

施工跟程序 意外可消除
Strictly follow work procedures
to prevent accident

Accident case sharing



Fall from height accident case

Kai Yip Estate accident case (Dec 2010)

A lift worker fell from height in a lift shaft of a domestic building in Kai Yip Estate. He was found hurt in the lift pit and he was then taken to hospital. His situation deteriorated and he passed away couple weeks later.

• Project Basic Information

- A Registered lift contractor was responsible for the lift modernization work in Kai Yip Estate
- There was a total 6 of phases in the lift modernization project
- The accident happened during the phase VI of the lift modernization project
- The phase VI started from 6/9/2010 to 30/6/2011
- No of lift to be replaced: 4

The Accident

A working team comprised of 4 competent lift workers was deployed to Kai Yip Estate



On the day of the accident, the deceased together with a lift worker were responsible for lift installation work at Kai Yue House



After tea break, the lift worker left the workplace for a while and the deceased went to level 14 to get working tools



At 16:25, the lift worker returned and found the deceased lying half-conscious on lift pit bottom in the lift shaft. The lift worker had called 999 at once after the incident



At 16:30, the deceased was taken to hospital for emergency treatment³

Accident Investigation Findings

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Site condition on
14/F floor
Guard railing and
toe board
provided



A tool bucket
with electrical
cable found
inside the site
hoarding

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The lift pit condition



Lift shaft working platform condition

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Cause of Accident:

A Contributing Causes

1. Insufficient Supervision
2. Failed to provide gangplank between the landing and working Platform in lift shaft

B. Human Errors

1. Failed to use safety belt while working

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Preventive Measures:

1. Avoid working alone as far as practicable. If unavoidable, communication devices should be in place.
2. Provide a safe access to the workplace
3. Provide adequate fall protection equipment
4. Provided refreshment safety training

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- Safety guidelines for Lift Addition & Lift Modernization Published by Housing Authority
- Guideline on Safety of Lift Shaft Works (Vol. 1 to 3) Published by Construction Industry Council
- Code of Practice for Safety at Works (Lift and Escalator) Published by Labour Department

進行全面風險評估

1. Risk Assessment

Item	Activities / Locations	Hazard	Degree			Control Measures	Action	PPE	Training	Original risk	Residual Risk
			Likelihood	Consequence	Risk						
2.1	Templates setting, plumping and alignment checking • Fix wooden frames on the lift shaft walls at lift shaft top and pit as templates for line plumping and alignment checking	Fall of person	F4	C3	B	<ul style="list-style-type: none"> Check and inspect the erected scaffold by a competent person Verify a valid Form 5 is in place Provide a working platform on scaffold Check earthing device is in place when metal scaffold is used Implement a permit-to-work system Supervise the works by a competent supervisor 	Competent Person + Foreman + Safety Supervisor + Safety Representative	Safety helmet with chin strap + Safety harness + Fall arresting device + Anchorage point (independent life-line)	Silver card training + Green card training + Induction safety training + Trade Specific safety training	B	C
		Falling object	F3	C4	A	<ul style="list-style-type: none"> Fix safety nets against falling objects inside lift shaft Erect a toe-board at each 	Foreman + Safety Supervisor	Safety helmet with chin strap	-	A	C

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升降機井道 - 防護裝置



◀ 圍封升降機井道出入口



於升降機井道出入口
設金屬四葉門 ▶



▲ 沒有修好損壞的四葉金屬門



升降機井道 - 防護裝置

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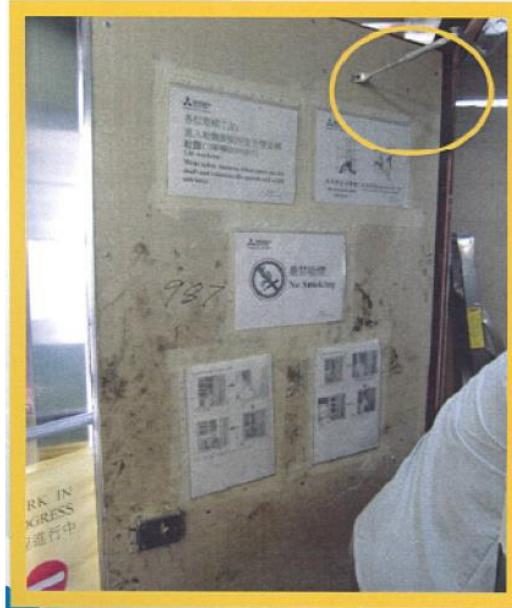
為金屬四葉門穩妥地接上接地導線 ▶



沒有為金屬四葉門
穩妥地接上接地導線



於圍板門穩妥地安裝
門氣鼓以確保圍板門
能自動關上

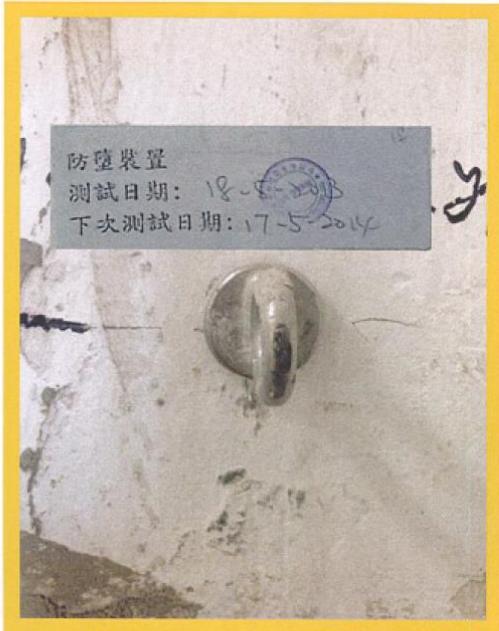


沒有修好損壞的
圍板門門氣鼓 ▶



升降機井道 - 防護裝置

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► 在井道外進出口兩邊各裝上有眼螺栓作錨固物以配合安全帶的使用，並在使用前確保有眼螺栓沒有鬆脫現象(安裝有眼螺栓時如加上一枚金屬墊圈及彈弓墊圈則更為理想)



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對所有有眼螺栓進行1年1次的拔拉測試，並在有眼螺栓附近貼上顯示測試日期及失效日期的標籤



► 沒有在井道外提供足夠的有眼螺栓作錨固物以配合安全帶的使用

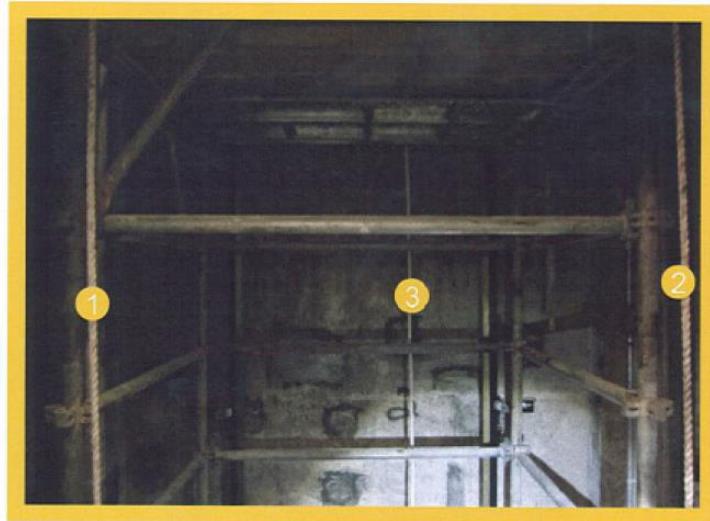


► 沒有將有眼螺栓的螺栓部份完全旋入套筒



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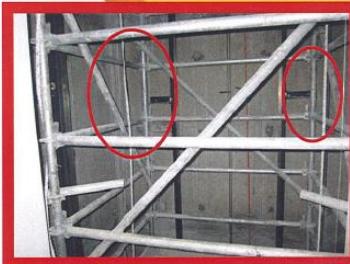
升降機井道 - 防護裝置



► 適當地安放3條救生繩於棚架外



安放救生繩
於金屬棚架內 ▶



把救生繩繫於棚架組件
▶



安放3條救生繩
於棚架的同一邊 ▶

升降機井道 - 防護裝置

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用軟墊包裹懸放於
升降機井道內的
救生繩的懸掛點，
以免救生繩受磨損 ▶

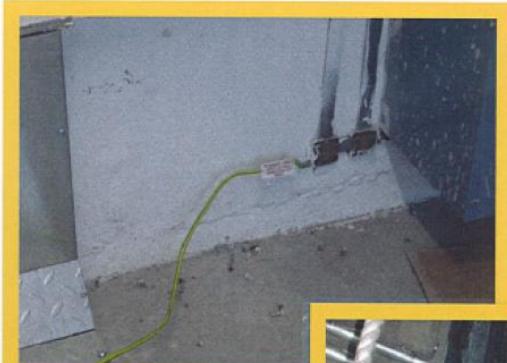


▲ 沒有用軟墊包裹懸放於升降機井道內的
救生繩的懸掛點，來防止救生繩受磨損



升降機井道 - 電力安全

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▲ 為金屬棚架穩妥地接上接地導線



▲ 沒有妥善安放金屬棚架接地導線及使用過長的接地導線

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金屬棚架 - 構造



▲ 設足夠工作平台讓工人安全地進行高空
工作 (例如每相隔約2.6米高設工作平台)



▲ 沒有設足夠工作平台讓工人安全地進行高空工作



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金屬棚架 - 構造



► 提供足夠闊度的進出跳板
和避免進出跳板坡度太大



於工作平台四周安裝不
低於200mm高的踢腳板



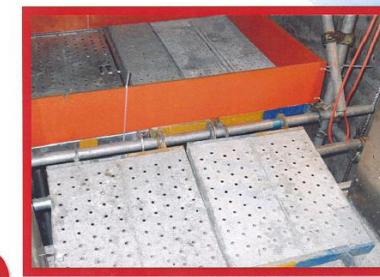
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► 安裝闊度不足、坡度太大的進出跳板



► 採用木製或用其他可燃物料製造的踢腳板



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*Strictly follow work procedures
to prevent accident*

金屬棚架 - 構造



► 安裝完整的工作平台



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沒有安裝踢腳板
於工作平台週邊▶



► 安裝不完整的工作平台



安裝不完整的工作平台
及沒有穩固平台板▶



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施工前 - 檢查裝置



進出升降機井道 - 工作 許可證

正確填寫及簽署工作許可證 ▲

- ① 清楚填寫施工地點、機號、樓層、時間、工作內容
- ② 沒有漏填資料
- ③ 註明承建商名稱
- ④ 清晰地填寫工作人員姓名

在工地圍板範圍內工作

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► 在進入工地圍板範圍內工作之前
佩戴安全帽、安全帶、反光衣



當圍板範圍內沒有人
工作時，鎖上圍板門



► 當圍板範圍內沒有人工作時，沒有鎖上圍板門

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進出升降機井道 - 鎖匙 使用管理



▲ 以萬用鎖匙開啟處於多個井道的工地圍板門，或提供多條鎖匙以開啟同一有關井道位於各層的工地圍板門

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進出升降機井道



- 使用配以雙安全繩 (雙尾繩) 的安全帶，以用作錨固物的有眼螺栓或救生繩作為安全繩的繫穩點，並在打開四葉門進入井道前或在井道內時，確保最少有一條安全繩繫扣於繫穩點上



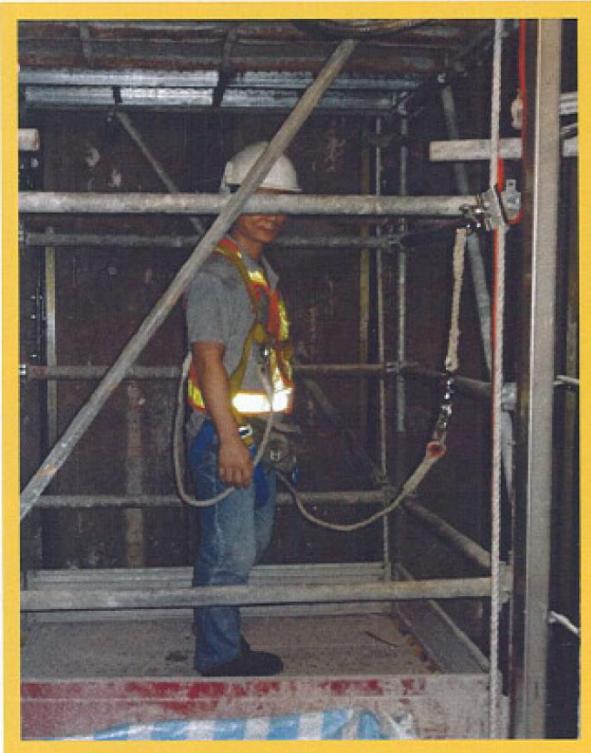
► 在打開四葉的下方進入升降機井道前未有先扣上安全帶

在升降機井道內工作

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在棚架內設有完整踢腳板之工作平台上工作 ▶



► 在沒設有完整踢腳板之工作台上工作及在工作台上放置雜物



► 沒有配備足夠個人防護裝備

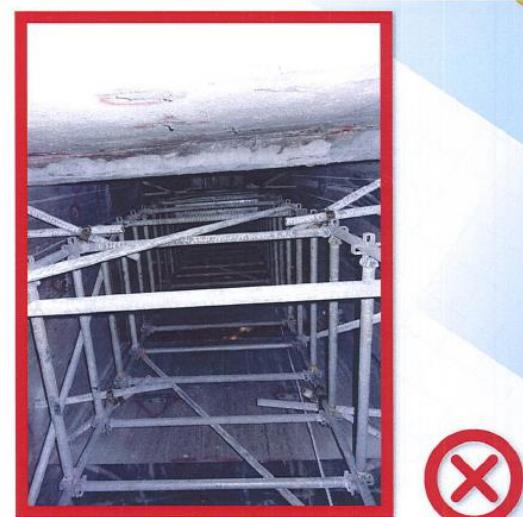
- ① 沒有反光衣
- ② 沒有安全帶

在升降機井道內工作

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利用梯具及設於工作平台上的
出入口在棚架內上落



▲ 在棚架外上落

升降機機房 - 處理 地台孔洞

施工跟程序 意外可消除
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用貼有警告標示的
蓋板蓋好地台孔洞 ▶



加裝木方於蓋板底部
以固定位置 ▶



在安裝升降機
纜索後隨即以
套圈圍封地台孔洞 ▶



► 在鑽挖地台孔洞工程中沒有豎立
警告標示或蓋好已完成的地台孔洞



升降機機房 - 工地

施工跟程序 意外可消除
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▲ 當無人看管升降機機房時鎖上機房門



▲ 任由升降機機房門在無人看管下打開



一般工地管理

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▲ 保持工地整潔、通道暢通



▲ 亂放工具及雜物於圍板內



▲ 任由工具及雜物阻塞通道



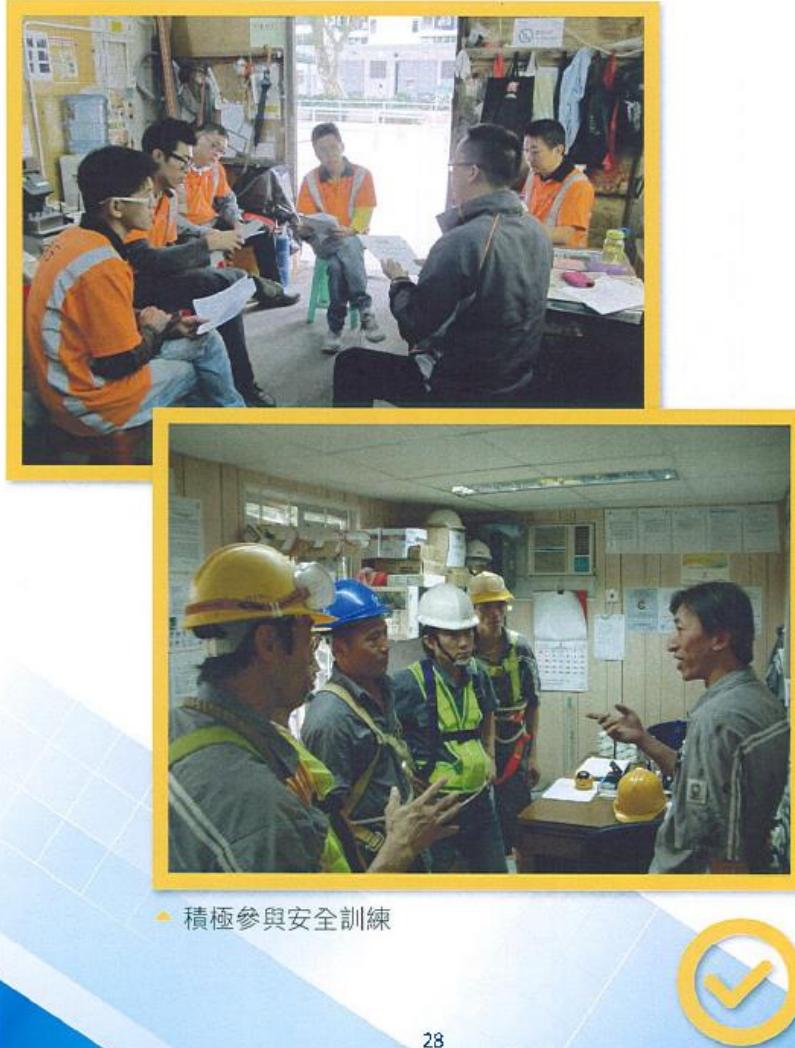
▲ 沒有用吸塵機吸走施工時
留下的灰塵



▲ 沒有按需要定期清理垃圾及雜物

安全訓練

施工跟程序 意外可消除
strictly follow work procedures
to prevent accident



施工跟程序 意外可消除
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End
Thank You