

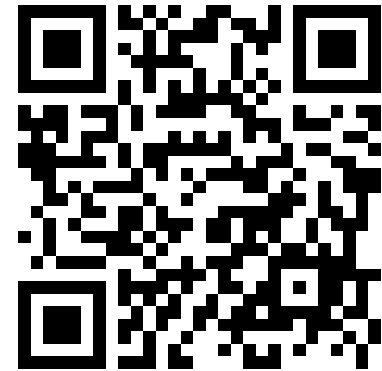


**LABS**  
Life And Building Safety

**LABS - GOOD PRACTICES SHARING**

**March 2025**

**Please Register Yourself**



<https://forms.gle/LznLUbfuQ12gGi3k7>

# WELCOME & INTRODUCTION



# What is the 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



INDONESIA



INDIA



CAMBODIA



VIETNAM



# Life and Building Safety Initiative (LABS)

Promoting a safe and secure working environment in the apparel and footwear industry

## Brand participants



Gap Inc.



Walmart 



amazon 

The **Life and Building Safety (LABS) Initiative** is an industry-driven program, in which multiple brands and retailers are joining forces with public organizations to operate a scalable program to eliminate preventable **structural, fire and electrical safety risks** in key apparel and footwear producing countries in a targeted way.

# Field Level Impact: Scalability in the last 68 months

Sep 2019 till March 2025

## Enabling Technical Environment

### LABS associated firms:

- 11 Inspection firms
- 4 Quality Assurance firms
- 8 Safety Training firms

### Engineers and trainers trained:

- 50 Engineers (each with a minimum of 10 years' experience)
- 17 Trainers

Standards for **04 countries** established

Overall remediation achieved: **81 %**

**18,388** people trained including supervisors, machine operators, electricians, boiler operators, compliance in-charges

## Program operations



**04** Countries



**599** Factories onboarded



**590** Assessments conducted



**1230** Safety Trainings delivered



**1,218,715** Workers reached

Average no. of issues identified per factory: **43**

**15**

**Fire**

Eg: Lack of fire detection and firefighting system

**19**

**Electrical**

Eg: High temperature up to 222°C observed in electrical panel

**9**

**Structural**

Eg: Excessive overloading on rooftop and floors

Follow-up Visits conducted: **1,816**

Factories Graduated: **170**



# Concerning Case

End of 2024 to now

**20-Nov-24:** A massive fire engulfed a garment factory and a house on Jalan Air Jantung, Kampung Tanjung, Kawalu District, TASIKMALAYA City, Wednesday, November 20, 2024 evening.

The incident, which occurred at around 21.00 WIB, burned down a building measuring 8×12 meters and caused moderate damage.

According to residents, the fire began to appear after a sound like an explosion was heard from inside the garment factory.

**8-Dec-24:** A major fire broke out garment factory in Magelang on Sunday, December 8, 2024, at around 11:00 WIB, causing significant damage and halting operations. The blaze, which spread rapidly through the production and warehouse areas, required hours of firefighting efforts and involved dozens of units. Thick black smoke was visible for kilometers. The incident left 2,700 employees temporarily jobless. The company is assessing losses and awaiting a police investigation to determine next steps.

**6-Jan-2025:** A fire broke out at garment factory in Godong, Grobogan Regency, on January 6, 2025, at around 10:45 AM WIB, reportedly due to an electrical short circuit caused by substandard wiring.

Godong Police Chief AKP Bambang Jumena confirmed the incident, stating that it was reported at 12:00 PM WIB. Technician Deka Yulianto first spotted the fire near the export loading area, where flames were coming from electrical cables connected to a solar power system above a water channel.

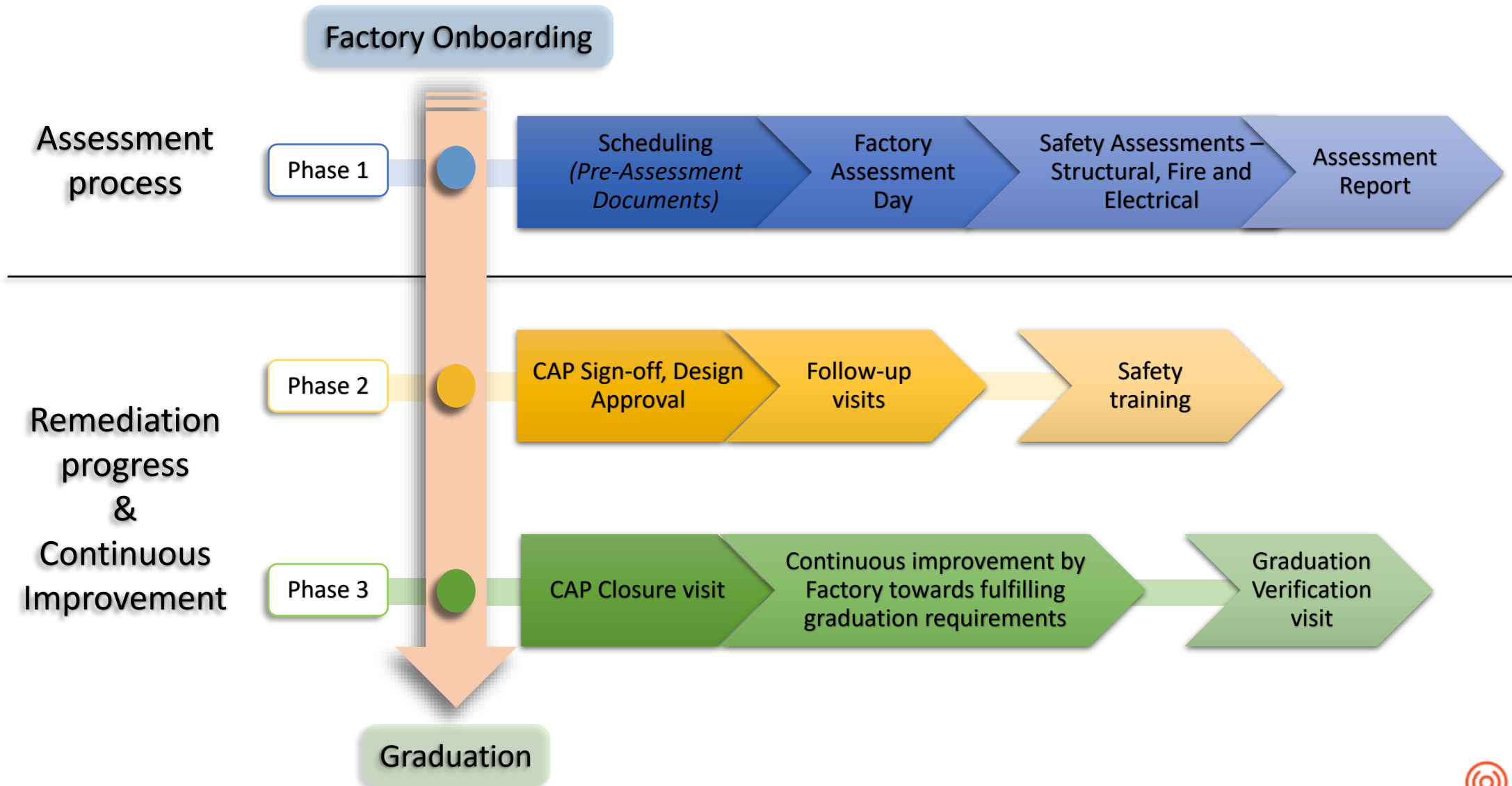
**30-Jan-2025:** Three textile factories in the Kampung Sadang Industrial Area, Bandung Regency, caught fire on the afternoon of January 30, 2025. The massive blaze took nearly 13 hours to extinguish, with thick black smoke seen billowing in videos circulating on social media. Firefighters and residents battled the flames, which engulfed a thread factory, an adhesive factory, and a fabric factory.

**11-Feb-25:** A fire at a textile material factory in the Pabelan industrial area, Kartasura, Sukoharjo, on Tuesday (11/2/2025) broke out around 10:02 AM, reportedly starting under a production machine where sparks ignited fabric scraps, causing the flames to spread rapidly due to strong winds; employees attempted to extinguish it using fire extinguishers before the factory owner contacted fire services, which deployed units from Karanganyar, Sukoharjo, Solo, Boyolali, and BPBD (water supply) to extinguish the blaze in about 40 minutes, followed by cooling to prevent reignition, with no casualties reported and the cause suspected to be an electrical short circuit.

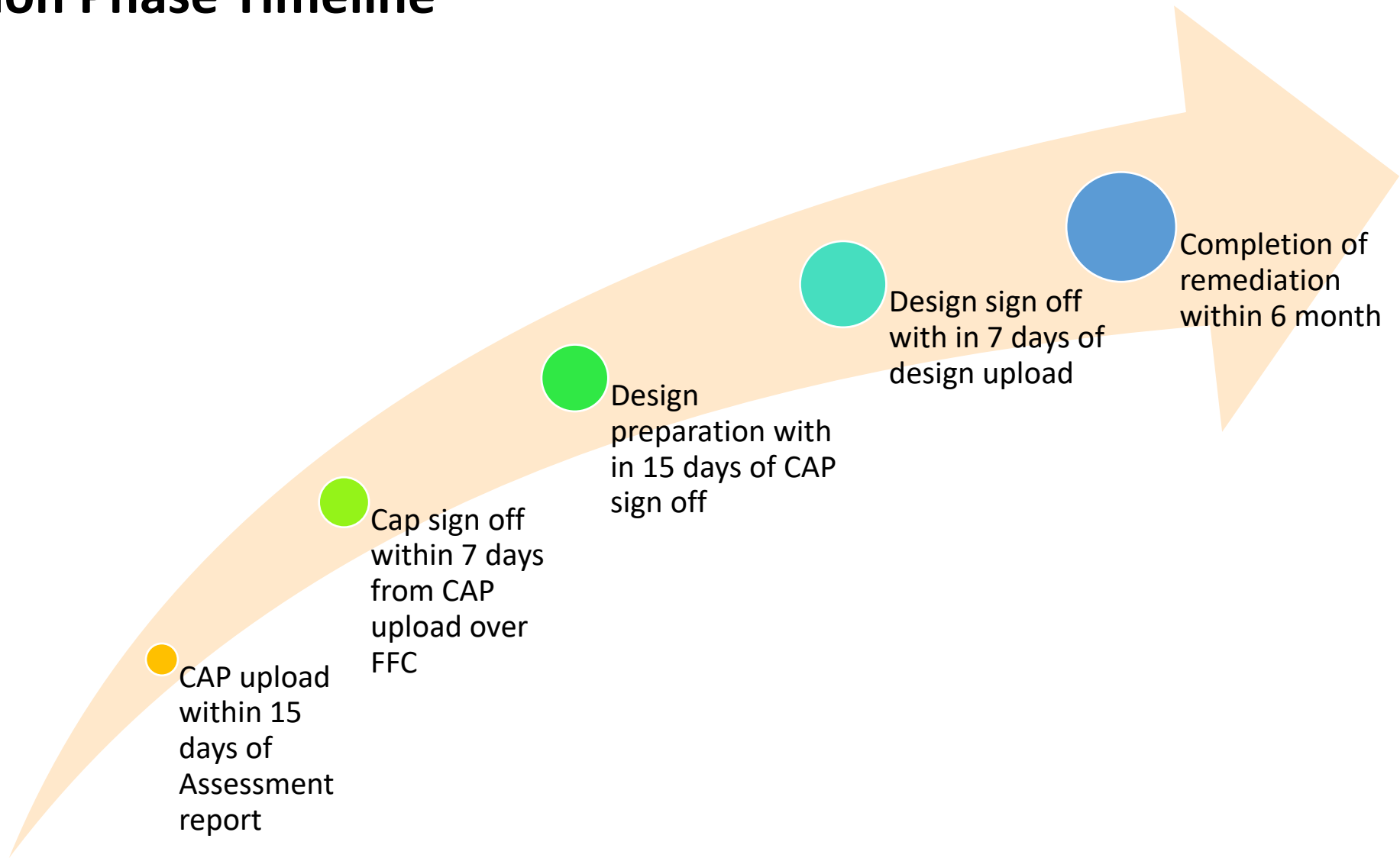
# LABS ASSESSMENT & REMEDIATION REVIEW



# Assessment & Remediation phases



# Remediation Phase Timeline

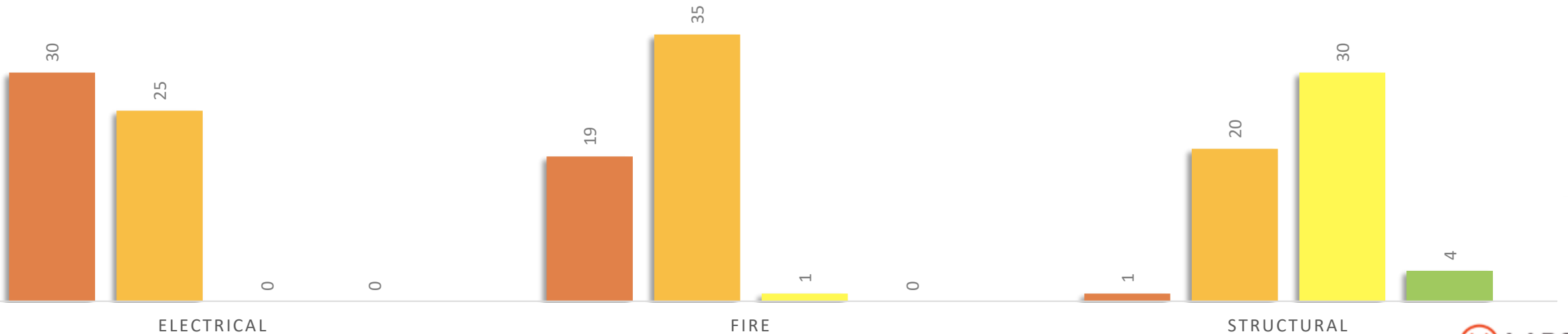
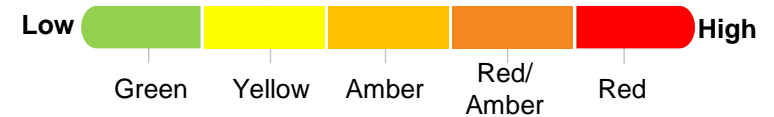


# Assessment reports – Overall ratings and observations

- 55% of **Electrical** assessments fall under the **Red/Amber** category
- 35% of **Fire** assessments falls under the **Red/Amber** category
- 36% of **Structural** assessments falls under **Amber** category

- Common **Severe Priority 1** issues identified are:
  - Locked or systematically obstructed main emergency exit(s)
  - High temperature in electrical panels
  - Lint and dust found in Electrical panels

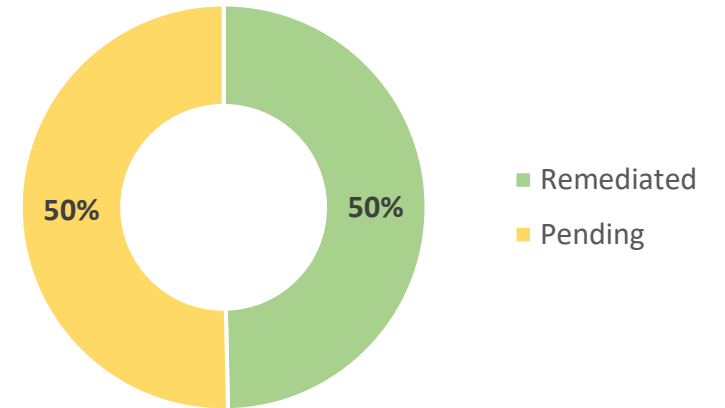
## OVERALL LABS ASSESSMENTS DATA



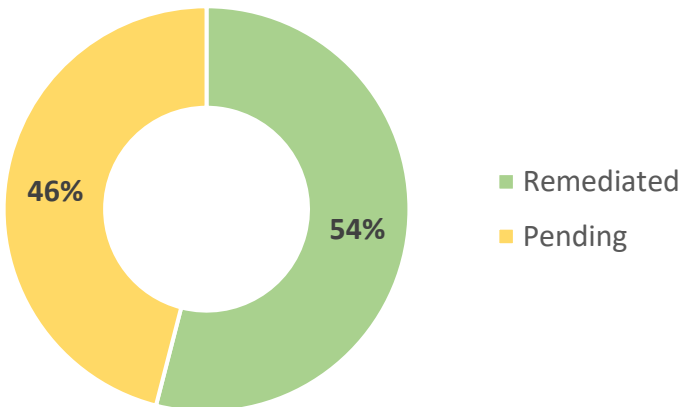
# Issues Remediated vs. Pending

- 276 of 511 (54%) electrical issues remediated
- 199 of 465 (43%) fire issues remediated
- 98 of 178 (55%) structural issues remediated
- 573 of 1154 (50%) total issues remediated

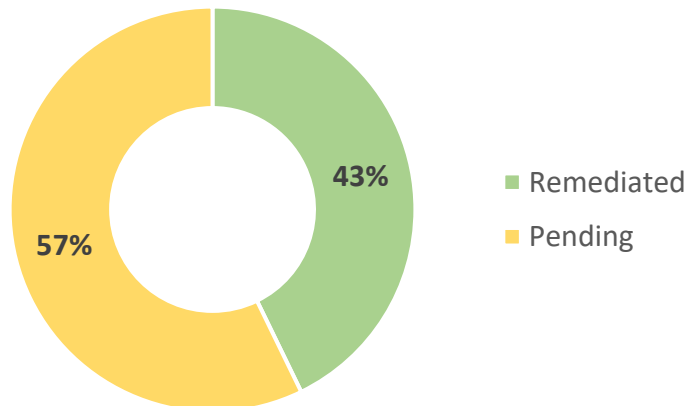
Total



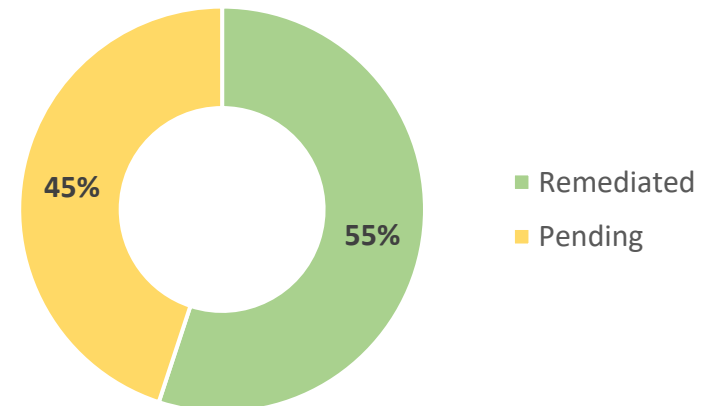
Electrical



Fire



Structural

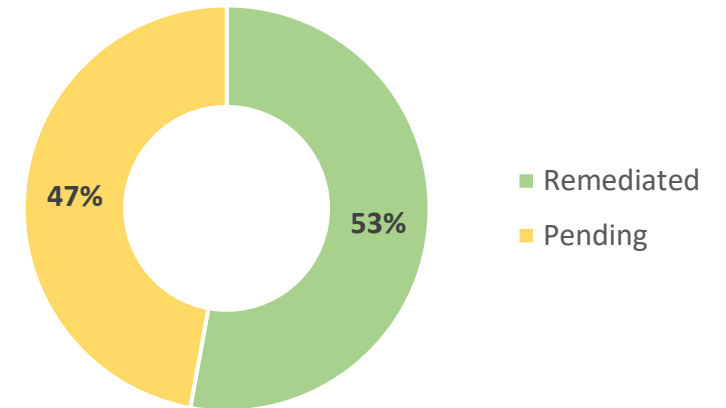


\* Data is from 90 follow-up visits conducted at 35 factories

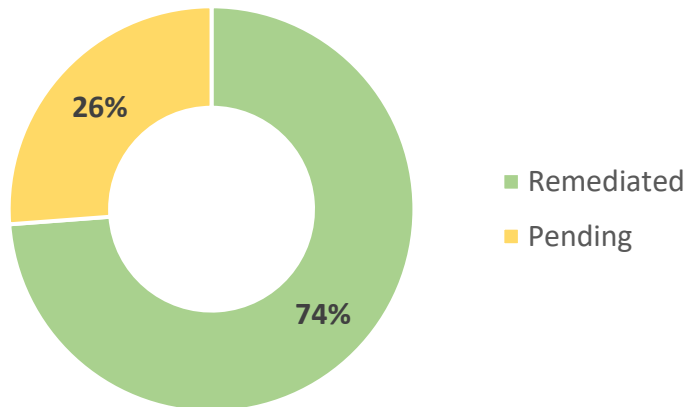
# P1 Issues Remediated vs. Pending

- 31 of 42 (73%) **electrical** issues remediated
- 91 of 200 (45%) **fire** issues remediated
- 16 of 19 (84%) **structural** issues remediated
- **138 of 261 (53%) total issues remediated**

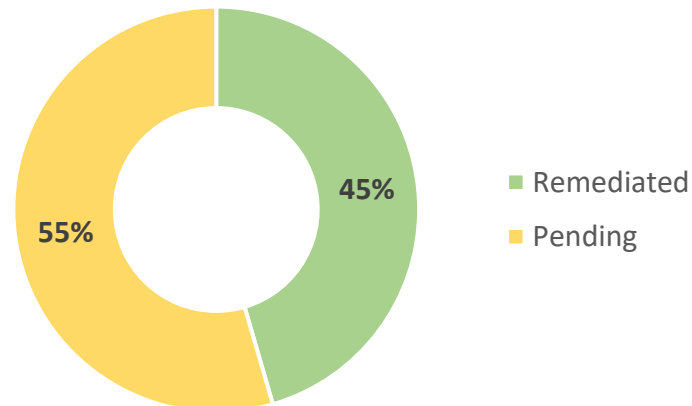
Total P1



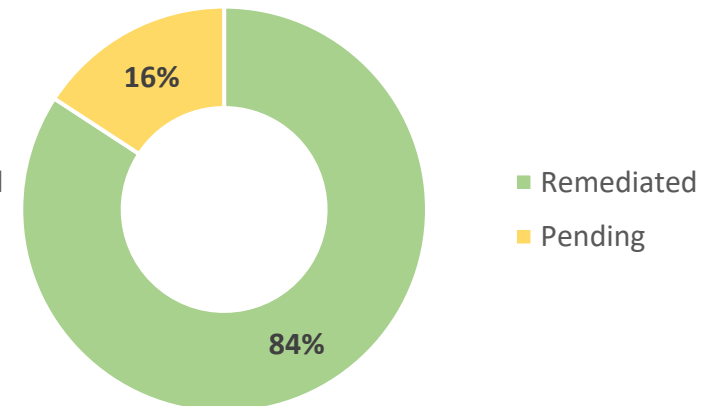
Electrical



Fire



Structural



\* Data is from 90 follow-up visits conducted at 35 factories

# 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

# GOOD PRACTICES SHARING



# Key Findings Observed - Indonesia

Most common findings observed during assessments :

## Structural Safety:

- **Cracks on structural or non-structural members** observed throughout building.
- **Corrosion on steel structure** were observed.
- **Dampness** was observed at a few places inside the main building.

## Fire Safety:

- **Locking mechanism** observed on exit doors.
- **Inadequate fire alarm system.**
- **Inadequate Fire fighting system.**
- **Emergency lights** were not working properly.

## Electrical Safety:

- **High number of hotspots detected** with temperature ranging from 70°C to 110°C.
- **Lint and dust** were observed.
- **Single line diagram drawings** were not provided or updated.



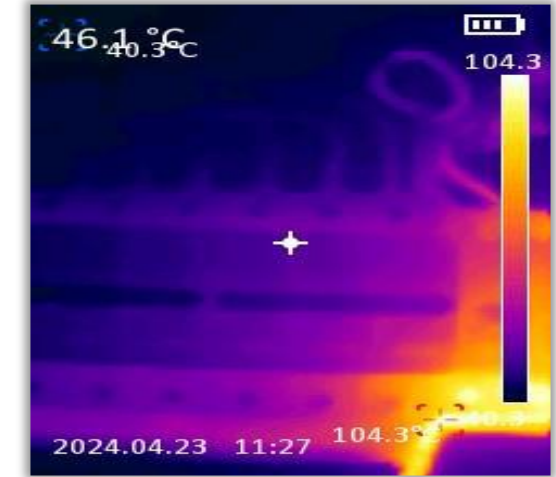
Crack on Non-Structural Member



Locking mechanism on exit door



Lint and Dust in Electrical Equipment



High temperature observed in the electrical panel

# Key Issues Identified and Remediated - Indonesia

Identified



Inadequate Water Pump Set



Excessive Travel Distance



Broken Roof



No Oil Soak Pit for Transformer



Local Type Smoke Detector Observed

Remediated



Water Pump Set Provided



Additional Exit Provided



Broken Roofing Replaced



Soak Pit Provided



Integrated Alarm System Provided

# Key Issues Identified and Remediated - Indonesia

Identified



High temperature of 92.5°C observed in electrical panel



No Emergency Exit Observed



Sliding Doors used as Emergency Exit

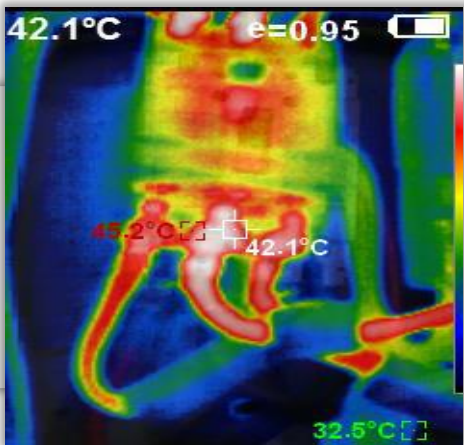


Obstructed Emergency Exit



Lint and Dust in Electrical Equipment

Remediated



High temperature remediated



Emergency Exit with FR Door Installed



Locking mechanism removed



Emergency Pathway Secured



Lint and Dust Removed

# FIRE SAFETY PRACTICES

## Insufficient water storage

Description

LABS Standard

Fire Water requirement should be maintained

5.8.1.2



# FIRE SAFETY PRACTICES

## Fire pumps

Description	LABS Standard
Provide new pumps that meet the pressure and flow capacity	5.4



# FIRE SAFETY PRACTICES

## Lift Separation

Description	LABS Standard
Openings through floors shall be enclosed with fire barrier walls	4.10.1



# FIRE SAFETY PRACTICES

## Means of Escape

Description	LABS Standard
No furnishings, decorations, or other objects shall obstruct exits and access to exits	6.3.9
A means of escape shall be a continuous and unobstructed way of exit travel from any point	6.1.1



# FIRE SAFETY PRACTICES

## Means of Escape

### Description

### LABS Standard

Aisles shall be provided with a minimum unobstructed clear-width of 915mm.

6.5.6.1



# 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

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

### 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

\* LABS methodology 5.3.1.1

# 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

Handrails shall be provided on both sides of each stairway

6.10.8



# FIRE SAFETY PRACTICES

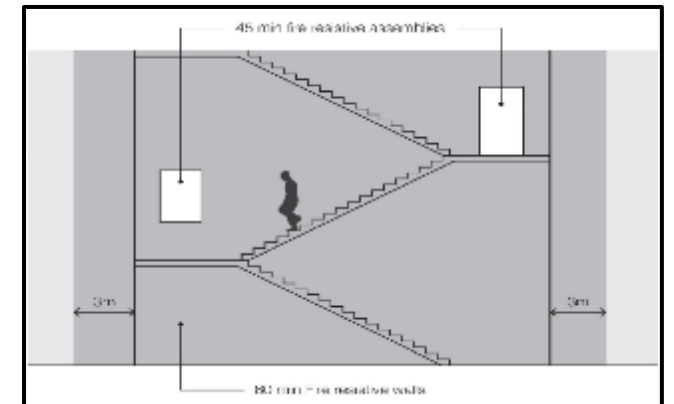
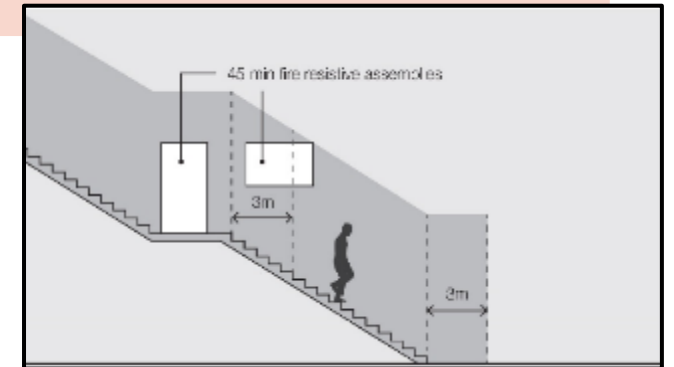
## Means of Escape

### Description

Exterior exit stairs shall be separated from the building with Exits connecting three or fewer stories shall be enclosed with a minimum 1-hr fire-resistance rating. The rating of the exterior wall shall extend 3.0 m beyond the ends of the stair structure

### LABS Standard

6.3.1.3



# FIRE SAFETY PRACTICES

## Means of Escape

### Description

### LABS Standard

All paths of egress shall be provided with illumination, Emergency illumination shall be provided for not less than 90 minutes in the event of failure of normal lighting

6.8



# FIRE SAFETY PRACTICES

## Fire Safety Construction

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



# 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

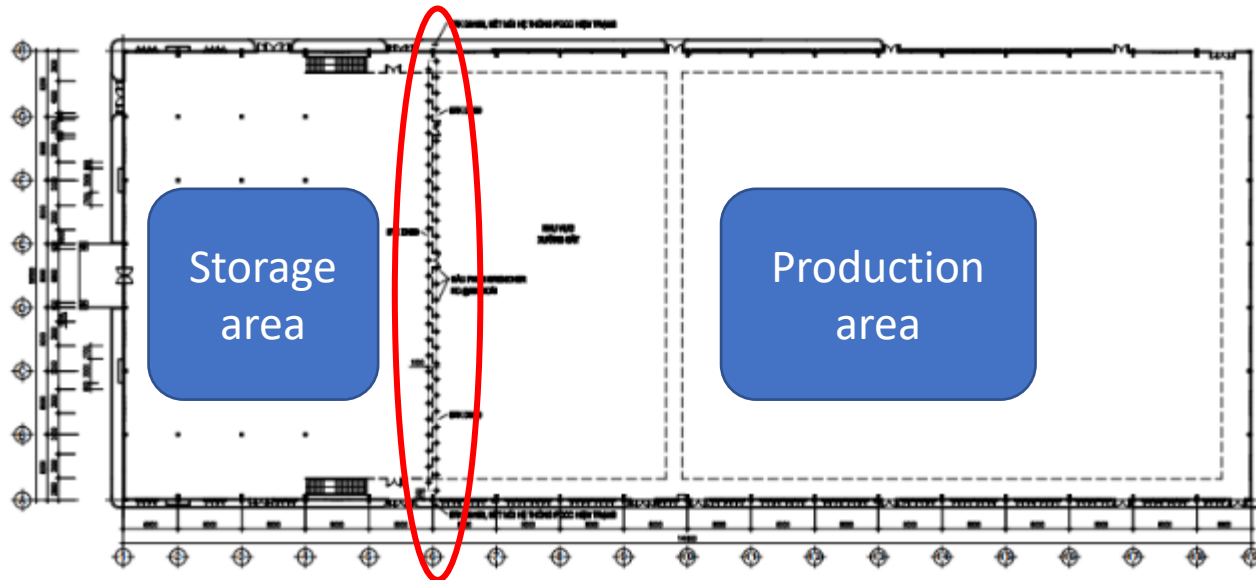
## Fire Safety Construction

### Description

Separate storage areas from adjacent areas by means of 1-hour fire rated construction

### LABS Standard

3.14.3

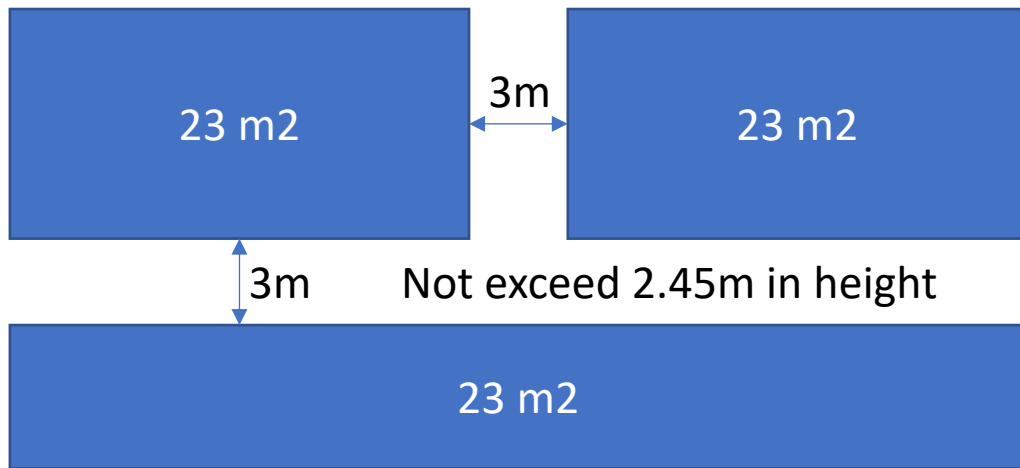


Alternative Option  
Drencher System Installing

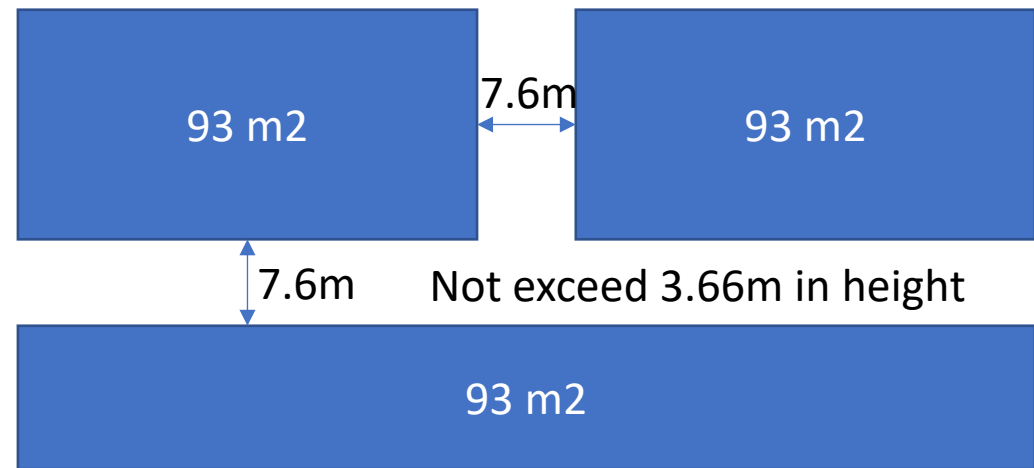
# FIRE SAFETY PRACTICES

## Fire Safety Construction

Description	LABS Standard
in-process temporary storage arrangement for non-sprinklered areas material should be stored as per LABS compliance	3.14.11



Non-Sprinkler area



Sprinkler area

# 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
<p>Test decibel levels of alarm sounders in all areas. Add sounders for all areas where the alarm decibel level is not sufficient. Hooter Cum strobe installation is recommended.</p> <p><b>Note: Minimum sound level usually around 65dB throughout the building but importantly 5dBA above any background noise</b></p>	5.9



# FIRE SAFETY PRACTICES

## Fire Safety Systems

### Description

Emergency illumination shall be provided for not less than **90 minutes** in the event of failure of normal lighting. Emergency lighting facilities shall be arranged to provide initial illumination that is not less than an average of 10.0 lux (lumen/m<sup>2</sup>)

### LABS Standard

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 landing 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

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

Comprehensive fire hydrant and wet riser system (fully charged at the rated pressure and pumps maintained on Auto mode at all times) designed and installed as per TAC rules/

### LABS Standard

5.7



### Note:

Diesel driven and electrical (with independent power supply) standby pump and jockey pump to be provided. (Chart of jockey, main and standby pumps cut-in and cut-off pressures should be displayed in the pump room)

# FIRE SAFETY PRACTICES

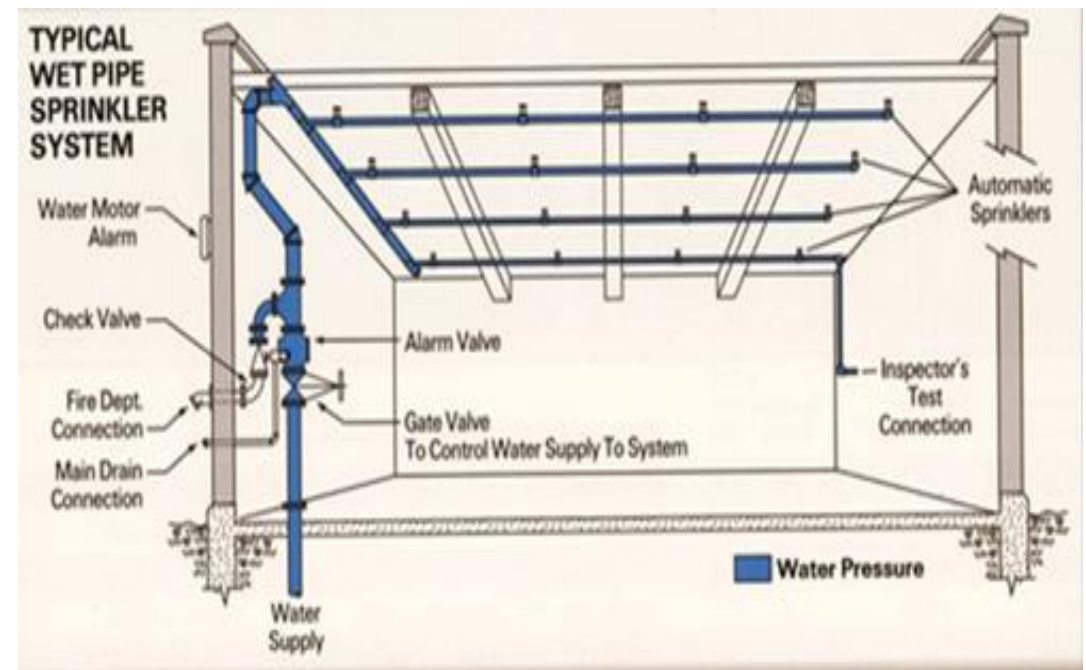
## Provisions for Fire Fighting

### 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. Automatic sprinklers system designed, as per TAC rules. Guidelines to be provided in all manufacturing, storage, utility and service areas, including fire pump rooms.

5.3.8



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



# FIRE SAFETY PRACTICES

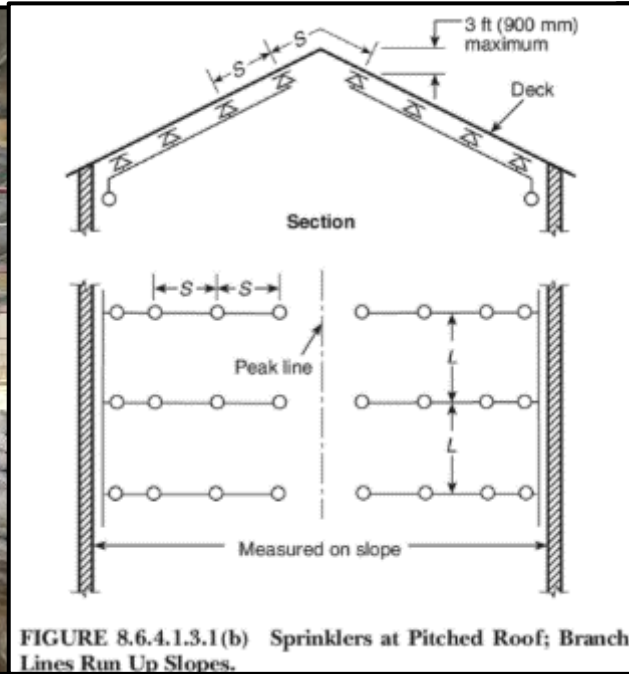
## Provisions for Fire Fighting

### 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



# ELECTRICAL SAFETY PRACTICES

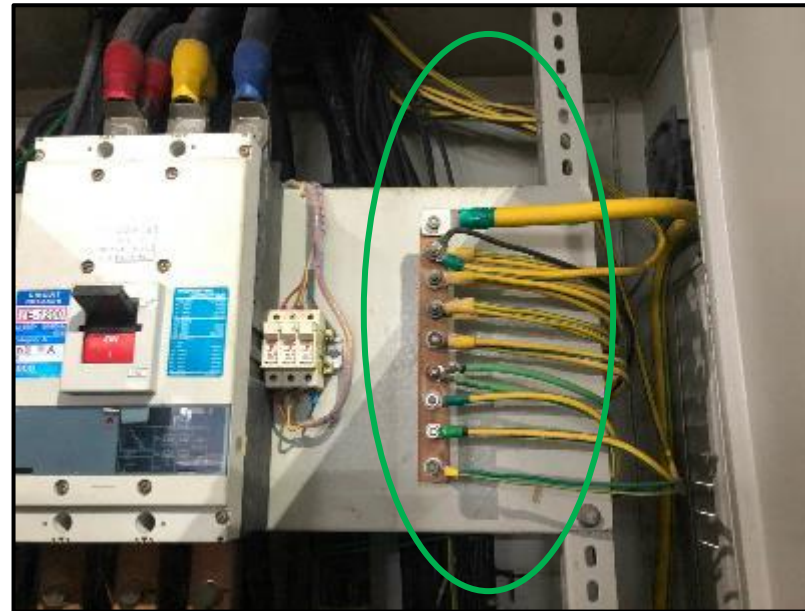
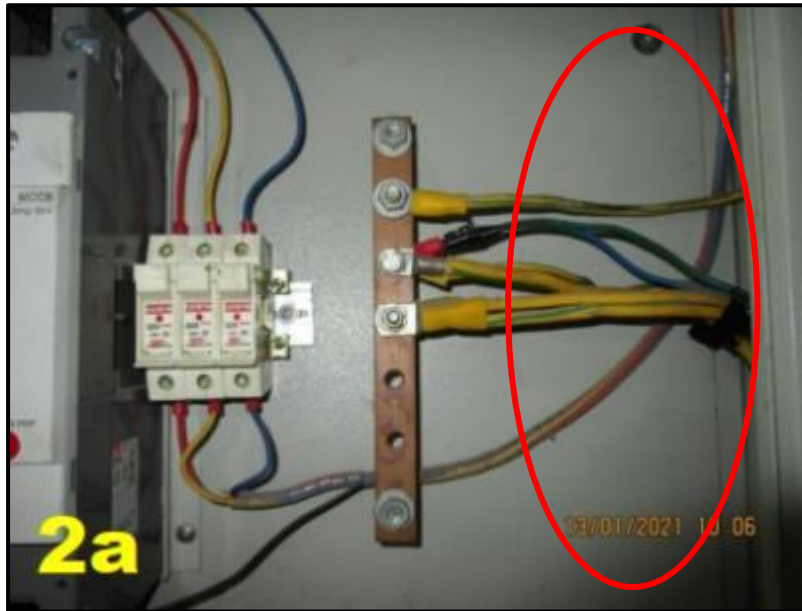
## Earthing and Bonding

### Description

Cross sectional area check of all conductors with respect to short circuit current levels e.g., cable, PE Conductor sizing calculations for short circuit current, etc.

### LABS Standard

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<sup>2</sup>)

(mm<sup>2</sup>)

$S \leq 16$

S

$16 < S \leq 35$

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

Transformers and equipment installed outdoors (having an individual or aggregate oil content of 2000 liters or more) to be located in a suitably fenced & locked enclosure separated. At least 6m from any building including substation.

### LABS Standard

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

Electrical safety is the overriding concern of all electrical design work. Safety is basically governed by the electrical codes and standards as adopted by government agencies, commercial entities and good engineering judgement on the part of the designer.

### LABS Standard

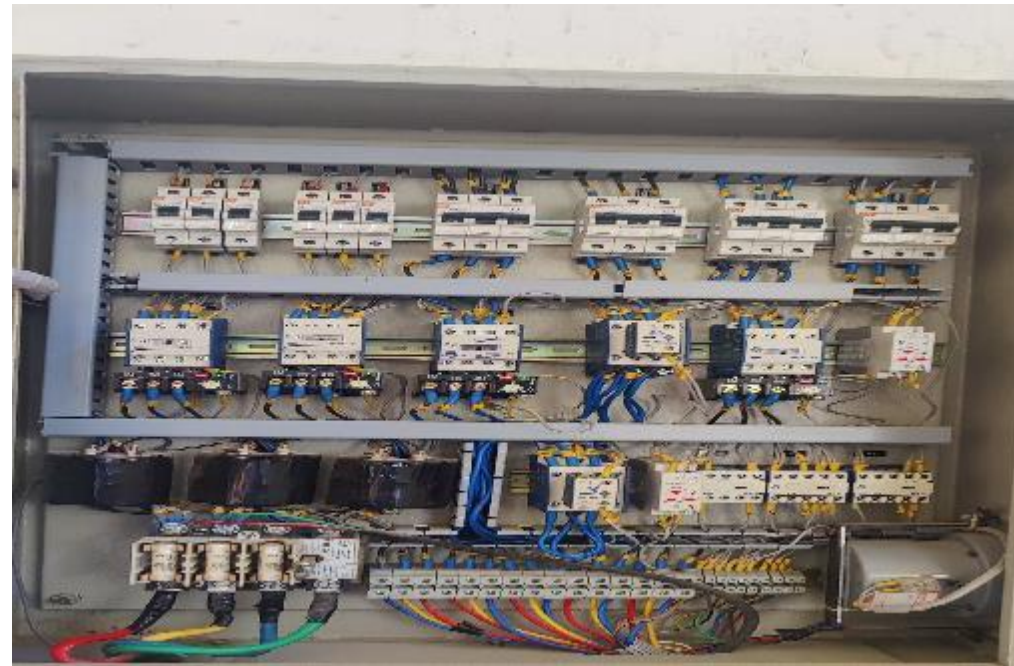
10.6.3



# ELECTRICAL SAFETY PRACTICES

## Distributions

Description	LABS Standard
Housekeeping and hygiene go hand in hand with safe working practices. Contractors and sub-contractors must leave work areas in a clean, tidy and safe condition at the end of each working period. Special attention must be paid to potential fire hazards, trip hazards and equipment left in a hazardous condition.	10.11.1.2



# ELECTRICAL SAFETY PRACTICES

## Distributions

Description	LABS Standard
<p>1) For good electrostatic &amp; electromagnetic shielding galvanized steel cable trays with solid aluminium top and bottom covers are recommended. 2) For corrosive atmosphere stainless steel or GI with corrosion resistant coating are recommended. 3) Ladder type trays are recommended for power circuit and less sensitive control circuits.</p> <p>4) For cables used on circuits that are very noise sensitive, the path between the cable tray and equipment should be via metallic conduits.</p>	10.16.4



# ELECTRICAL SAFETY PRACTICES

## Distributions

Description

LABS Standard

PE and Neutral cable should be identified with proper installation

10.15.1.4



# ELECTRICAL SAFETY PRACTICES

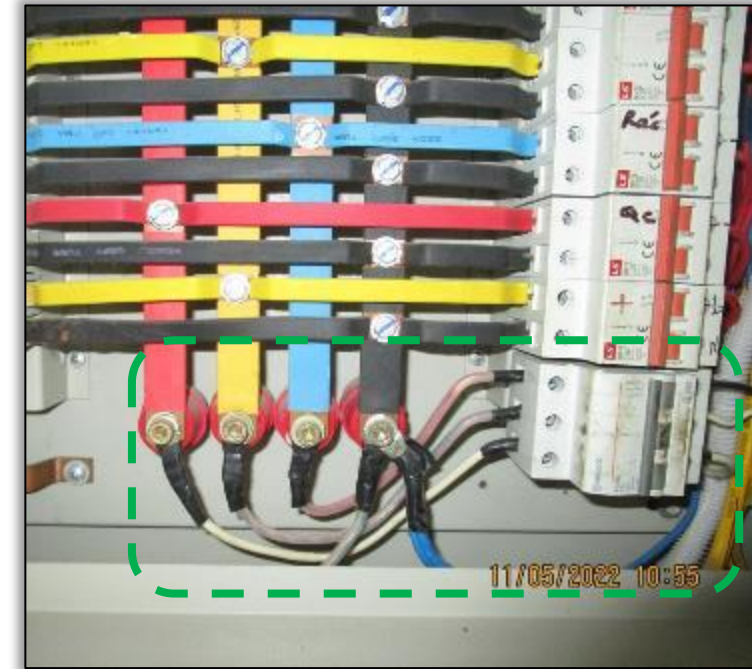
## Distributions

### Description

### LABS Standard

The circuit should be protected by suitable Protective Devices

10.27.1 and 10.29



# ELECTRICAL SAFETY PRACTICES

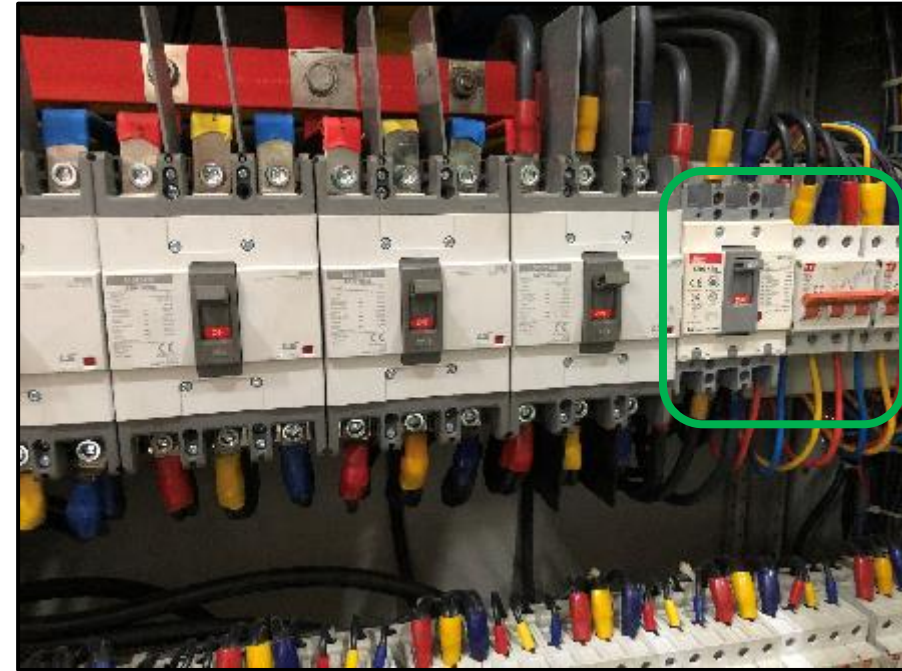
## Distributions

### 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 and shrouding of electrical live parts is not only a must for the performance of electrical system but also safety of the operation and maintenance personnel.

10.5.2.1



# ELECTRICAL SAFETY PRACTICES

## Distributions

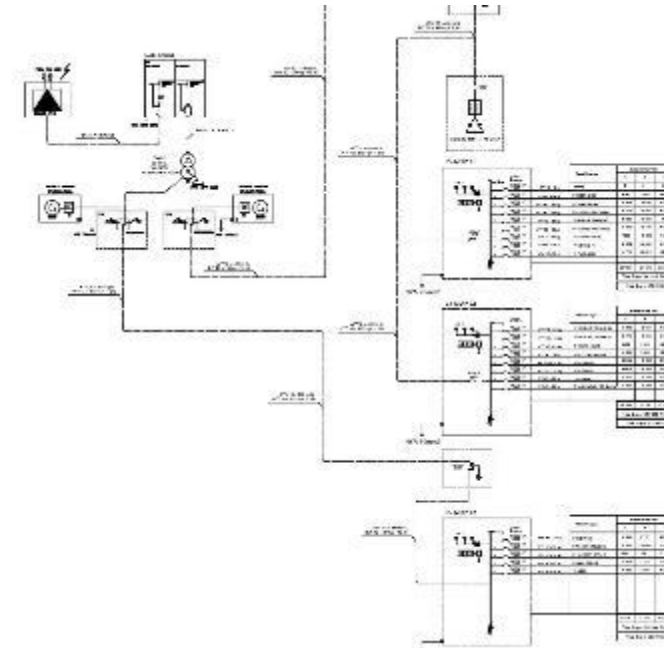
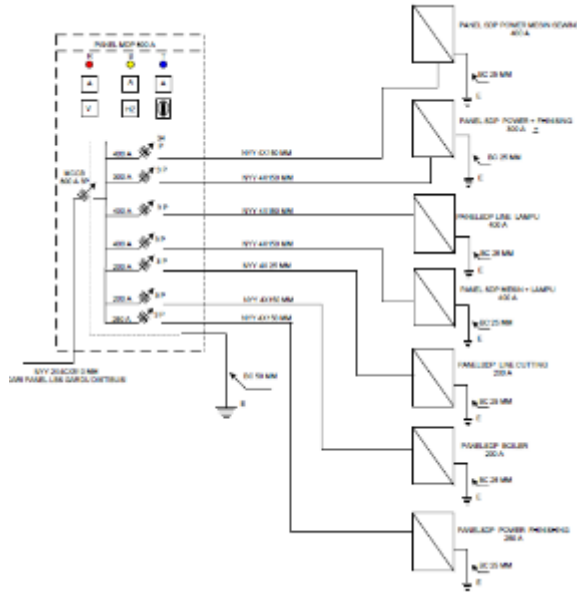
Description	LABS Standard
All lighting and small power circuit and point wiring to be provided with circuit identification labels at DBs, switches, sockets, etc. Cable sockets/ferrules should be used for cable with the cross-sectional area from 6mm <sup>2</sup> and above	10.15.3



# ELECTRICAL SAFETY PRACTICES

## Drawings

Description	LABS Standard
Updated as built single line diagram & drawings of the installation to be available. These drawings to include information on all equipment ratings (e.g. motors, cables, switchgear, etc.), short circuit levels, protections provided and equipment layouts etc. Updated Single Line Diagram drawing to be displayed in Electrical room.	10.22



# ELECTRICAL SAFETY PRACTICES

## Thermographic Scanning

Description	LABS Standard
<p>Millivolt drop across terminal connections in panels to be measured (should be within 10mV). Alternately, thermographic survey can be carried out in live condition with due safety precaution (adequate work instructions &amp; PPEs to be available for conducting thermographic survey). The scope should cover all electrical joints which cannot be shut down for maintenance. Thermographic inspection of electrical equipment to be provided on a tri-annual basis.</p>	10.38.2.2

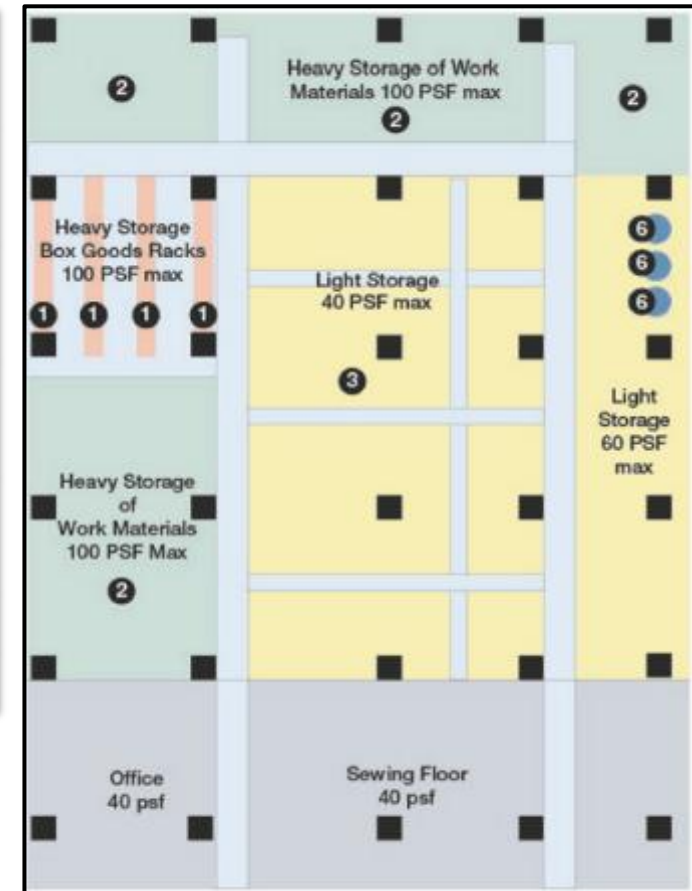


# STRUCTURAL SAFETY PRACTICES

## 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: .....

# STRUCTURAL SAFETY PRACTICES

## Vertical Structural System

### Description

Appoint Structural Engineer to produce safe load plans for all mezzanine/ second floors, giving consideration to floor capacity and column capacity.

### LABS Standard

8.8, 8.9 and 8.10



# STRUCTURAL SAFETY PRACTICES

## Lateral Structural System

Description	LABS Standard
Installing the missing or sagging column/roof bracings in the Pre-engineered buildings	8.18



# STRUCTURAL SAFETY PRACTICES

## Lateral Structural System

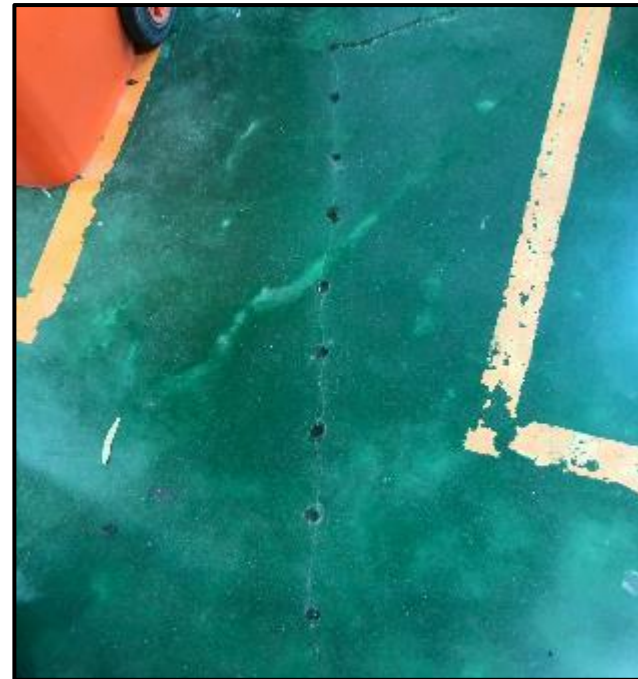
Description	LABS Standard
Installing the missing or sagging column/roof bracings in the Pre-engineered buildings.	8.18



# STRUCTURAL SAFETY PRACTICES

## Visible Distress

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



# LABS TOOL BOX

LABS team has developed Tool box for factories teams to make them understand about remediation of Issues that are identified by inspection firm. Factory team can refer this module while remediating in their premises.

<https://labsinitiative.com/wp-content/uploads/2023/02/LABS-Tool-Box.pdf>



# Q & A

For further queries, contact : –

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T H A N K Y O U