Cladding Technology Shanxi Co., Ltd

HSE Emergency Drill Plan and Summary Evaluation Report

Document No.: CLADDING-HSE-PD-59

Part 1: Overall 2026 HSE Emergency Drill Plan

Planning Dimension	Q3 (Comprehensive Drill)	Q4 (Specialized Drill)	Connection Targets
Drill Positioning	Covers comprehensive scenarios of "hazardous chemical leakage + fire + personnel rescue" to verify system coordination	Focuses on specialized scenarios of "hazardous chemical leakage, hot work fire, and high-altitude fall" to strengthen module handling capabilities	1. Comprehensive first, then specialized; from "system verification" to "detail optimization"; 2. Problem rectification in Q3 serves as input for Q4 drill
Core Business Association	Hazardous Chemical Warehouse (diesel storage tank) of Warehousing Department, Medical Office of Administration and Logistics Department	Hazardous Chemical Warehouse (isopropyl alcohol) of Warehousing Department, Maintenance Workshop of Equipment Department, Scaffolding of Installation Department	Covers all high-risk business scenarios of the company to ensure no blind spots in emergency capabilities

Schedule	August 15, 2025, 14:00-16:30 (avoiding production peak)	October 25, 2025, 14:00-16:30 (quarter-end review and enhancement)	Once per quarter, with 2-month interval to facilitate problem rectification and capability iteration
Drill No.	CPPMEC-HSE-PD-59-1	CPPMEC-HSE-PD-59-2	Numbered in chronological order for easy file traceability

Part 2: Q3 2025 Comprehensive Emergency Drill Plan (Hazardous Chemical Leakage and Fire Accident)

I. Basic Drill Information

Item	Content (Aligning with Comprehensive Scenario Requirements)
Drill Name	2025 Comprehensive Emergency Drill for Hazardous Chemical Leakage and Fire Accident
Drill Type	□ Tabletop Drill □ Functional Drill ✓ Full-scale Drill (comprehensive scenarios require practical verification)
Drill Level	Company-level (involving multi-department coordination, requiring overall command by chief commander)
Drill Basis	1. *Regulations on Emergency Response to Work Safety Accidents*; 2. Company's *Comprehensive Emergency Plan for Hazardous Chemical Leakage and Fire*; 3. 2025 HSE Annual Work Plan
Drill Time	August 15, 2025, 14:00-16:30 (Wednesday; drill notice issued 3 days in advance to avoid external interference)
Drill Venue	Area A of Hazardous Chemical Warehouse (diesel storage tank area) of Warehousing Department and surrounding 50m warning zone (including temporary rescue area and material assembly area)

Organizing Departments	Quality, Safety and Environmental Protection Department (leading) + Warehousing Department (on-site support), Equipment Department (firefighting support), Administration and Logistics Department (medical care/materials), Installation Department (security)
Participants	1. Emergency Command Group: Wang Gang (General Manager, Chief Commander), Li Qiang (Deputy General Manager in Charge of Safety, Deputy Commander); 2. Emergency Teams: Emergency Rescue Team (8 persons), Medical Rescue Team (4 persons), Security and Evacuation Team (6 persons), Environmental Monitoring Team (3 persons), Logistics Support Team (5 persons); 3. Observation Group: 12 department heads, 10 new employee representatives

II. Drill Objectives and Targets

(I) Drill Objectives

1. Verify the integrity and operability of the *Comprehensive Emergency Plan for Hazardous Chemical Leakage and Fire*, and validate cross-department coordination processes;
2. Enhance the "hierarchical decision-making" capability of the Emergency Command Group (e.g., resource allocation when a general accident escalates to a major accident);
3. Strengthen frontline employees' awareness of "initial disposal + self-rescue and mutual rescue" to reduce the risk of accident escalation;
4. Verify the practical adaptability of emergency materials (fire-fighting equipment, protective gear).

(II) Quantitative Targets (Corresponding to Comprehensive Scenarios)

Serial No.	Target Category	Specific Indicator	Measurement Standard
1	Response Efficiency	Emergency response initiation time ≤ 5 minutes	Time difference from accident report to issuance of initiation order by chief commander

2	Personnel Evacuation	Hazardous area evacuation time ≤ 3 minutes	Time difference from issuance of evacuation order to evacuation of the last person from the warning zone
3	Leakage Control	Leak source plugging time ≤ 15 minutes	Time difference from arrival of emergency rescue team at the site to closure of emergency shut-off valve of the storage tank and completion of temporary plugging of the leak point
4	Fire Disposal	Initial fire extinguishing time ≤ 10 minutes	Time difference from deployment of fire-fighting equipment to complete extinguishment of open fire (fire-affected area ≤ 10 ㎡)
5	Medical Rescue	Casualty transfer time ≤ 8 minutes	Time difference from discovery of "casualties" to transfer to temporary rescue area and completion of initial treatment
6	Environmental Control	Hazardous gas detection frequency ≥ 1 time/5 minutes	Detection frequency and data recording integrity of 3 downwind points (methane, diesel vapor) by the Environmental Monitoring Team

III. Drill Scenario Design (Aligning with Diesel Storage Risks of Warehousing Department)

(I) Accident Scenarios (Escalating in Phases)

Time Node	Scenario Description (Associated with Business Risks)	Triggered Actions
14:10 (Initial Phase)	Zhang San, an employee of the Warehousing Department, found a leak at the pipeline flange due to corrosion (leakage rate approximately 5L/min) during oil transfer operation of the diesel storage tank, and diesel spread along the ground	1. Immediately shut down the oil transfer pump and report to the manager of the Warehousing Department; 2. Use oil-absorbing cotton for initial plugging to prevent spread
14:12 (Escalation Phase)	The leaked diesel encountered electrostatic sparks and ignited open fire (fire-affected area approximately 2 ㎡), accompanied by black smoke. "Casualty" Li Si felt dizzy due to smoke inhalation	1. The manager of the Warehousing Department immediately reported to the chief commander (the accident escalated to a "general accident"); 2. Organize evacuation of surrounding personnel
14:15 (Expansion Phase)	The fire spread to the adjacent empty barrel area (fire-affected area expanded to 8 ㎡), and the diesel vapor concentration exceeded the standard (detected value 1200mg/m³, standard ≤ 500mg/m³)	1. The chief commander announced the escalation to a "major accident"; 2. Mobilize all emergency teams and request fire hoses support from the Equipment Department

(II) Accident Level Determination

• Initial Level: General accident (leakage without ignition, no casualties);

• Escalated Level: Major accident (fire expansion, personnel discomfort, requiring multi-department coordination).

IV. Drill Organization and Responsibilities (Corresponding to Comprehensive Scenario Division of Labor)

Organization	Person in Charge	Core Responsibilities (Aligning with Comprehensive Disposal Process)
Emergency Command Group	Wang Gang (General Manager)	1. Receive accident reports and determine accident levels; 2. Issue emergency initiation/escalation/termination orders; 3. Coordinate external resources (e.g., fire department, simulated request); 4. Approve the drill summary report
Emergency Rescue Team	Chen Yong (Equipment Department)	1. Close the emergency shut-off valve of the diesel storage tank and plug the leak point; 2. Extinguish the fire using dry powder fire extinguishers + fire hoses; 3. Cool the storage tank wall to prevent explosion
Medical Rescue Team	Wang Li (Medical Office)	1. Perform cardiopulmonary resuscitation (simulated), oxygen inhalation, hemostasis and bandaging for "casualties"; 2. Record "injuries" and propose transfer suggestions; 3. Prepare first-aid materials (stretchers, first-aid kits)
Security and Evacuation Team	Zhao Jun (Installation Department)	1. Set up warning zones (pull warning tapes to prohibit entry of unrelated personnel); 2. Guide personnel to evacuate to safe areas along the upwind

		direction; 3. Maintain on-site order and ensure smooth rescue channels
Environmental Monitoring Team	Liu Wei (Quality, Safety and Environmental Protection Department)	1. Detect diesel vapor concentration (3 downwind points, once every 5 minutes); 2. Monitor the direction of fire-fighting wastewater to prevent pollution of sewers; 3. Record monitoring data and report to the Command Group
Logistics Support Team	Sun Qiang (Administration and Logistics Department)	1. Provide emergency materials (fire extinguishers, chemical protective clothing, walkie-talkies); 2. Keep emergency vehicles (ambulances, material transport vehicles) on standby; 3. Prepare post-drill cleaning materials (oil-absorbing cotton, garbage bags)

V. Drill Preparation Requirements (Implemented in Phases)

(I) Training and Briefing (Ensuring All Personnel Understand Processes and Can Operate)

Time Node	Training Content	Participants	Training Methods and Requirements
August 1, 9:00-11:00	Special training on emergency plans	All drill participants	Centralized lectures (explaining accident escalation criteria and team responsibilities), and distributing 1 *Drill Manual* per person after the lecture
August 8, 14:00-16:00	Practical skill training for specific	All members of emergency teams	Group training: 1. Emergency Rescue

	tasks		Team: Operation of diesel storage tank shut-off valve, "pull-lift-squeeze-sweep" operation of fire extinguishers; 2. Medical Team: Cardiopulmonary resuscitation, hemostasis and bandaging
August 12, 15:00-16:00	Tabletop drill of the drill plan	Command Group + team leaders	Simulate accident escalation scenarios, verify the command transmission process, and correct 2 coordination loopholes (e.g., material handover between Medical Team and Logistics Team)
August 14, 16:00-17:00	On-site survey and material inspection	Logistics Support Team + Warehousing Department	Confirm the leak point simulation device (diesel simulation tank with controllable valve) and the placement position of emergency materials (30m away from the site)

(II) Material Preparation (Classified by Scenario Requirements)

Material Category	Specific Name	Quantity	Technical Requirements (Ensuring Practical Use)

Fire-fighting Emergency Materials	Dry powder fire extinguishers (MFZ/ABC4)	20 units	Pressure in green zone (1.2-1.5MPa), production date ≤ 2 years
	Fire hoses (DN65)	4 sets	Length 20m/set, no rust on joints, with 4 matching water guns
	Fire sand	$2m^3$	Dry and free of impurities, packed in special sandbags (50kg/bag), stacked 5m upwind from the leak point
Protective Gear	Air respirators	6 sets	Pressure ≥ 25MPa, intact mask tightness, with 2 spare air cylinders
	Heavy chemical protective clothing	4 sets	Resistant to diesel corrosion, sealed cuffs/ankles, compatible with respirator interfaces
	Anti-static gloves/shoes	20 sets	Comply with GB 12014 standard, qualified insulation performance
Medical Rescue Materials	First-aid kits	3 units	Including tourniquets, povidone-iodine, gauze, 2 cardiopulmonary resuscitation manikins (with indicator light prompts)
	Folding stretchers	2 units	Load-bearing capacity ≥ 150kg, with fixing straps, suitable for

			transfer in narrow areas
Communication and Monitoring Materials	Walkie-talkies	10 units	Divided into 5 channels (Command Group/Emergency Rescue Team/Medical Team/Security Team/Monitoring Team), battery level ≥ 80%
	Gas detectors	3 units	Capable of detecting diesel vapor (range 0-2000mg/m³) and methane (0-100% LEL), with data storage function

VI. Drill Implementation Steps (Closed-loop by Timeline)

(I) Early Warning Phase (14:00-14:10)

1. Personnel Assembly: All emergency teams sign in at the material assembly area and collect equipment (e.g., Emergency Rescue Team collects chemical protective clothing, Medical Team collects first-aid kits) before 14:00;
2. Equipment Inspection: The Logistics Support Team checks fire extinguisher pressure, respirator battery level, and communication device signals, and fills out the *Emergency Material Inspection Form*;
3. Scenario Briefing: Chief Commander Wang Gang announces the drill rules ("no impact on real production, no use of real diesel") and clarifies prohibited behaviors (e.g., leaving posts without permission).

(II) Response Phase (14:10-14:30)

1. Accident Report (14:10): An employee of the Warehousing Department discovers the leak and immediately reports to the manager of the Warehousing Department ("Leakage at diesel pipeline in Area A, approximately 5L/min"), and the manager simultaneously reports to the chief commander;
2. Response Initiation (14:13): The chief commander determines it as a "general accident" and issues the order to "initiate Level Ⅲ emergency response", and all teams assemble at the site;
3. Initial Disposal (14:15-14:30):

◦ Security Team sets up warning tapes and evacuates surrounding personnel (completed at 14:18, taking 2 minutes and 45 seconds, meeting the standard);

◦ Emergency Rescue Team wears chemical protective clothing and closes the emergency shut-off valve of the storage tank (completed at 14:22, taking 7 minutes, not meeting the standard; reason: valve rust and jamming, requiring subsequent lubrication);

◦ Monitoring Team deploys detectors at 3 downstream points, and the first detection shows diesel vapor concentration of 800mg/m³ (exceeding the standard).

(III) Disposal Phase (14:30-15:30)

1. Accident Escalation (14:30): Simulate ignition at the leak point, the chief commander escalates it to a "major accident", initiates Level Ⅱ response, and requests fire hoses support from the Equipment Department;
2. Coordinated Disposal:

◦ Emergency Rescue Team: 1 person covers the fire source with a fire blanket, 2 persons put out the fire with fire extinguishers, and 2 persons connect fire hoses to cool the storage tank (open fire extinguished at 14:38, taking 8 minutes and 15 seconds, meeting the standard);

◦ Medical Team: Discovers a "dizzy casualty", immediately transfers to the rescue area, and performs simulated oxygen inhalation + cardiopulmonary resuscitation (transfer completed at 14:42, taking 6 minutes, meeting the standard);

◦ Monitoring Team: Reports data once every 5 minutes, and the diesel vapor concentration drops to 450mg/m³ at 14:45 (meeting the standard);

◦ Logistics Team: Supplements 3 fire extinguishers and replaces 1 respirator air cylinder (completed at 14:50, ensuring continuous disposal).

(IV) Recovery Phase (15:30-16:00)

1. On-site Cleaning: Emergency Rescue Team cleans the leaked diesel with oil-absorbing cotton and covers the oil-stained ground with fire sand (completed at 15:45);
2. Equipment Recovery: Logistics Support Team counts materials (17 remaining fire extinguishers, 4 intact chemical protective clothing) and records losses;
3. Personnel Roll Call: All teams report the number of personnel to confirm no omissions (completed at 15:55).

(V) Summary Phase (16:00-16:30)

1. Preliminary Review: The evaluation team reports the target achievement status (5 targets met, 1 not met: valve operation time exceeded the limit);
2. Team Review: The Emergency Rescue Team explains the reason for valve jamming, and the Medical Team proposes "optimization of casualty transfer routes";
3. Chief Commander Summary: Affirms the drill effectiveness and specifies 3 rectification tasks (valve maintenance, route optimization, skill enhancement).

Part 3: Q4 2025 Specialized Emergency Drill Plan (Optimized Integration of Original Document)

I. Basic Drill Information (Connected with Q3)

Item	Content (Highlighting Specialized Features)
Drill No.	ZYGD-WZ-HSE-YL-2024-002 (following Q3 No. 001)
Drill Theme	Specialized Emergency Drill for Hazardous Chemical Leakage (Isopropyl Alcohol), Hot Work Fire, and High-altitude Fall (addressing high-altitude rescue risks not covered in Q3)
Drill Type	□ Tabletop Drill ✓ Functional Drill (focusing on module disposal skills, no accident escalation involved)
Drill Basis	1. Q3 Drill Rectification Report (e.g., valve maintenance requirements); 2. Company's *Specialized Emergency Plan*; 3. 2024 Compliance Evaluation Report
Participants	5 new members added to the High-altitude Operation Team of the Installation Department (making up for the high-altitude rescue gap in Q3), and other personnel structure optimized with reference to Q3

II. Core Adjustments (Responding to Q3 Rectification)

1. Scenario Supplement: Add the high-altitude fall scenario at the scaffolding of the Installation Department. Since high-altitude rescue was not involved in Q3, it is necessary to strengthen the skills of "vertical transfer + stretcher fixing";
2. Material Optimization: In response to the valve jamming problem in Q3, add a "special emergency valve lubrication tool kit" (allocated to the Emergency Rescue Team);
3. Process Improvement: Simplify the command hierarchy. Specialized scenarios are directly commanded by department heads to improve response efficiency (compared with Q3 company-level command).

(Other chapters such as objectives, preparation, and implementation steps retain the core content of the original document, omitted here to ensure "comprehensive-specialized" complementarity with Q3)

Part 4: 2025 HSE Emergency Drill Summary Evaluation Report (Integration of Q3 and Q4)

I. Q3 Comprehensive Drill Summary Evaluation

(I) Drill Implementation Overview (Data Benchmarked Against Targets)

Statistical Dimension	Planned Value	Actual Value	Achievement Status	Deviation Analysis
Participating Departments	6	6	100%	-
Participating Personnel	42	40 (2 on leave)	95.2%	Substitute personnel arranged in advance, no impact on the drill
Drill Duration	150 minutes	153 minutes	98%	3-minute extension in the cleaning phase (due to larger-than-expected oil-stained area)
Target Achievement Rate	6 items	5 items met	83.3%	1 item not met: Valve operation took 7 minutes (planned ≤ 5 minutes), due to long-term lack of lubrication of the storage tank valve
Material Integrity Rate	98%	95%	96.9%	Pressure of 2 fire extinguishers dropped to the yellow zone

				(1.1MPa), requiring replacement

(II) Drill Effect Evaluation (By Dimension)

1. Emergency Command Evaluation:

Evaluation Item	Grade	Evaluation Description
Decision Timeliness	Good	Accurate accident escalation determination (timely initiation of Level Ⅱ response at 14:30), no rescue delay
Command Clarity	Excellent	Commands transmitted through dual channels of walkie-talkie + contact group, no ambiguity (e.g., "Prioritize storage tank cooling with fire hoses")
Resource Allocation	Good	Timely fire hose support from the Equipment Department, but insufficient spare air cylinder reserves (only 2 units)

1. Emergency Team Performance:

Team Name	Response Speed	Disposal Capability	Coordination	Overall Evaluation	Highlights / Shortcomings
Emergency Rescue Team	Excellent	Good	Good	Good	Highlights: Standard fire-extinguishing process (cutting off the source first, then extinguishing); Shortcomings: Unskilled valve operation

Medical Rescue Team	Excellent	Excellent	Excellent	Excellent	Highlights: Standard cardiopulmonary resuscitation operation, firm fixing of "casualties" during transfer
Security and Evacuation Team	Good	Good	Good	Good	Shortcomings: 2-minute delay in setting up downwind warning points
Environmental Monitoring Team	Good	Excellent	Good	Good	Highlights: Complete data records, timely reporting when exceeding standards
Logistics Support Team	Excellent	Good	Excellent	Good	Shortcomings: Insufficient number of spare air cylinders, need to increase reserves

(III) Existing Problems and Improvement Measures (Q3 Specific)

Serial No.	Problem Category	Specific Description	Improvement Measures	Responsible Department	Completion Deadline
1	Inadequate Equipment Maintenance	Rust and jamming of the emergency shut-off valve of the diesel storage tank, leading to	1. Complete lubrication and maintenance of all storage tank valves by August 20; 2. Establish a	Equipment Department	August 20, 2025

		extended leak control time	"monthly valve inspection ledger" and mark maintenance dates		
2	Insufficient Material Reserves	Only 2 spare air cylinders for air respirators, unable to meet long-term rescue needs	1. Supplement 4 spare air cylinders (to be in place by August 25); 2. Revise the *Emergency Material Reserve Standard* and configure according to the maximum rescue duration of 120 minutes	Administration and Logistics Department	August 25, 2025
3	Skill Gaps	3 members of the Emergency Rescue Team are unskilled in valve operation and rely on senior employees	1. Conduct "specialized training on storage tank valve operation" by August 30, covering all members of the Emergency Rescue Team; 2. Develop operation flowcharts and post them on-site	Equipment Department + Warehousing Department	August 30, 2025

4	Unreasonable Route Planning	Detour required for "casualty" transfer routes, increasing time consumption	1. Re-plan the rescue channel (direct access from the east side of the warehouse to the rescue area, shortening by 50m); 2. Draw the *Emergency Evacuation Route Map* and post it at the warehouse entrance	Warehousing Department + Installation Department	September 5, 2025

II. Q4 Specialized Drill Summary Evaluation (Core Content of Original Document, Supplementary Quarterly Connection)

(I) Connection with Q3 Rectification

1. Equipment Maintenance: The valve lubrication problem identified in Q3 has been rectified, and the valve operation time of the isopropyl alcohol storage tank in Q4 was ≤ 3 minutes (meeting the standard);
2. Material Reserves: The number of spare air cylinders was increased to 6, and the respirator battery life met the requirements during high-altitude rescue in Q4 (no mid-rescue cylinder replacement);
3. Skill Improvement: Significant results were achieved in the valve operation training of the Emergency Rescue Team, and the hazardous chemical leakage disposal time in Q4 was 25 minutes (planned ≤ 30 minutes, meeting the standard).

(II) Core Evaluation Conclusions (Optimized from Original Document)

1. The target achievement rate of the Q4 specialized drill was 97.8%, an increase of 14.5 percentage points compared with Q3 (83.3%), indicating effective rectification measures;
2. The newly added high-altitude fall scenario filled the capability gap in Q3, and the skill achievement rate of the Installation Department in scaffolding rescue reached 85%;

3. New problem identified: The first-aid skill mastery rate of new employees was 75% (planned ≥ 80%), which needs to be included in the Q1 2026 training plan.

III. Overall 2025 Drill Conclusions and 2026 Plan

(I) Overall Conclusions

1. Capability Improvement: Through "comprehensive + specialized" drills, cross-department coordination efficiency increased by 20%, initial disposal time shortened by 15%, and the emergency system operated effectively;
2. Problem Closure: All 4 problems identified in Q3 were rectified, and new problems identified in Q4 have been included in the rectification plan, forming a closed loop of "drill - evaluation - improvement - verification";
3. Shortcoming Identification: New employee skills and information-based command (e.g., real-time data transmission) are the main shortcomings, requiring key breakthroughs.

(II) 2026 Drill Plan (Connected with Annual Targets)

1. Q1: Conduct "specialized emergency skill drills for new employees", focusing on cardiopulmonary resuscitation and fire extinguisher operation;
2. Q2: Conduct "confined space operation emergency drills" (Maintenance Workshop of Equipment Department) to supplement confined space risk coverage;
3. Q3: Conduct "external linkage drills" (jointly with local fire brigades and hospitals) to enhance major accident disposal capabilities;
4. Q4: Conduct "annual comprehensive review drills" to verify the effectiveness of rectification throughout the year.

Part 5: Attachment List (Integrating Q3 and Q4 Materials)

1. Attachment 1: Q3 2025 Comprehensive Drill Sign-in Sheet (40 persons);
2. Attachment 2: Q3 Drill Emergency Material Inspection Form (including pressure and battery level records);
3. Attachment 3: Q3 Drill Problem Rectification Tracking Form (4 items);
4. Attachment 4: Q4 2025 Specialized Drill Evaluation Report (original document attachment);
5. Attachment 5: 2025 HSE Emergency Drill Overall Effect Comparison Table (Q3 and Q4);
6. Attachment 6: 2026 HSE Emergency Drill Plan Schedule.