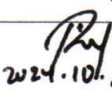
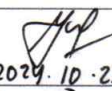


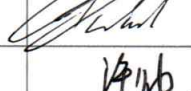
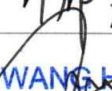



PT. WARLBOR INTERNATIONAL INDONESIA

Factory 5S Visual Management Standard

Document No	WII/QP-31				
Version status	Version A time 0				
Distribution department code	03-07				
Controlled state	All Department				
Prepared	Code	Departement	Name	Position	Date & Sign
	03	Quality	RIZKY ERWANDO	manager	 2024.10.23
Reviewed	03	Quality	M. Wasiludin	Manager	 2024.10.23
	04	Production	Xue Yang	director	 23/10/24
	05	HRGA	Daniel S	Manager	 24/10/24
	06	Supply Chain	Wan Shue	Director	 04/11/24
	07	Technology	Xu Shuai	manager	 2024.10.23
Approved	N/A	All Dept.	Wang Hongyn	GM	 WANG HONG YU

Released on October 23, 2024

Implemented on October 23, 2024

1. Line Color Management Objective:

To implement uniform color management across all workspaces in the production workshop. This is not only for aesthetic purposes but, more importantly, to enhance the tidiness and organization of the work environment through clear visual indicators. Well-defined color divisions can reduce accident risks, such as preventing accidents caused by mistakenly entering hazardous areas. Additionally, this management approach improves employee efficiency and safety awareness, enabling them to quickly identify the function and purpose of different areas.

1.1 Applicable Projects and Specifications:

- **Main Pathway:** The line width is set to 120mm with Safety Yellow, ensuring clear delineation of the main passageway so that it remains easily identifiable even in busy or crowded conditions.
- **General Area Line:** The line width is 50mm with Safety Yellow, used to define regular work areas, helping employees and visitors distinguish between different workspaces.
- **Auxiliary Pathway Line, Door Opening Line, and Turnover Area Line:** All have a width of 50mm with Safety Yellow. These lines help to differentiate functional areas, ensuring smooth flow of materials and personnel.
- **Desktop Item Placement Line:** The line width is 10mm with Safety Green. These thin lines are unobtrusive but effectively assist employees in keeping their desks tidy and organized.
- **Scrap Area, Chemical Storage Area, Electrical Cabinet Area, Fire Protection Zone, Hazardous Areas, Cable Trays, and Trash Bin Area:** The line width is 50mm or 100mm with Safety Red or Diag. Chevrons, depending on the importance of the area. These lines not only define space but also serve as a warning, reminding employees to stay alert for safety.
- **Cleaning Tools:** The line width is 50mm or 100mm with Safety White, specifying the storage location for cleaning tools, which helps maintain a clean and hygienic work environment.

1.2 Standard Colors:

Safety Red

- Red tag or dangerous storage areas
- Defect or scrap storage areas
- Dangerous machinery areas
- Fire sprinkler risers/piping



- Flammable liquid containers
- Emergency warnings/lights
- Fire protection equipment
- Fire alarm pull stations
- Fire exit signs

Safety Yellow

- Safe walkways / egress pathways
- Forklift traffic lanes
- Caution! physical hazard or condition that could result in injury
- Safe means of egress pathways
- Work cells
- Waste containers



Safety Green

- Safety eyewash / shower areas
- Safe walkways / egress pathways
- Safety equipment areas
- First Aid Stations
- High value storage areas



Safety White

- General purpose storage or use areas
- Special / unique storage or use areas
- Areas for high-value commodities
- Areas requiring high cleanliness



Safety Blue

- Areas for posting information
- Areas requiring mandatory action
- Areas requiring specific protection (e.g. hearing, respiratory, eyewear, footwear, clothing, etc.)



-
- | | |
|-----------------------------------|--|
| Yellow w/ Black
Diag. Chevrons | <ul style="list-style-type: none"> • Special hazard or exposure areas <hr/> <ul style="list-style-type: none"> • Hazardous locations (risk of slips, trips, falls, bumps or impacts) • Physical or health risk area • Warns of potential hazards • Keep clear for operational reasons |
|-----------------------------------|--|
-



- | | |
|--------------------------------|---|
| White w/ Red Diag.
Chevrons | <ul style="list-style-type: none"> • Hazardous location (risk of falls, trips, bumps, or falling loads) • Areas kept clear for safety • Prohibits entry • WARNING area — HAZARDS! |
|--------------------------------|---|



2. Pipe Color Identification Method



2.1 Objective:

Visualizing the fluid inside pipes is a key measure in accident prevention. By using clear color identification, operators can quickly recognize the contents of the pipes and take appropriate actions, improving maintenance efficiency and workplace safety.

2.2 Applicable Objects:

All pipes in the company, whether they transport gas or liquid, require color identification.

2.3 Standards:

- **Compressed Air Pipe:** Use blue, representing non-hazardous gases, making it easy for operators to

differentiate.

- **Natural Gas Pipe:** Marked with yellow, as natural gas is flammable and requires special attention to safety.
- **Firefighting Pipe:** Marked with Fire Red to enable quick identification and use in emergencies.
- **Condensate Pipe:** Marked with black to distinguish it from other fluid pipes, avoiding confusion.
- **Water Pipe:** Marked with silver, representing clean water or general-use water, making it easy to identify and maintain.

3. Pipe Flow Direction Identification Method



3.1 Objective:

Visualizing the fluid flow, direction, and pressure in pipes is crucial for improving maintenance efficiency. Clear flow direction markings ensure that operators and maintenance personnel can quickly understand the pipe layout and function, enabling them to make correct operational decisions.

3.2 Applicable Objects:

All company pipes require flow direction markings.

3.3 Standards:

- **On Fire Pipes:** Mark the direction using Safety Yellow to mark the flow direction, ensuring clear delineation of firefighting water flow routes so personnel can identify quickly in emergencies.
- **On Other Pipes:** Use Safety White to mark the flow direction, enabling quick identification even on different types of pipes.

3.4 Label Specifications:

Size: 150mm long x 25mm wide, ensuring the information is clear and readable without being too large or too small.

Font: Use Segoe, size 80, making the text prominent and easy to read, even from a distance.

4. Main Workshop Aisle Marking Lines



4.1 Objective:

Protect walls and equipment and distinguish between pedestrian and vehicle traffic. This measure helps cultivate good traffic habits among employees and reduces accident risks. Clear passage markings ensure orderly movement of people and vehicles, preventing collisions and congestion.

4.2 Applicable Objects:

Workshop aisles with vehicle traffic, which are the main pathways for material transport and personnel movement.

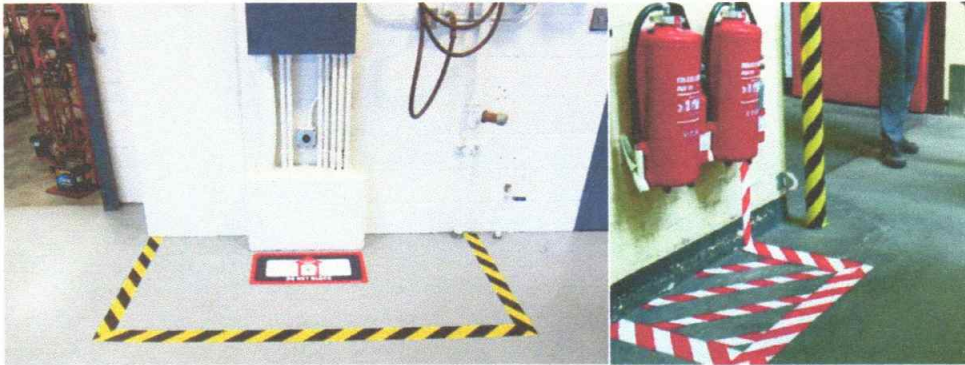
4.3 Standards:

- **Line Width:** 120mm, ensuring the marking line is visually clear and easily identifiable, even in a busy

workshop environment.

- **Material:** Painted, as paint is durable, easy to recognize, and maintains clarity over time.
- **Color:** Yellow is used for marking, as it is highly effective in enhancing passage recognition and quickly draws attention.

5. Electrical Cabinets and Fire Equipment Warning Lines



5.1 Objective:

Marking important safety equipment areas is key to ensuring workplace safety. Clear warning lines prevent items from being stored in these areas, ensuring accessibility and safety during emergencies.

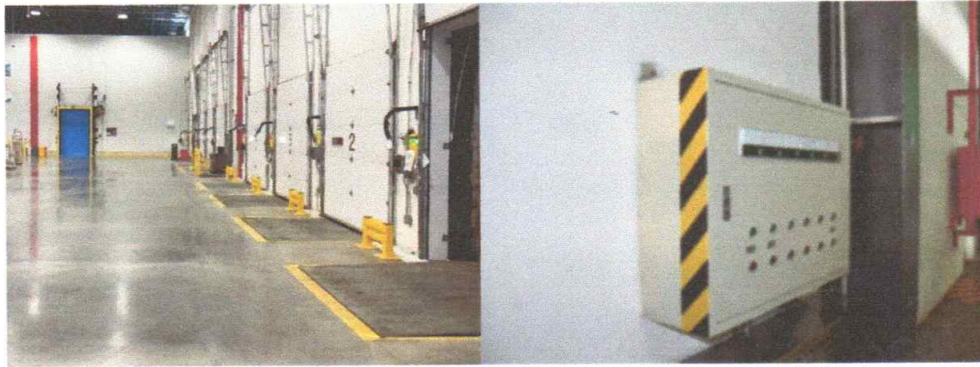
5.2 Applicable Objects:

Electrical cabinets, fire hydrants, fire extinguishers, and other critical safety equipment that play vital roles in emergencies.

5.3 Standards:

- **Line Width:** 100mm, creating a clearly marked warning zone so personnel can easily recognize and avoid storing items in this area.
- **Zebra Line Design:** Drawn at a 45-degree angle, each section being 10cm long. This design enhances visual impact, making the warning more prominent.

6. Raised Obstruction Warning Lines



6.1 Objective:

Warning about raised obstructions is an important measure to prevent employee injuries from collisions. Clear warning lines remind employees to be aware of potential hazards.

6.2 Applicable Objects:

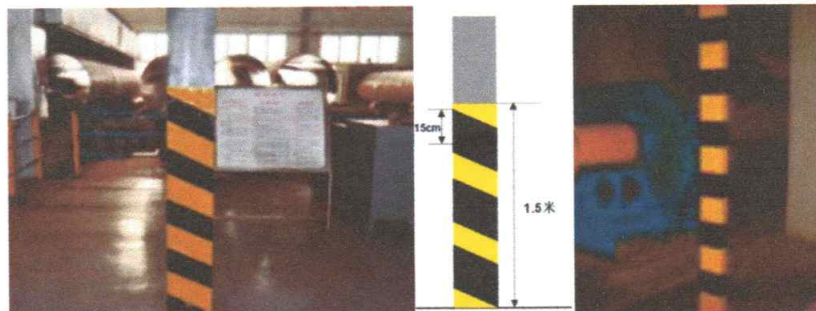
Electrical boxes on walls and other raised obstructions, which, if not marked, could lead to collisions during walking or carrying.

6.3 Standards:

Line Width: 100mm for warning lines on both ends of electrical cabinets; 30mm-50mm wide for other raised obstructions, ensuring visibility without being too intrusive.

Color and Style: Chosen based on the actual situation, ensuring that the warning lines contrast with the background and quickly catch employees' attention.

7. I-Beam Warning Signs



7.1 Objective:

Warning signs on standalone beams prevent employees from colliding with them during walking or carrying. Clear warning signs increase employees' awareness of these isolated beams.

7.2 Applicable Objects:

Hazardous areas in the workshop, especially standalone beams, which can easily become safety hazards if not clearly marked.

7.3 Standards:

- **Zebra Lines:** Alternating yellow and black stripes, 15cm apart. This design enhances recognition, allowing employees to clearly see the warning sign from a distance.
- **Tilted or Vertical:** Zebra lines can be drawn at a 45-degree angle or vertically along the beam, adjusted according to the site, to ensure optimal warning effectiveness.

8. Round Column Warning Signs



8.1 Objective:

Same as clause 7, aiming to increase employee awareness of round columns and reduce the risk of collision. Clear warning signs alert employees to avoid collisions during walking or carrying.

8.2 Standards:

Same as clause 7, using yellow and black alternating zebra lines, drawn at 15cm intervals. This design ensures a prominent warning effect, allowing employees to quickly identify and avoid potential collision points.

9. Ladder Warning Line Signs



9.1 Objective:

Warning lines on ladders remind employees to pay attention to safety, preventing slips or falls. Clear warning lines encourage employees to be more cautious while climbing.

9.2 Applicable Objects:

Ladders in the workshop, especially areas with safety hazards, such as stair entrances or platform edges.

9.3 Standards:

Zebra Lines: Alternating yellow and black stripes, 30cm apart, creating a strong visual warning. This design keeps employees constantly aware of potential hazards while climbing.

9.4 On Staircases:

Zebra lines are painted horizontally, with each section approximately 30cm wide, ensuring that every step includes a visible warning, reminding employees to remain vigilant.

10. Workshop Building Railings



10.1 Objective:

Preventing collisions with buildings protects the work environment and enhances overall aesthetics. Installing railings ensures that personnel and vehicles do not accidentally collide with buildings while

maintaining a clean and orderly environment.

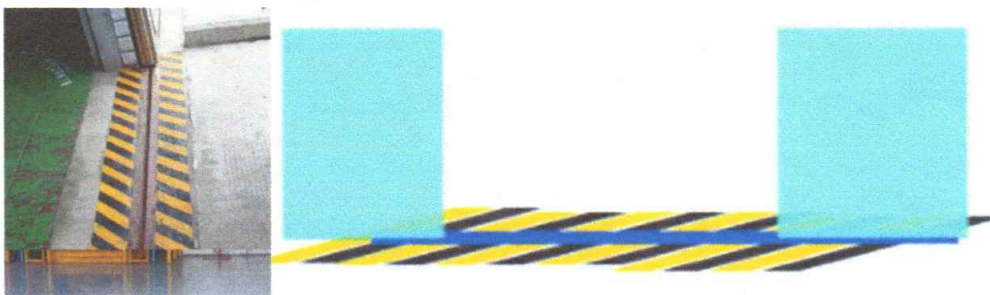
10.2 Applicable Objects:

Buildings adjacent to pathways, which are prone to collision and damage without proper protection.

10.3 Standards:

- **Post Materials:** Made of steel, 40×10×10cm, ensuring the stability and durability of the railing.
- **Railing Materials:** Made from pipes with a diameter of 6cm, both aesthetically pleasing and practical, effectively preventing collisions with buildings by personnel and vehicles.
- **Color:** Posts marked in yellow for visibility; railings marked with yellow and black zebra lines, spaced 25cm apart, enhancing the warning effect.

11. Sliding Door Track Warning Lines



11.1 Objective:

Preventing dangers during the opening and closing of doors is crucial for protecting employee safety. Especially for frequently used sliding doors, clear warning lines remind employees to be aware of the door's movement trajectory, preventing collisions or pinching injuries.

11.2 Applicable Objects:

Frequently used sliding doors, which, if not clearly marked, can easily become safety hazards.

11.3 Standards:

- **Zebra Lines:** 200mm wide, drawn at a 45-degree angle. This design ensures visibility from multiple angles, enhancing safety.
- **Stripe Width:** 100mm, creating a sharp contrast, making the warning line easy to identify even in dim lighting conditions.

12. General Item Positioning Lines

12.1 Objective:

To familiarize all personnel with the designated areas for item placement, reducing the time spent searching for items, thus improving work efficiency and maintaining a clean and orderly work environment.

12.2 Applicable Objects:

General item placement areas in offices, warehouses, and production lines, such as stationery, tools, raw materials, etc.

12.3 Standards:

- **Color and Line Width:**

- a) Equipment: Blue area lines with a width of 50mm, which are eye-catching and easy to identify, allowing for quick item location.
- b) Raw materials: Green area lines with a width of 50mm, which are eye-catching and easy to identify, allowing for quick item location.
- c) Warehouses: Yellow area lines with a width of 50mm, which are eye-catching and easy to identify, allowing for quick item location.
- d) Stationery and tools: White area lines with a width of 50mm, which are eye-catching and easy to identify, allowing for quick item location.

- **Positioning Method:** For **movable items**, use rectangular frames sized according to the item's actual dimensions to ensure neat placement. For **immovable items**, mark the four corners with lines outlining the item, making it easy to identify and manage.

13. Special Item Positioning Lines

13.1 Objective:

Same as A12, but for special items such as waste products, hazardous materials, etc., to ensure safe handling and prevent misuse or confusion.

13.2 Applicable Objects:

Waste collection areas, chemical storage zones, hazardous material storage zones, and cleaning supply storage areas.

13.3 Standards:

- **Waste, Chemicals, Hazardous Materials:** Marked with red area lines, 50mm wide, as a warning to remind personnel of safety precautions during handling.
- **Sanitary Supplies:** Marked with white lines, also 50mm wide, to differentiate them from other special items, ensuring clear division of clean areas.
- **Signage:** Set up clear signs near the positioning lines, indicating the type of items, storage requirements, and safety precautions.

14. Vehicle Positioning Lines



14.1 Objective:

Same as A12, but for handling carts and other vehicles, ensuring orderly parking, optimizing space utilization, and improving logistics efficiency.

14.2 Standards:

Outer Frame: Drawn using general area lines (e.g., yellow) to clearly define the vehicle parking areas.

Entry/Exit Indicators: Use arrows to indicate the direction of vehicle entry and exit, with the arrow pointing towards the exit to facilitate vehicle management and reduce congestion.

Size and Spacing: Parking space dimensions should be planned based on vehicle size, ensuring enough safety distance between vehicles for personnel movement and emergency evacuation.

15. Material In/Out Direction Signs

15.1 Objective:

To indicate the processing status and direction of material flow, improving logistics efficiency, reducing confusion, and ensuring a smooth production process.

15.2 Applicable Objects: Placement areas for pallets or batches of materials on production lines, particularly in material storage, processing, and finished product areas.

15.3 Standards:

- **Unprocessed Materials:** Use an inbound arrow labeled "In", indicating the direction materials enter the processing flow.
- **Processed Materials:** Use an outbound arrow labeled "Out", indicating the direction finished or semi-finished products leave the processing area.
- **Arrow Specifications:** 150mm long, 100mm wide, and yellow in color, easily recognizable even in busy production environments.
- **Font Size:** 100mm high, ensuring that directional information can be clearly identified from a distance, reducing operational errors and enhancing work efficiency.

16. 5S Walkabout Schedule:

Include a monthly inspection and maintenance schedule for all visual management markings to ensure they remain visible and effective over time. For example, specify intervals at which painted lines or signs should be checked and refreshed.