

安裝臨時吊船程序



前言

此為安裝臨時吊船之概括程序, 以令各位對安裝臨時吊船及相關安全工作作初步了解, 詳細請參考由勞工處及相關機構發出之吊船規例及指引.

參考文件:

勞工處職業安全及健康部 - 安全使用和操作吊船
工作守則

安裝臨時吊船程序

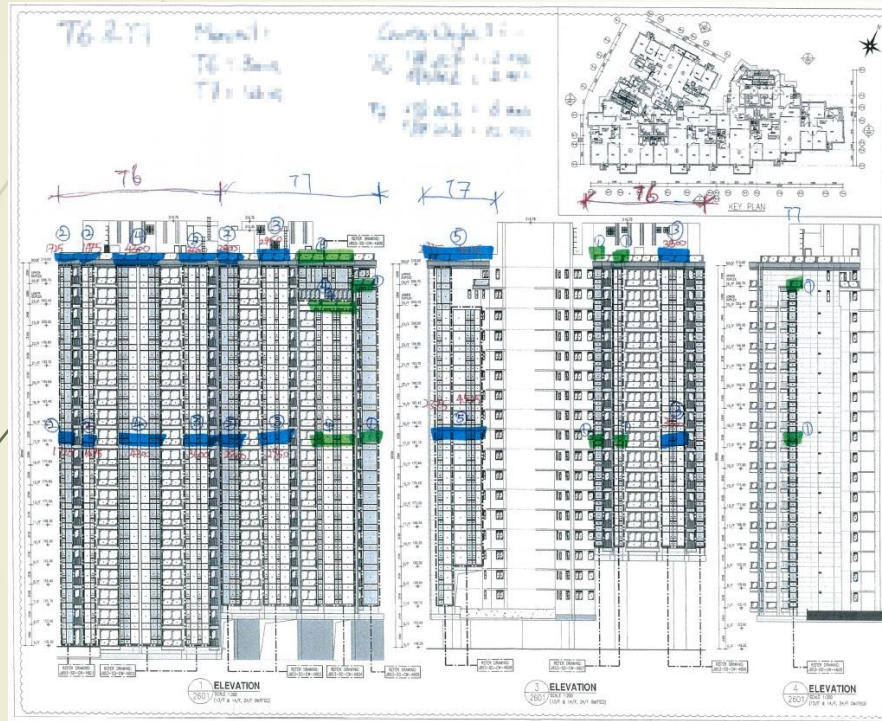
1. 地盤堪察
2. 施工圖紙, 結構計算, 施工方案及風險評估
3. 施工前準備工作
4. 安裝工作
5. 使用吊船前之負荷測試及徹底檢驗
6. 安全使用吊船

1. 地盤堪察

由地盤科文於地盤按實際環境進行量度及堪察, 再加上客戶對所需工作之要求, 以制訂

- 所需臨時吊船裝置
- 安裝所需之設備 (如工作台, 功夫橈等)
- 相關堪察紀錄

堪察紀錄



CKRS-CTP2022-005

14-1-22

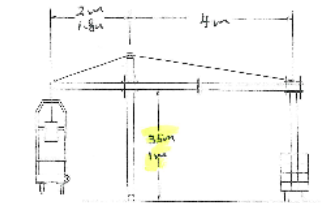
有關臨時吊設現場勘察記錄

日期: 13-1-2022
 項目名稱: 香港仔街市
 主持人: 戚安
 聯絡人: 朱奇: 9270 1513 / 葉生: 9103 2263
 備註:

1. 樓面高度:
2. 女兒牆高度:



3. 選用設備:
 - i 鋼架 - 外伸
 - ii 鋼架 - 外伸
 - iii 中心 - 外伸 4 高車架 (3.5m)
 - iv 鋼仔架 - 外伸
 - v 其他
4. 平台架:



5. 吊船類型: 2m x 6m 船, 80m 載物料
- 備註: 天台料要搬上層, 由 6 樓上 9 樓天台
 若吊船在可應用高車架, 就不要回港架

記錄

2. 施工圖紙, 結構計算, 施工方案及風險評估

地盤科文訂出所需臨時吊船裝置後, 會將堪察紀錄交由工程師進行相關

- 施工方案
- 結構計算
- 施工圖紙
- 風險評估

施工圖紙

NOTES

1. STANDARDS AND CODES :

- (1) CODE OF PRACTICE FOR THE STRUCTURAL USE OF STEEL 2011
- (2) CODE OF PRACTICE FOR SAFE USE AND OPERATION OF SUSPENDED WORKING PLATFORMS, 1ST EDITION MARCH 1998

2. DESIGN LOAD

- (1) S.W.L. OF THE CAGE = 250KG
- (2) CAGE SIZE MAX. 4.0M (L) x 0.63M (W) x 1.1M (H)
- (3) THE TEST LOAD IS 1.5 x 250KG = 375 KG. (EXCLUDE SELF - WEIGHT OF DONDOLA AND LIFTING APPLIANCE)

3. MEMBER SCHEDULE :

ALL MILD STEELS, HOLLOW SECTIONS, PLATE, FLAT BAR, ANGLE SHALL BE GRADE S275 IN COMPLIANCE WITH BS EN 10225:2004
 DESIGN STRENGTH, f_d = 275 N/mm²
 MODULUS OF ELASTICITY, E = 205 KN/mm²

| MEMBER MARK | MEMBER SIZE | GRADE |
|-------------|----------------------------|-------|
| 1, 2, 3, 4 | 100 x 50 x 6mm THK. S.H.S. | 6075 |
| B | 80 x 60 x 3mm THK. S.H.S. | 6075 |

4. WELD:

SHALL BE COMPLIED WITH BS EN 1011-1 & BS EN 1011-2.
 DESIGN STRENGTH OF WELD = 200 N/mm²

5. BOLT AND NUTS:

ALL BOLTS SHALL BE GRADE 8.8 IN COMPLIANCE WITH BS 3692:2001
 TENSILE STRENGTH OF BOLT = 560 N/mm²
 SHEAR STRENGTH OF BOLT = 375 N/mm²

6. WIRE :

SUSPENSION WIRE AND SAFETY WIRE SHOULD BE MINIMUM 6mm WITH MIN. BREAKING FORCE 54.5kN.

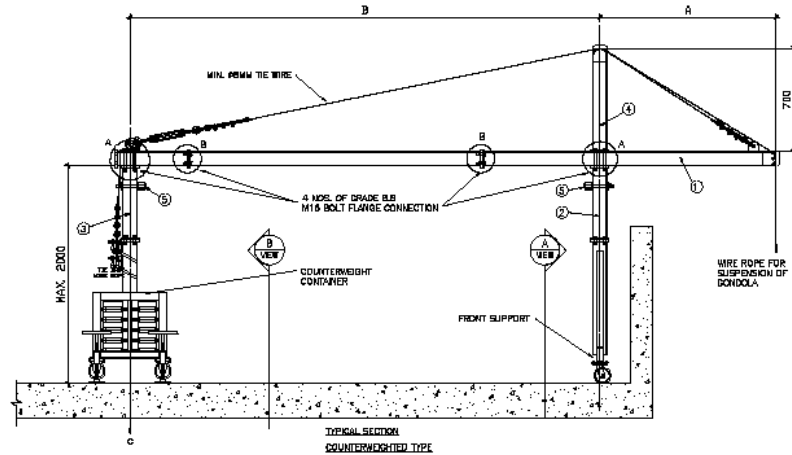
7. REMARK

- (1) THE SUSPENSION BEAM HANGER SYSTEM SHALL NOT IN OPERATION WHEN TYPHOON SIGNAL \geq NO.3 IS HOISTED OR SUSTAINED WIND SPEED \geq 14m/s OR GUST SPEED EXCEED 31m/s.
- (2) THE CAGE SHOULD BE CERTIFIED BY RPE BEFORE OPERATION.

8. REFERENCE THE FOLLOWING TABLE FOR THE REQUIRED COUNTERWEIGHTS IN DIFFERENT USE CASES

| CAGE SIZE | FRONT ARM LENGTH | REAR ARM LENGTH | FRONT/REAR RATIO | COUNTER WEIGHTS |
|---|------------------|-----------------|------------------|-----------------|
| | (L=mm) (A) | (D=mm) (B) | | >=(A/B) (C) |
| MAX. B.O.M (L) x O.B.S.M (W) x H (H) 4.0M x 0.63M x 1.1M (H) | 1200 | 3000 | 2.5 | 835 |
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* ARM LENGTH FOR REFERENCE ONLY, PRINCIPLE FOLLOW FRONT / REAR RATIO



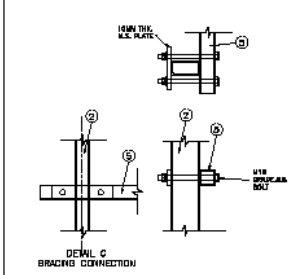
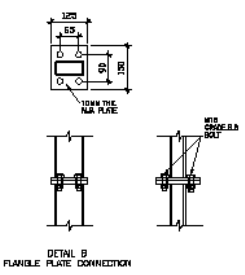
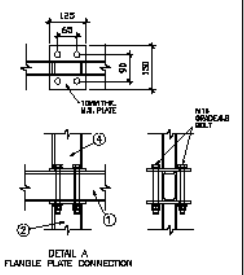
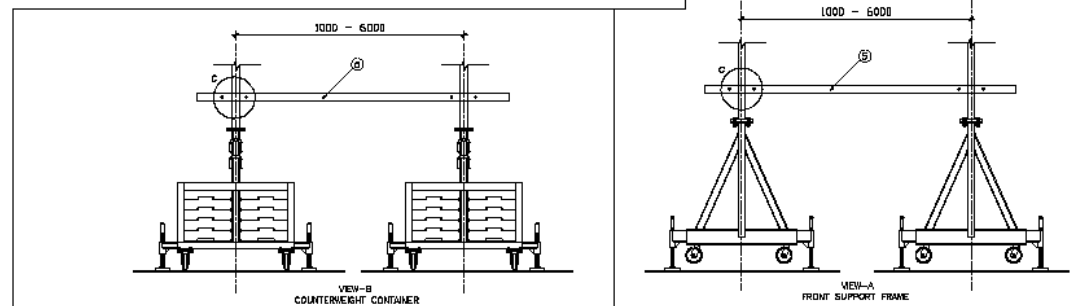
華光租賃有限公司
 China King Rental Service Ltd
 TEL: (00852) 2500 8888 FAX: (00852) 2500 1234

圖號: ckd-22001
 項目: TEMP DONDOLA SYSTEM

客戶: _____

設計: CK / 日期: 15.11.15
 繪圖: CC / 日期: 15.11.15
 校對: CH / 日期: _____

| 版本 | 日期 | 修改 |
|----|----|----|
| 1 | | |
| 2 | | |
| 3 | | |
| 4 | | |
| 5 | | |



→ 結構計算

華克建築顧問有限公司
WALKER ARCHITECTURAL CONSULTANTS
香港中環皇后大道中15號華克中心15樓
15/F WALKER CENTRE, 15 QUEEN'S ROAD MIDDLE, HONG KONG
電話: (852) 2522 8888 傳真: (852) 2522 8888

DESIGN CALCULATION

OF

THE PARAPET WALL CLAMP SYSTEM

FOR SUSPENDED WORKING PLATFORM

施工方案



METHOD STATEMENT

FOR

THE INSTALLATION / DISMANTLE

OF

THE ROOF BEAM SYSTEM

FOR SUSPENDED WORKING PLATFORM

風險評估

華建工程管理咨询有限公司
Huajian Engineering Management Consulting Co., Ltd.

**RISK ASSESSMENT REPORT
FOR
THE INSTALLATION
OF
THE TEMPORARY GONDOLA SYSTEM**

3. 施工前準備工作

地盤科文及安裝工人於施工前會進行安裝會議

- 以了解詳細的**施工程序**及需要**注意之安全事項**
- 對特定**非標準的裝置**會於廠內**進行模擬安裝**, 以提前了解安裝時可能出現的問題及決定是否需要使用其他輔助工具

非標準裝置於廠內模擬安裝



4. 安裝工作

安裝工人會按已釐定之**施工方案, 風險評估及施工圖紙**進行安裝, 安裝後地盤科文會詳細檢查整套裝置是否穩妥及已按施工圖紙進行安裝, 檢查完成後, 整套裝置便會進行負荷測試.

5. 使用吊船前之負荷測試及徹底檢驗

- 使用吊船前, 每部吊船應在安裝地點進行負荷測試, 測試吊船的試驗負荷應為**安全操作負荷**的**150%** (例如吊船安全負荷250kg, 以375kg測試)
- 由**合資格檢驗員**進行負荷測試及進行徹底檢驗, 合資格檢驗員會按認可格式 (**表格2 及 表格3**) 簽發出證明書, 以述明該吊船處於安全操作狀態
- 每部吊船在緊接使用前七天內都應由**合資格的人**檢查, 合資格的人按認可格式 (**表格1**) 簽發出證明書, 以述明該吊船處於安全操作狀態

表格 2 及 3

FORM 2
表格二

(Section 29(1)
(條例第 29(1)條)

FACTORIES AND INDUSTRIAL UNDERTAKINGS (SUSPENDED WORKING PLATFORMS) REGULATION
CERTIFICATE OF THOROUGH EXAMINATION OF SUSPENDED WORKING PLATFORM
Form approved by the Commissioner for Labour for the purposes of Section 29(1) of the Factories and Industrial Undertakings (Suspended Working Platforms) Regulation
工廠及工業經營(吊船)條例
吊船的徹底檢驗證明書
CERT. NO. SWP-211229-14

本表格乃由勞工處或註冊二級及工業經營(吊船)條例第 29(1)條名下的認可
檢驗師發出

Name of Owner
擁有人姓名
China King Rental Services Ltd.

Address of Installation
安裝地址
Good Hope School
303 Clear Water Bay Road, Kowloon.
(Location: Socket W3, W4)

| (1) Description of suspended working platform, e.g. identification mark, dimensions of working platform, safe working load, maximum number of persons that can be carried safely. 吊船的描述，例如：識別標記、工作平台的尺寸、安全操作負載、安全攝載的最大人數等。 | (2) Date of thorough examination 徹底檢驗日期 | (3) Result of thorough examination 徹底檢驗結果 | | |
|--|---|---|---|--|
| | | (3) Specify repairs required to enable the suspended working platform to be used safely. If no such repairs are required, state "None". 列明所需進行修護的工作(包括上述各項、雜項等要修護、則寫“無”)。 | (4) Specify repairs other than those listed in column (3) required for the safe use of the seat certificate. If no such repairs are required, enter "None". 列明在下列修護要修護的工作(包括上述各項、雜項等要修護、則寫“無”)。 | (5) State whether the suspended working platform is in safe working order. 指明吊船是否處於安全操作狀態。 |
| "Suspended Working Platform" Maker: 德天 Model: Not Marked Lifting Capacity: 500 kg (for each) Serial No.: N126, A405 Owner's No.: T16 Size of Platform: 2.0M(L) x 0.6M(W) x 1.0M(H) Max. no. of persons: 2 persons Max. Safe Working Load: 250 kg | December 29, 2021 | None | None | In Safe Working Order |

I hereby certify that the suspended working platform described in this certificate was thoroughly examined by me on December 29, 2021
茲證明本人於 年 月 日徹底檢驗本證明書所述的吊船。

Name and Signature of Registered Professional Engineer
註冊專業工程師姓名及簽署
Date of issue
簽發日期
December 29, 2021

Signature
L1: Chan Kwong (RP01 80408)

Qualification
R.P.E.
MECHANICAL

Any competent examiner who delivers to a owner a certificate or report which is to his knowledge false as to a material particular commits an offence and is liable on conviction to a fine of \$200,000 and to imprisonment for 12 months.
任何合資格檢驗員，若向擁有人提交一份含有虛假資料的證明書或報告，則屬犯罪，可處罰款 20 萬元及監禁 12 個月。

FORM 3
表格三

(Section 29(2) & (3)
(條例第 29(2) 及 (3) 條)

FACTORIES AND INDUSTRIAL UNDERTAKINGS (SUSPENDED WORKING PLATFORMS) REGULATION
CERTIFICATE OF LOAD TEST AND THOROUGH EXAMINATION OF SUSPENDED WORKING PLATFORM
Form approved by the Commissioner for Labour for the purposes of Section 29(2) & (3) of the Factories and Industrial Undertakings (Suspended Working Platforms) Regulation
工廠及工業經營(吊船)條例
吊船的負荷測試及徹底檢驗證明書
CERT. NO. SWP-211229-14

本表格乃由勞工處或註冊二級及工業經營(吊船)條例第 29(2)及(3)條名下的認可
檢驗師發出

正本
ORIGINAL

| | | |
|---|---|---|
| 1. Name of owner of the suspended working platform. 吊船擁有人的姓名。 | China King Rental Services Ltd. | |
| 2. Address of installation of the suspended working platform. 吊船的安裝地址。 | Good Hope School 303 Clear Water Bay Road, Kowloon. (Location: Socket W3, W4) | |
| 3. (a) Description of suspended working platform, e.g. identification mark, mode of suspension, dimensions of platform etc. 吊船的描述，例如：識別標記、懸吊形式、工作平台的尺寸等。 (b) Date of manufacture (if ascertainable) 製造日期(如能確定)。 | "Suspended Working Platform" Suspended Working Platform powered by two electric climbers and operated by 2 x 8mm dia. Lifting wires, 2 x 8mm dia. safety wires and provided with 2 x 16mm dia. life lines. The platform travels: from Ground Floor to Roof Floor Maker: 德天 Model: Not Marked Lifting Capacity: 500 kg (for each) Serial No.: N126, A405 Owner's No.: T16 Size of Platform: 2.0M(L) x 0.6M(W) x 1.0M(H) | |
| 4. Design and construction - 設計及建造 - Is the suspended working platform of good design and construction, of adequate strength, made of sound material and properly installed? 吊船的設計及構造是否良好，強度是否足夠，物料是否質優及是否妥為安裝? State "Yes" or "No". If "No", specify what defects have been found. And state the suspended working platform is not in safe working order in paragraph 5 below. 指明“是”或“否”。如屬“否”，則列明缺陷所在，並於下述第 5 段內，說明吊船不是處於安全操作狀態。 | Yes Note: Details of any renewals or alterations required shall be given in paragraph 5 below. 附註：如需進行任何更換或修護工程，則於第 5 段內予以下述第 7 段。 | |
| 5. Are the following parts of the suspended working platform in safe working order? 下列吊船各部份是否處於安全操作狀態? State "Yes" or "No". 指明“是”或“否”。 | (a) anchorage and support 錨定或支撐。 (b) suspension 懸吊。 (c) counterbalancer and counterweights 平衡系統及平衡重物。 (d) platform 工作平台。 (e) access to and egress from the suspended working platform. 上落吊船的方法。 (f) drums and pulleys 鼓及滑輪。 (g) brakes 制動器。 | (a) Yes (b) Yes (c) Yes (d) Yes (e) Yes (f) Yes (g) Yes |

P.1/2

檢查清單 及 表格 1

FORM 1
表格一

[Section 19(1)]
[規例第 19(1)條]

Name of Owner: _____
擁有人姓名: _____

FACTORIES AND INDUSTRIAL UNDERTAKINGS (SUSPENDED WORKING PLATFORMS) REGULATION

China Kine Engineering Limited
CERTIFICATE OF WEEKLY INSPECTIONS OF SUSPENDED WORKING PLATFORM
Form approved by the Commissioner for Labour for the purposes of Section 19(1) of the Factories and Industrial Undertakings (Suspended Working Platforms) Regulation

Address of Installation: _____
安裝地址: 香港青洲荳蔻竹坑道 36 號

工廠及工業經營(吊船)規例
吊船的每週檢查證明書

本表格乃由勞工處處長就工廠及工業經營(吊船)規例第 19(1)條的需要而認可

| Description of suspended working platform and identification mark 吊船的說明及識別標記 | Date of inspection 檢查的日期 | Result of inspection (covering all lifting appliances and gear, the working platform, counter-balance, ballast, outriggers, anchoring, supporting or fixing arrangements, all mechanical and electrical apparatus and safety devices) State whether in safe working order 檢查結果 (包括所有起重機械及裝置、工作平台、平衡系統、壓重物、支撐物、錨定、支撐或固定安排、所有機械器具及安全裝置 說明是否處於安全操作狀態) | | Name, signature and designation of the competent person who made the inspection 進行檢查的合資格的人 的姓名、簽署及職銜 |
|--|-----------------------------|---|-----|--|
| | | (1) | (2) | |
| Suspended Working Platform Model: CDG250D26BL Maker: 上海萬源達機電科技有限公司 Owner's No.: BMU-21-204 Dimension: 3.00M(L) X 0.65M(W) X 1.16M(H) Wire Rope: 4Nos X 7mm dia. Safe Working Load: 250kg Max No. of person: TWO (2) | | In Safe Working Order | | |

An owner shall ensure that a suspended working platform is not used for carrying persons unless he has obtained a certificate of weekly inspection signed by a competent person stating that the suspended working platform is in safe working order. Otherwise, he commits an offence and is liable on conviction to a fine of \$200,000 and to imprisonment for 12 months. 在未取得合資格的人簽署的每週檢查證明書，證明吊船處於安全操作狀態，擁有人如使用該吊船載人，即屬犯罪，一經定罪，可處罰款二十萬元及監禁十二個月。

華逸起重機械有限公司
(Hua Yee Hoist Machinery Limited)

吊船安全檢查表

吊船名稱: _____ 吊船編號: _____

| 項目 | 檢查項目 | 是否正常有效 反無損壞情況 | | 備註 |
|-----|---------------|------------------|---|----|
| | | 是 | 否 | |
| 1. | 電源線及插頭 | | | |
| 2. | 控制箱及其組件 | | | |
| 3. | 所有鋼纜及纜索的結構 | | | |
| 4. | 其他吊重裝置的結構 | | | |
| 5. | 工作台的護欄及底護板 | | | |
| 6. | 表格一、二、及三的效用狀況 | | | |
| 7. | 安全及獨立救生繩 | | | |
| 8. | 控制箱的運作性能 | | | |
| 9. | 電動機的制動性能 | | | |
| 10. | 掣動器的制動性能 | | | |
| 11. | 自動安全裝置性能(安全鎖) | | | |
| 12. | 防墜器的效能 | | | |
| 13. | 外伸支撐 | | | |
| 14. | 錨定裝置 | | | |
| 15. | 其他事項: | | | |

備註: 1. 如果在檢查期間發現有不正常、失效或明顯損壞的情況，應立即停止使用及通知主管人員安排派員維修，此表格需要一併交予吊船公司維修部作參考。
2. 檢查人員必須於操作吊船前檢查證實吊船符合安全狀況下，才能簽發表格一(Form 1)。

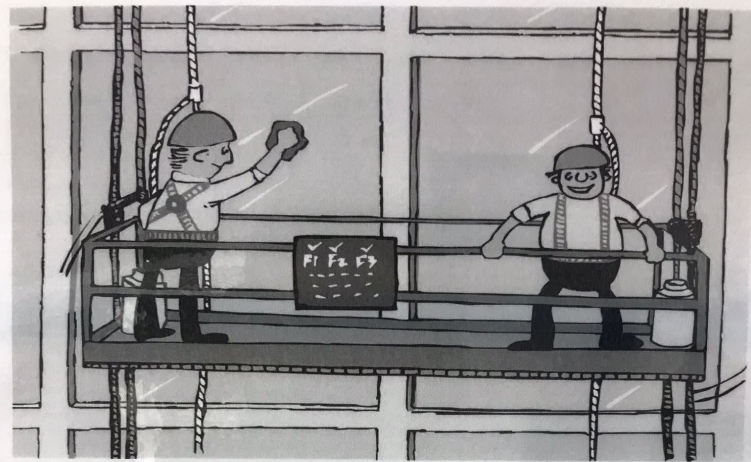
檢查人員姓名: _____ (正印) 檢查員所屬單位: _____

檢查人員簽署: _____ 檢查日期: _____

6. 安全使用吊船

- 只有受過訓練及獲指示的人才可使用吊船。操作人員應使用適當途徑進出工作平台
- 吊船所載的每個人都應獲提供一條合適的安全帶及一條獨立救生繩或合適的繫穩物及裝配
- 每一安全帶、救生繩、繫穩物及裝配都應有適當的設計及構造，及必須以高掛低用型式繫穩，以防止任何使用的人一旦墮下時受傷
- 惡劣天氣下不得使用吊船 (例如: 雷暴, 暴雨, 暴風等)

安全使用吊船



操作吊船勿超載

Overload of suspended working platform is prohibited

吊船上的人員須佩戴安全帶；安全帶須繫於獨立救生繩上或穩固的繫穩物上。

Every person riding on a suspended working platform shall wear a safety belt properly attached to an independent lifeline or an appropriate anchorage.

每日開工前須檢查所有的纜索。

All wire ropes shall be inspected prior to commencement of daily work.

安全載重 250公斤

Safe working load : 250KG

吊船限載兩個人

Maximum no. of persons that can be carried : 2 persons



獨立救生繩



全身式安全帶



- END -