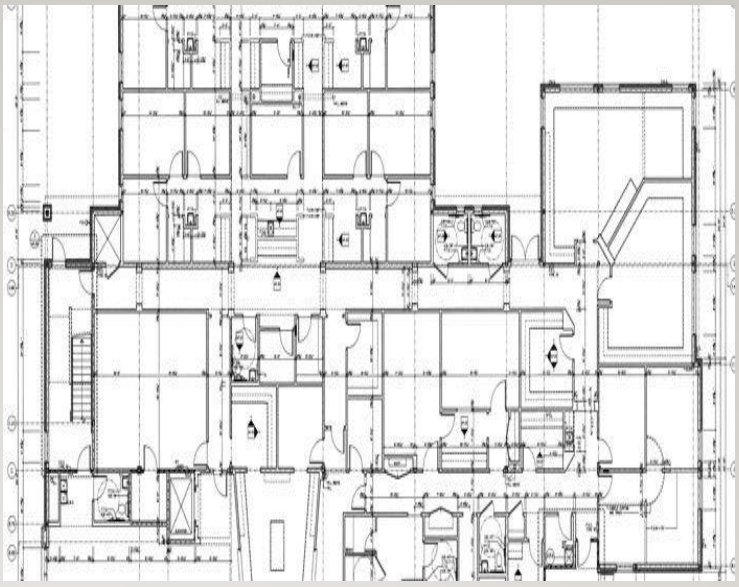
Process to remediate issue: Conducting Structural Inspections to determine the current condition of the structure. To specify type; cause; and extent of deterioration, the rate of deterioration, and whether deterioration is active or not. To estimate the remaining time before repair or replacement.

LABS standard reference-:Refer 12.7.4 of LABS standard(Pg 90)

Remediation
Visual Inspection of structure

ISSUE DESCRIPTION:- REQUIREMENTS FOR AS-BUILT DRAWINGS.

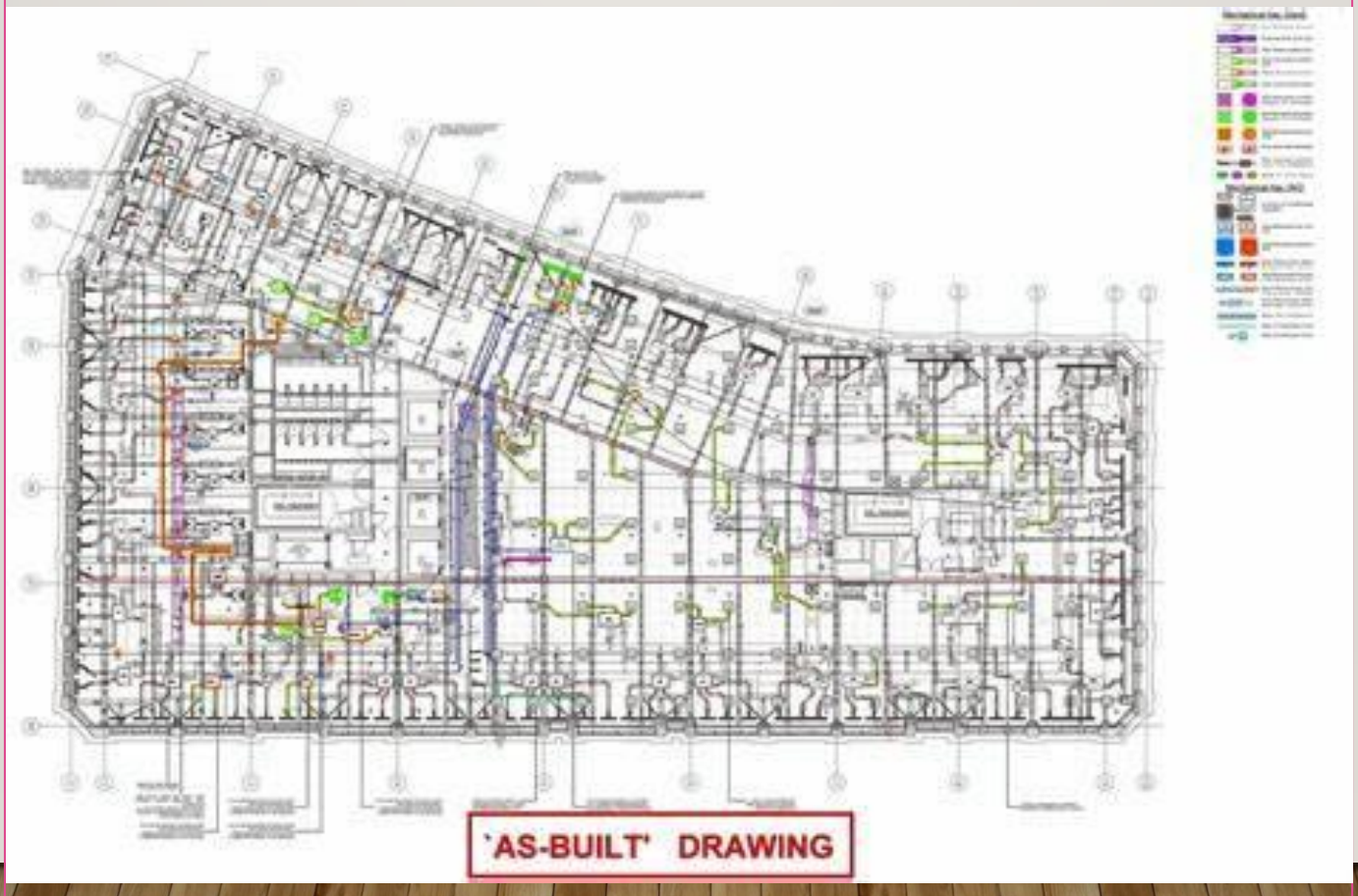
Purpose of Remediation
Purpose of an as-built drawing is to record any modification made during the building process that deviates from the original design. The drawings that are first completed for a planned construction project are not the ones that are needed once the project is finished. Instead, the contractor needs to submit the as-built drawings.



Process to remediate issue: As-built documents shall serve as the basis for any detailed fire safety analysis performed to confirm the adequacy of the fire safety measures provided.

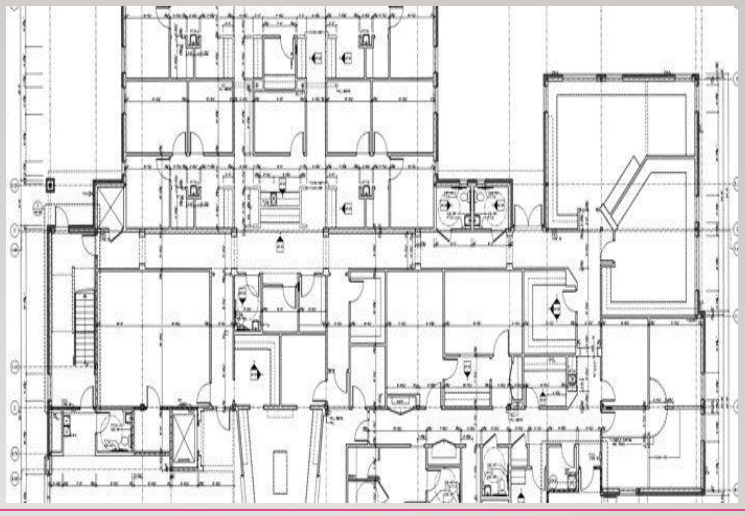
LABS standard reference-:Refer 3.10vof LABS standard(Pg 11)

Remediation
Drawings should use the architectural plan documents as background and should show, for every floor and roof level.



ISSUE DESCRIPTION:- FLOOR LOADING PLANS AND FLOOR LOAD MARKINGS.

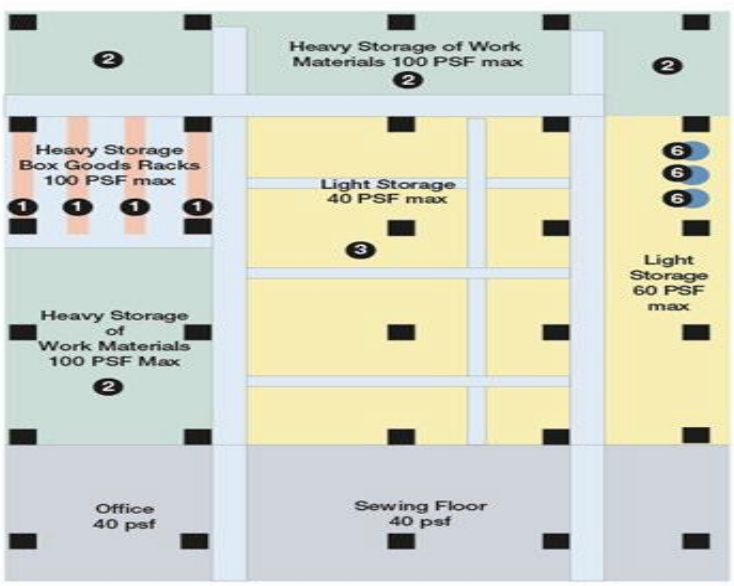
Purpose of Remediation
Floor loading is the load that a floor (as of a building) may be expected to carry safely if uniformly distributed, it is usually calculated in kilonewtons per square meter or kN/m2. It is also known as live load.



Process to remediate issue:
In every factory building, Safe Load Plans shall be prepared, by a QSEC, for each suspended floor and roof level (if roof is accessible).
In areas of factory buildings used for storage of work materials and work products, walls, columns, and floors shall be clearly marked to indicate the acceptable loading limits as described on the relevant Safe Load Plan.

LABS standard reference-:Refer 8.9.3 & 8.9.4 of LABS standard(Pg 55)

Remediation
The Factory Owner shall ensure that the live load for which a floor or roof is or has been designed, will not be exceeded during its use.



Typical Floor Loading for this Floor:

No	Type	Item	Max PSF Load	Description
1	HS	Box Goods Rack	120	W36" x H72", Max 6 boxes high, 15kg/box
2	HS	Denim Rolls Storage	150	13" dia, 72" long, 150 kg/roll, 6 high max
3	LS	Bundled Box Storage	40	Max 48" high, 24" aisle each bay
4	Light	Office	40	W36 x H72, 6 boxes high, 15 kg/box
5	Light	Sewing Tables	40	Typical sewing tables
6	Special	Water Tank	N/A	4000 lbs, 60" dia, 84" tall, 5000 gal

Notes:
HS - Heavy Storage
LS - Light Storage

Floor x Load Plan:
Factory Name: _____ Prepared by: _____
Date Approved: _____ Approved by: _____

REFERENCES

1. https://www.scdf.gov.sg/firecode/table-of-content/chapter-2-means-of-escape/clause-2.3
2. https://alesayistorage.com/products-solutions/in-rack-sprinkler-systems/
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