

環安衛條件總清單 ESH Purchasing conditions

(一) 機械設備及民生庶務用品 Machine Equipment Goods

項目 Item	供應商環安衛要求事項 Supplier ESH Requirements
A.安全危害標示 Safety Hazard Signs	<p>1. 具有顯著危險之原動機或動力傳動裝置，應於適當位置設置有明顯標誌。</p> <p>Safety hazard signs should displayed on the machine when the machinery powered by a motor or has significant danger.</p>
	<p>2. 安全危害標示應符合 SEMI S1 設備安全標籤、ANSI Z535 安全基準或 ISO 3864-2，並中英對照。</p> <p>Safety hazard signs should conform to requirements of SEMI S1 facility safety tags, ANSI Z535 safety standards or ISO 3864-2 requirements, and in Chinese and English.</p>
B.緊急制動/停止裝置 Emergency halt device	<p>1. 具有顯著危險之原動機或動力傳動裝置，應於適當位置設置有明顯標誌之緊急制動裝置。</p> <p>The emergency halt device should be installed at appropriate position and clearly displayed on the machine, which is powered by a motor or has significant danger.</p>
	<p>2. 緊急制動/停止裝置應符合 CNS14804。</p> <p>The emergency halt device should meet requirements of CNS14804.</p>
	<p>3. 緊急停止功能必須優先於所有功能及所有模式下的操作動作。</p> <p>The "Emergency Off (EMO)" function must take precedence over all functions and operating actions in all modes.</p>
	<p>4. EMO 之重新設定(復歸)需為手動操作，而復歸 EMO 開關不得使電路、設備或附屬設施重新通電。</p> <p>The reset of "Emergency Off (EMO)" must be manual operation, the reversion of EMO switch shall not cause circuits, equipment or ancillary facilities re-energized.</p>
	<p>5. EMO 按鈕為紅色草菇狀，背景應為黃色，且須在按鈕上或黃色背景中標示 EMO 或 Emergency Off 文字。</p> <p>EMO button is red mushroom-shaped, background shall be yellow and need to label EMO or Emergency off on the button or yellow background.</p>
	<p>6. 防誤觸保護設計須符合手掌根可按壓或可按壓處直徑≥ 58 mm。</p> <p>The design for preventing accidental touch protection must comply with the requirement that the palm and can press or touchable area have a diameter ≥ 58 mm.</p>

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	<p>7. EMO 設置間距與人員操作面應小於 3 公尺，其高度介於 84 公分至 164 公分。</p> <p>The distance between EMO setting and the operator's operating should be less than 3 meters, and its height should be between 84 cm and 164 cm.</p>
C.安全連鎖 Safety Interlock	<p>1. 安全連鎖系統的設計應能在啟動時，將設備、相關零件等，均自動處於安全的狀態，而非復歸到原始狀態，確保人員安全。參考 SEMI-S2 規範，安全連鎖須為失效安全型，或具有容錯特性的設計，以避免單一偵測器失效，且重要安全連鎖控制應為雙迴路設計、固態電子元件如 Safety relay module, safety controller, safety PLC，並通過 EN/ISO 13849 標準或 SEMI S2 認證。安全連鎖設計不應有延遲時間(delay time)，若有延遲時間，請備註說明。</p> <p>Once the safety interlock system is activated, it should be able to place the tool in safe state, rather than return to the original equipment startup state to ensure the safety of personnel. Refer to SEMI-S2 standard, safety interlock systems should be fault-tolerant and designed so that the functions or set points of the system components cannot be altered without disassembling, physically modifying, or damaging the device or component. Critical safety interlock controls should utilize a dual-circuit design and incorporate solid-state electronic components such as safety relay modules, safety controllers, or safety PLCs. These components must comply with the EN/ISO 13849 standard or meet SEMI S2 certification requirements. The safety interlock design should not have a delay time, if There is a delay time, please specify the reason.</p>
D.延長線 Extension Cord	<p>1. 符合 CNS10917 規定:應於外包裝及本體上標示公司名稱、額定規格、電線長度(m)及接地線顏色。</p> <p>Meet the requirements of CNS10917: the items should be marked on the outer packaging and the body include company name, rated specification, wire length (m) and grounding wire color.</p> <p>2. 插座需有三孔接地型及過負載保護裝置(或開關有 rest 功能)。</p> <p>The socket needs to be in a three-hole type and has overload protection function.</p> <p>3. 產品本品須印有「商品安全標章」。</p> <p>The product body must has the "Goods Safety Label" on it.</p>

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E.一般加熱器 Attached heater	1. 具獨立兩段式過溫保護裝置 With independent two-stage over-temperature protection device.
	2. 具獨立電流過流量保護裝置 With independent overcurrent protection device.
F.浸入式液體加熱器 Liquid heater	1. 具獨立之過溫保護裝置且單獨迴路 With independent over-temperature protection device. And a separate circuit.
	2. 具獨立電流過流量保護裝置且單獨迴路 With independent overcurrent protection device. And a separate circuit.
	3. 具液位感測器，且異常時連動停止加熱器持續加熱，並採人員手動復歸。 Liquid level sensor when sensor detect abnormality, it need to stop heater to continue heating. And manual reset.
	4. 低液位感知器應高於加熱器適當位置，且偵測異常時連動停止加熱器持續加熱，並採人員手動復歸。 The appropriate position of the low liquid level sensor is higher than heater. Then liquid level sensor detect abnormality, it need to stop heater to continue heating. And manual reset.
	5. 槽體內排氣系統與加熱器電源間有安全連鎖，當排氣系統失效時，自動切斷加熱器電源，並採人員手動復歸。 The power of the heater should be interlocked with the tank exhaust system. When exhaust system fail, the power of the heater should be interrupted automatically. And manual reset.
G.烤箱 Oven	1. 具獨立之過溫保護裝置且單獨迴路，並採人員手動復歸。 With independent over-temperature protection device. And a separate circuit.
	2. 具獨立電流過流量保護裝置且單獨迴路，並採人員手動復歸。 With independent overcurrent protection device. And a separate circuit.
H.生產線使用之機台設備 Production line equipment	1. 需通過 SEMI S2 認證，及其他依據采鈺公司 F-RMS-1901 Tool ESH specification for process tool，對於不同類型之機台所定義之安全要求。 Need to pass SEMI S2 certification, and other safety requirements defined for different types of machines according to VisEra's F-RMS-1901 Tool ESH specification for process tool.

項目 Item	供應商環安衛要求事項 Supplier ESH Requirements
I.現址式高效破壞削減設備 (Local scrubber, LSC)	<p>1. 需安裝 LSC 之化學品：使用腐蝕性、易燃性、毒性或溫室氣體機台，均配置現地式處理設備，進行兩階段廢氣處理，可以達到污染物有效去除的目標。</p> <p>Chemicals that require the installation of LSC: Machines that use corrosive, flammable, toxic, or greenhouse gases must be equipped with on-site treatment equipment to conduct two-stage waste gas treatment, which can achieve the goal of effectively removing pollutants.</p> <p>2. 機台若使用含氟溫室氣體(F-GHG)與氧化亞氮(N₂O)，應另依據采鈺公司 F-RMS-0006 溫室氣體盤查管理辦法，裝設合規之現地式高效破壞削減設備 (Local scrubber, LSC)。</p> <p>If the machine uses F-GHG or N₂O, it should also install compliant Local scrubber, LSC with VisEra's F-RMS-0006 Greenhouse Gas Inventory Management Method.</p>
	<p>3. 安全連鎖機制 Interlock function between process tool and local scrubber</p> <p>(1) 當 LSC 失效時，機台需提供介面功能去停止製程氣體供應或 bypass 至備用系統。</p> <p>When the LSC fails, the machine needs to provide an interface function to stop the process gas supply or bypass to the backup system.</p> <p>(2) LSC 需提供警報訊號(乾接點)，且當 LSC alarm 時能將警訊傳回機台。</p> <p>The LSC must provide an alarm signal (dry contact) and send the alarm back to the machine when the LSC alarm occurs.</p> <p>(3) 當安全相關或 LSC 等相關警訊解決前製程機台不可運轉。</p> <p>The process machine cannot be operated before the safety-related or LSC-related alarms are resolved.</p>
	<p>4. 安全要求 Safety requirements</p> <p>(1) 警報訊號需連接到機台。</p> <p>The alarm signal needs to be connected to the machine.</p> <p>(2) 避免未反應完的可燃性氣體或毒性氣體在 LSC 失效時流至中央處理設備，建議完成 wafer 需停止運轉，否則需自動切換至備用 LSC。</p> <p>To prevent unreacted flammable or toxic gases from flowing to the central processing unit in case of LSC failure, it is recommended to stop</p>

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	<p>the operation after the wafer is completed. Otherwise, it needs to be automatically switched to the backup LSC.</p> <p>(3) LSC於各類製程氣體或副產物的處理效率</p> <p>The processing efficiency of LSC for various process gases or byproducts</p> <table border="1" data-bbox="507 443 1490 1379"> <thead> <tr> <th data-bbox="507 443 746 524">分類 Category</th> <th data-bbox="751 443 1126 524">代表氣體 Major gases</th> <th data-bbox="1131 443 1490 524">LSC削減能力 LSC Reduction rate</th> </tr> </thead> <tbody> <tr> <td data-bbox="507 530 746 719">毒性 Toxic</td> <td data-bbox="751 530 1126 719">Hydride, Cl₂, etc.</td> <td data-bbox="1131 530 1490 719"> <ul style="list-style-type: none"> ●DRE>99%，或 ●出口氣體濃度<1 STEL DRE>99%, or Exhaust gas concentration <1 STEL </td> </tr> <tr> <td data-bbox="507 725 746 869">可燃性 Flammable</td> <td data-bbox="751 725 1126 869">H₂, SiH₄, NH₃, CO, etc.</td> <td data-bbox="1131 725 1490 869"> <ul style="list-style-type: none"> ●出口氣體濃度 < 1/10 LEL Exhaust gas concentration < 1/10 LEL </td> </tr> <tr> <td data-bbox="507 875 746 1019">發火性 Pyrophoric</td> <td data-bbox="751 875 1126 1019">SiH₄, etc.</td> <td data-bbox="1131 875 1490 1019"> <ul style="list-style-type: none"> ●出口氣體濃度 < 1/10 LEL Exhaust gas concentration < 1/10 LEL </td> </tr> <tr> <td data-bbox="507 1025 746 1214">腐蝕性 Corrosive</td> <td data-bbox="751 1025 1126 1214">NH₃, HF, SiF₄, Cl₂, HBr, etc.</td> <td data-bbox="1131 1025 1490 1214"> <ul style="list-style-type: none"> ●DRE>90%，或 ●出口氣體濃度<1 STEL DRE>90%, or Exhaust gas concentration < 1 STEL </td> </tr> <tr> <td data-bbox="507 1220 746 1379">全氟碳化合物 PFCs</td> <td data-bbox="751 1220 1126 1379">CF₄, NF₃, C₂F₆, C₃F₈, SF₆, etc.</td> <td data-bbox="1131 1220 1490 1379"> <ul style="list-style-type: none"> ●CF₄、N₂O DRE>90% ●其他氣體DRE>95% CF₄、N₂O DRE>90% Other gases DRE>95% </td> </tr> </tbody> </table> <p>● 製程尾氣濃度以流量控制器(Mass Flow Controllers, MFC)最大量(worst case)來做推估。</p> <p>The concentration of process exhaust gas is estimated based on the worst case of the Mass Flow Controllers.</p> <p>● 使用多種氣體特性者，以較嚴之標準為主。</p> <p>For systems using multiple gas characteristics, the most stringent standard shall be applied.</p> <p>● 若 LSC 故障需自動切至備機，若無備機須安裝自動 N₂ 稀釋系統，確保易燃性/發火性氣體濃度<1 LEL。</p> <p>In case of LSC failure, automatic switching to the backup system is required to keep the concentration of flammable/ignitable gases below 1 LEL.</p> <p>(4) EUV製程使用大量易燃性氫氣：</p>			分類 Category	代表氣體 Major gases	LSC削減能力 LSC Reduction rate	毒性 Toxic	Hydride, Cl ₂ , etc.	<ul style="list-style-type: none"> ●DRE>99%，或 ●出口氣體濃度<1 STEL DRE>99%, or Exhaust gas concentration <1 STEL	可燃性 Flammable	H ₂ , SiH ₄ , NH ₃ , CO, etc.	<ul style="list-style-type: none"> ●出口氣體濃度 < 1/10 LEL Exhaust gas concentration < 1/10 LEL	發火性 Pyrophoric	SiH ₄ , etc.	<ul style="list-style-type: none"> ●出口氣體濃度 < 1/10 LEL Exhaust gas concentration < 1/10 LEL	腐蝕性 Corrosive	NH ₃ , HF, SiF ₄ , Cl ₂ , HBr, etc.	<ul style="list-style-type: none"> ●DRE>90%，或 ●出口氣體濃度<1 STEL DRE>90%, or Exhaust gas concentration < 1 STEL	全氟碳化合物 PFCs	CF ₄ , NF ₃ , C ₂ F ₆ , C ₃ F ₈ , SF ₆ , etc.	<ul style="list-style-type: none"> ●CF₄、N₂O DRE>90% ●其他氣體DRE>95% CF ₄ 、N ₂ O DRE>90% Other gases DRE>95%
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	<p>EUV process uses large amounts of flammable oxygen</p> <ul style="list-style-type: none"> ● EUV、LSC 有主、支管搭配來做風管專管收集時，H₂ 濃度應小於 1/4 LEL If the EUV、LSC has main and branch pipes for dedicated air duct collection, the H₂ concentration should be less than 1/4 LEL ● EUV、LSC 無主、支管搭配來做風管專管收集時，H₂ 濃度應<10 % LEL If the LSC does not have main and branch pipes for dedicated air duct collection, the H₂ concentration should be less than 1/4 LEL <p>(5) 若製程尾氣濃度(以製程最大量來作推估)符合上述標準，就可不須設置LSC。 If the process tail gas concentration, estimated based on the maximum process amount, meets the above standards, the LSC is not required.</p> <p>(6) 於LSC 安裝後需由第三方進行 DRE 檢測，檢測方法如下： A third-party must perform a DRE test after the LSC is installed. The test method is as follows:</p> <ul style="list-style-type: none"> ● Quadrupole Mass Spectrometer, QMS：用於分析雙原子分子、氣體 Used to analyze the composition of diatomic molecules and gases. ● Fourier Transform Infrared Spectrometer, FTIR：監測洗滌塔排放 Monitor the scrubber tower emissions. <p>(7) 若製程氣體為氯化 or 氟化氣體，如 HCl、NF₃ 等，必須使用 QMS 和 FTIR 分析出口端毒性氣體。 If the process gas is a chlorinated or fluorinated gas, such as HCl or NF₃, QMS and FTIR must be used to analyze the toxicity of the exhaust gas.</p> <p>(8) LSC 材質需求 LSC Material requirements</p> <ul style="list-style-type: none"> ● 水槽：FM 認證之塑材或有鐵氟龍塗層之不鏽鋼外殼 Cistern: Plastic with FM certification or stainless steel with Teflon. ● 濕式洗滌塔：有鐵氟龍塗層之不鏽鋼外殼 Wet scrubber：Stainless steel case with Teflon coating. ● 內槽：金屬 Inner tray: Metal.
	<p>5. 機台廢氣排放管線設計 Exhaust gas discharge pipeline design for machines</p>

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	<p>(1) Wet Single wafer 酸鹼有機混合排氣需經 LSC 處理後排入有機廢氣系統處理後排放，且其風管含主風管需 Coating Teflon，並安裝有機廢水生物處理設備。</p> <p>The acid-base organic mixed exhaust of Wet Single wafer must be treated by LSC and then discharged into the organic waste gas system for treatment and discharge. The air duct including the main air duct must be coated with Teflon, and organic wastewater biological treatment equipment must be installed.</p> <p>(2) 廠務現地型可燃材質洗滌塔 FAC Combustible materials LSC</p> <ul style="list-style-type: none"> ● 配置風車之廠務現地型可燃材質洗滌塔，需設置自動消防撒水設備。 A combustible material washing tower located at a wind turbine facility must have an automatic fire sprinkler system ● 設置於戶外現地型可燃材質洗滌塔，需設置自動消防撒水設備。 A combustible material washing tower installed in an outdoor, on-site location must have an automatic fire sprinkler system.
J.民生庶務用品 General appliances	<p>1. 需有經濟部標準檢驗局商品檢驗標識。</p> <p>The commodity inspection mark of the Bureau of Standards and Inspection of the Ministry of Economic Affairs is required.</p>
K.捲揚機 Electric Hoist	<p>1. 檢附設備規格、額定荷重及出廠檢驗證明文件。</p> <p>Provide equipment specifications, rated load information, and factory inspection certificates.</p> <p>2. 機身明顯易見處標示包含中英文之額定荷重。</p> <p>The clearly visible part of the equipment shall indicate the rated load in both Chinese and English.</p> <p>3. 電動設備應具緊急停止裝置、過負荷保護及上下極限開關。</p> <p>Electric equipment shall be equipped with an emergency stop device, overload protection, and upper/lower limit switches.</p> <p>4. 鋼索、吊鉤及吊掛附件應符合安全規格，且吊鉤須具防脫裝置。</p> <p>Wire ropes, hooks, and lifting accessories shall comply with safety specifications, and hooks shall be equipped with safety latches.</p>
L.鏈條吊車 chain block	<p>1. 檢附設備規格、額定荷重及出廠檢驗證明文件。</p> <p>Provide equipment specifications, rated load information, and factory inspection certificates.</p>

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	<p>2. 機身明顯易見處標示包含中英文之額定荷重。 The clearly visible part of the equipment shall indicate the rated load in both Chinese and English.</p> <p>3. 吊鏈、吊鉤及吊掛附件應符合安全規格，且吊鉤須具防脫裝置。 Chains, hooks, and lifting accessories shall comply with safety specifications, and hooks shall be equipped with safety latches.</p> <p>4. 設備須具煞車自鎖功能，避免吊物滑落。 The equipment shall be equipped with a self-locking brake function to prevent load slippage.</p>

(二) 法定之機械、設備或器具 Designated machinery, equipment, or device

類型 Pressure Vessel Type	供應商環安衛要求事項 Supplier ESH Requirements
A. 購買動力衝剪機械 Power punching machine	<p>1. 輸入者或製造者應檢附符合職安署安全標準之檢驗登錄證明。 The manufacturer/importer should provide inspection report which meets OSHA standards.</p> <p>2. 機械設備上應張貼產品安全標示。 The hazardous signs should displayed on the machine/facility.</p>
B. 購買手推刨床 Hand planer	
C. 購買木材加工用圓盤鋸 Circular saw	
D. 購買動力堆高機 Powered stackers	
E. 購買研磨機 Grinders	
F. 購買研磨輪 Grinding wheels.	
G. 購買防爆電氣設備(etc. 燈具、廣播器、風車、馬達...等) Explosion-proof electric equipment i.e. light fixture, broadcasters, windmills, motors).	
H. 購買動力衝剪機械之光電式安全裝置 Photoelectric safety device for power punching and shearing machinery.	
I. 購買手推刨床之刀部接觸預防裝置 Blade-touch prevention device for hand planer.	
J. 購買木材加工用圓盤鋸之反撥預防裝置及鋸齒接觸預防裝置 Prevention device for disc harrow for wood processing	

<p style="text-align: center;">類型</p> <p style="text-align: center;">Pressure Vessel Type</p>	<p style="text-align: center;">供應商環安衛要求事項</p> <p style="text-align: center;">Supplier ESH Requirements</p>
Serrated contact prevention device.	
<p>K. 交流電弧銲接電源用電擊防止裝置</p> <p>Electric shock prevention device for AC arc welding power source.</p>	
<p>L. 第一種壓力容器</p> <p>Class-1 Pressure Vessel</p> <p>(依據鍋爐及壓力容器安全規則 According to Boiler and Pressure Vessel Safety Regulations)</p>	<ol style="list-style-type: none"> 1. 檢附熔接檢查合格證明。 Check the welding inspection certificate. 2. 檢附構造檢查合格證明。 Check the construction inspection certificate. 3. 設置完成需完成竣工檢查方可驗收 Perform completion check upon finish.
<p>M. 第二種壓力容器 Class-2 Pressure Vessel</p> <p>(依據鍋爐及壓力容器安全規則 According to Boiler and Pressure Vessel Safety Regulations)</p>	<p>於容器明顯易見處裝設記載下列事項銘板：</p> <p>Make the following information clear on the vessel:</p> <ol style="list-style-type: none"> 1. 製造者名稱或其商標。 The name of the manufacturer or its trademark. 2. 製造年月 Year of manufacture. 3. 最高使用壓力 Maximum use pressure (Mpa). 4. 水壓試驗壓力 Hydraulic pressure test (Mpa).
<p>N. 小型壓力容器</p> <p>Small Pressure Vessel</p> <p>(依據鍋爐及壓力容器安全規則 According to Boiler and Pressure Vessel Safety Regulations)</p>	<ol style="list-style-type: none"> 1. 提出構造符合國家標準 CNS 14967 小型壓力容器之規定證明。 Provide proof of construction law conformation the CNS 14967 for small pressure vessel.
<p>O. 鍋爐</p> <p>Boiler</p> <p>(依據鍋爐及壓力容器安全規則 According to Boiler and Pressure Vessel Safety Regulations)</p>	<ol style="list-style-type: none"> 1. 檢附熔接檢查合格證明。 Provide inspection report for welding inspection. 2. 檢附構造檢查合格證明。 Provide inspection report for structural check. 3. 設置完成需完成竣工檢查方可驗收。 Perform completion check before upon finish.
<p>P. 小型鍋爐</p> <p>Small Boiler</p>	<ol style="list-style-type: none"> 1. 提出構造符合國家標準 CNS 10897 小型鍋爐之規定證明。

類型 Pressure Vessel Type	供應商環安衛要求事項 Supplier ESH Requirements
(依據鍋爐及壓力容器安全規則 According to Boiler and Pressure Vessel Safety Regulations)	Provide proof of construction law conformation the CNS 10897 for small pressure vessel.
Q.固定式起重機 (依據起重升降機具安全規則 According to the Safety Rules of Lifting Equipment)	<ol style="list-style-type: none"> 1. 提出固定式起重機安全檢查構造標準之設計與證明文件。 Propose the design and certification documents of the construction standards for safety inspection of fixed cranes. 2. 機身明顯易見處標示包含中英文之額定荷重。 The clearly visible part of the fuselage contains the rated load in both Chinese and English. 3. 依據起重升降機具安全規則實施荷重試驗及安定性試驗，並提供供試驗結果。 Carry out the load test and stability test according to the safety rules of lifting equipment, and provide the test results.

(三) 高處作業登高工具 Ladder Tools

項目 Item	供應商環安衛要求事項 Supplier ESH Requirements
A.合梯(A字梯) Step Ladder	<ol style="list-style-type: none"> 1. 踏板應有紋路或其他防止打滑等安全防滑梯面，踏板深度並不得小於 5cm。 The steps be corrugated, knurled, dimpled, coated with skid-resistant material, or otherwise treated to minimize slipping, The depth of the steps should be not less than 5 cm.
	<ol style="list-style-type: none"> 2. 梯柱間距不得小於 30cm。 Minimum clear width between side rails: 30 cm.
	<ol style="list-style-type: none"> 3. 頂板寬度不得小於 12cm。 Top cap width shall not be less than 12 cm.
	<ol style="list-style-type: none"> 4. 垂直踏板間隔 30cm~35cm。 Vertical step spacing: 30–35 cm.
	<ol style="list-style-type: none"> 5. 梯腳設置防滑絕緣腳座套。 Anti-slip, insulated safety feet.
	<ol style="list-style-type: none"> 6. 梯腳間使用金屬等硬質繫材扣牢(不得使用金屬鍊、繩)。 Equipped with rigid metal spreaders (chains or ropes are prohibited).

項目 Item	供應商環安衛要求事項 Supplier ESH Requirements
	<p>7. 展開後梯腳與地面角度不得大於 75 度。 Angle of inclination shall not exceed 75°.</p> <p>8. 堅固構造，其材質不得有顯著之損傷、腐蝕等現象。 Sturdy construction; free from significant damage or corrosion.</p> <p>9. 載重可達 150kg。 Each step or rung shall be capable of supporting a single concentrated load of at least 150 kg.</p> <p>10. 符合 CNS 16009、EN 131 或 ISO 等同規範並提供試驗報告。 Meet CNS 16009, EN 131 or ISO relevant requirements and Pass the national level (ex.CNS 16009 or EN131) test standard.</p> <p>11. 提供正體中文印製之使用說明書。 Provide instructions for Chinese.</p> <p>12. 應以易見的圖示涵蓋基本資訊並標示在梯具上，其標示內容與大小依 CNS 16009-3 規範。 The basic information should be covered in an easy-to-see illustration and marked on the ladder. The marking content and size are in accordance with CNS 16009-3.</p>
B.合梯(折合式關節梯) Standing step ladder	<p>1. 符合 CNS 16009、EN 131 或 ISO 等同規範並提供試驗報告。 Meet CNS 16009, EN 131 or ISO relevant requirements and Pass the national level (ex. CNS 16009 or EN131) test standard.</p> <p>2. 載重可達 150kg。 Each step or rung shall be capable of supporting a single concentrated load of at least 150 kg.</p>
C.高空工作平台梯 (平台面積<1m ² , 高度<5m)Aerial work platform ladder (platform area <1m, height <5m)	<p>1. 梯具攀爬傾角為 45°~75°時應設置扶手。 Handrails should be provided when the ladder climbing angle is 45°~75°.</p> <p>2. 平台應永久固定於梯具上，除攀爬面外各邊均應安裝踢腳板(踢腳板高度不小於 50mm)。 The platform shall be permanently fixed to the ladder, and toe boards shall be installed on all sides except the climbing surface (the height of the toe board shall not be less than 50mm).</p> <p>3. 踏板應有紋路或其他防止打滑等安全防滑梯面，踏板深度不得小於 80mm The steps be corrugated, knurled, dimpled, coated with skid-resistant material, or otherwise treated to minimize slipping, The depth of the steps should be not less than 80 mm.</p>

項目 Item	供應商環安衛要求事項 Supplier ESH Requirements
	<p>4. 梯腳設有輪子者應安裝能確保使用狀態下不會移動之裝置。 For the stepped legs with wheels, must set the device to avoid to move during use.</p> <p>5. 平台護欄高度應為 950~1100mm，任一中欄杆之間距應避免直徑 470mm 之球體通過。 The height of the platform guardrail should be 950~1100mm. The distance between the railings should avoid the passage of the sphere with a diameter of 470mm.</p> <p>6. 平台攀爬面應安裝可調式護欄或其他等同防墜之裝置。 The climbing side of platform must Installation of adjustable guardrails or other equivalent fall arrest devices</p> <p>7. 符合 CNS 16009、EN 131 或 ISO 等同規範並提供試驗報告。 The machine's structure should conform to national requirements of CNS 16009, EN 131 or ISO standards.</p> <p>8. 載重可達 150kg。 Each step or rung shall be capable of supporting a single concentrated load of at least 150 kg.</p>
D. 固定梯 fixed ladder	<p>1. 具有堅固之構造。 Solid structure</p> <p>2. 應等間隔設置踏條。 Set the steps at equal intervals</p> <p>3. 踏條與牆壁間應保持十六點五公分以上之淨距。 There should be a distance of more than 16.5 cm between the steps and the wall.</p> <p>4. 應有防止梯移位之措施。 Measures to prevent ladder displacement</p> <p>5. 不得有妨礙工作人員通行之障礙物。 There must be no obstacles that hinder the passage of staff</p> <p>6. 平台用漏空格條製成者，其縫間隙不得超過三公分；超過時，應裝置鐵絲網防護。 If the platform is made of leaky strips, the gap between the gaps shall not exceed three centimeters; if it exceeds, barbed wire shall be installed for protection.</p> <p>7. 梯之頂端應突出板面六十公分以上。 The top of the ladder should protrude more than 60 cm from the board surface</p> <p>8. 1 公尺(含)以上需設置扶手 Handrails are required for heights above 1 meter (inclusive)</p>

項目 Item	供應商環安衛要求事項 Supplier ESH Requirements
	<p>9. 梯長連續超過六公尺時，應每隔九公尺以下設一平台，並應於距梯底二公尺以上部分，設置護籠或其他保護裝置。但符合下列規定之一者，不在此限：</p> <p>When the length of the ladder exceeds 6 meters continuously, a platform shall be installed every 9 meters or less, and a protective cage or other protective device shall be installed at the part above 2 meters from the bottom of the ladder. However, those who meet one of the following requirements are not subject to this limitation.</p> <p>(1) 未設置護籠或其它保護裝置，已於每隔六公尺以下設一平台者。 No cages or other protective devices are installed, and a platform is set up every six meters or less</p> <p>(2) 塔、槽、煙囪及其他高位建築之固定梯已設置符合需要之安全帶、安全索、磨擦制動裝置、滑動附屬裝置及其他安全裝置，以防止勞工墜落者。</p> <p>(3) The fixed ladders of towers, troughs, chimneys and other high-level buildings have been equipped with safety belts, safety lines, friction brake devices, sliding attachments and other safety devices that meet the requirements to prevent workers from falling</p> <p>10. 前款平台應有足夠長度及寬度，並應圍以適當之欄柵。 The platform in the preceding paragraph shall have sufficient length and width, and shall be surrounded by appropriate fences</p> <p>備註：機台及附屬設備等客製登高工具請參考上列法規並會同 ISEP 進行審查 Note: For customized climbing tools such as machines and auxiliary equipment, please refer to the above regulations and review with ISEP.</p>
E.安全母索、錨錠點 Life line, Anchored	<p>1. 安全母索得由鋼索、尼龍繩索或合成纖維之材質構成，其最小斷裂強度應在二千三百公斤以上。 The life line is made of steel wire, nylon rope or synthetic fiber, and its minimum breaking strength should be more than 2,300 kg.</p> <p>2. 安全帶或安全母索繫固之錨錠，至少應能承受每人二千三百公斤之拉力。 Anchored of seat belts or life line shall be capable of withstanding at least 2,300 kilograms of pull per person.</p>

項目 Item	供應商環安衛要求事項 Supplier ESH Requirements
F.高空工作車 Aerial operation vehicle	<p>1. 高空工作車之構造，應符合：國家標準 CNS 14965、CNS 16368、CNS 16653 系列、CNS 18893、國際標準 ISO 16368、ISO 16653 系列、ISO 18893 或與其同等之標準相關規定。</p> <p>The machine's structure should conform to national requirements of CNS 14965, CNS 16368, CNS 16653 series, CNS 18893 or international standards such as ISO 16368, ISO 16653 series, ISO 18893</p>
	<p>2. 前條國家標準 CNS 16368、CNS 16653 系列、CNS 18893 與國際標準 ISO16368、ISO 16653 系列、ISO 18893 有不一致者，以國際標準 ISO16368、ISO 16653 系列、ISO 18893 規定為準。</p> <p>If the national standards does not comply with international standards, comply with the international version.</p>
	<p>3. 應在操作者易見之位置標示下列事項：</p> <p>Display the following information in clear sight for operating personnel to see:</p> <p>(1) 製造者名稱。 Name of manufacturer.</p> <p>(2) 製造年月或製造號碼。 Date of manufacture/manufacture number.</p> <p>(3) 積載載重。 Loading capacity.</p> <p>(4) 作業台高度。 Workbench height.</p> <p>(5) 作業範圍（僅供垂直升降型得省略此項標示）。 Working range (exempted for vertical lifting type)</p>
	<p>4. 裝設方向指示器 Install direction indicator：</p> <p>高空工作車應在左右分別裝設一個方向指示器。</p> <p>An indicator should be installed at the left side and at the right side of the aerial operation vehicle.</p>
	<p>5. 裝設警報裝置 Install alarm device：</p> <p>高空工作車應裝設行走用警報裝置。</p> <p>A walking alarm device should be in place.</p>
	<p>6. 車體前後方向之標示 Front/Back indicator：</p> <p>應在作業台操作者易見之處，裝設表示車體前後方向之標示。</p> <p>The indication indicating the front and rear direction of the vehicle body should be installed at a place where the operator of the work station can easily see.</p>

項目 Item	供應商環安衛要求事項 Supplier ESH Requirements
	<p>7. 作業台 Workbench :</p> <p>(1) 台底材料應使用多孔金屬網製(網目大小不得超過 15cm²)或無間隙，且確實固定於台框。 The bottom of the workbench should be made of porous metal mesh material whose mesh size must not exceed 15 square centimeters) or has no gap, and it is fixed to the frame.</p> <p>(2) 周圍應裝設符合下列規定之圍柵或扶手： Hand rails/fences complying the following requirements should be in place:</p> <ul style="list-style-type: none"> ● 堅固之構造。 Firm structure. ● 高度應在 90cm 以上，並於 35cm 以上，55cm 以下再加設同等構造之中欄杆。 The height should be above 90cm, and add railings of the same structure at marks above 35cm and below 55cm.
G.梯凳 (工作用階梯) Step stool	<p>1. 設計類 Design</p> <p>(1) 梯升角度小於 60 度 Ladder climbing angle less than 60°.</p> <p>(2) 梯面深度大於 15 公分 The depth of the steps should be more than 15 cm.</p> <p>(3) 頂階梯面深度不得小於 20 公分 The depth of top cap should be not less than 20 cm.</p> <p>(4) 1 公尺(含)以上需設置扶手 Handrails are required for heights above 1 meter (inclusive).</p> <p>(5) 梯面間高度(含一階)不得大於 40 公分 The height between steps (including the first step) shall not exceed 40 cm.</p> <p>(6) 梯面寬度不得小於 30 公分 The width of step should be not less than 30 cm.</p> <p>(7) 地面與梯面間高度≤45 公分 The height between ground and steps shall not exceed 45 cm.</p> <p>2. 外觀類 Exterior</p> <p>(1) 梯凳平面及支撐腳需有防滑安全設計 Anti-skid safety design is required for plane and supporting feet.</p> <p>(2) 梯凳與支撐腳需穩固的結合 The step stool and the supporting feet need to be firmly combined.</p> <p>(3) 邊緣、邊角及突出元件無毛邊及尖銳處</p>

項目 Item	供應商環安衛要求事項 Supplier ESH Requirements
	<p>Edges, corners and protruding elements are free of burrs and sharp points.</p> <p>(4) 本體及組件無變形無腐蝕 The body and components have no deformation and no corrosion.</p> <p>(5) 如附有輪子應有防止滑動之安全設計 If there are wheels attached, there should be a safety design to prevent sliding.</p> <p>(6) 各端點均有支撐腳點且靠近邊角確保平衡 Support feet at each end and close to corners for balance.</p> <p>(7) 梯凳栓/梢等固定元件須防止鬆脫 Fixing elements such as ladder bolts/tips must be prevented from loosening.</p> <p>3. 認證 Certification</p> <p>(1) 符合 BS EN 14183:2023、ANSI ASC A14.11-2018 標準。 Meet requirement of BS EN 14183:2023、ANSI ASC A14.11-2018 certification.</p>

(四)廠務工程 Factory Engineering (適用範疇為成廠區 The scope of application is the factory area)

項目 Item	供應商環安衛要求事項 Supplier ESH Requirements
<p>A.環安衛系統驗證證書 The certification of the Environmental Safety and Health system</p>	<p>1. 若涉及 FAC 及 ISEP Level-1 高風險作業(泛指易燃易爆化學品及特定危害氣體作業場所、高壓電力設備場所、高處墜落之虞作業場所等區域作業，及對人員產生重大傷亡、人員感電或造成火災及危害性氣體／化學品外洩之作業項目，詳見「采鈺承攬商環安衛藍皮書」)，承攬商須為合格 CNS/ISO 45001 系統驗證通過之證明。(參考 F-RMS-4001「采鈺承攬商 ISO 45001 作業管制內控作業流程」)</p> <p>If the operation involves FAC and ISEP Level-1 high-risk work (including but not limited to areas handling flammable or explosive chemicals, specific hazardous gases, high-voltage electrical equipment, or work at heights with fall hazards; as well as any tasks that may result in severe injury (or fatality), electric shock, fire, or hazardous gas/chemical leakage—please refer to the VisEra Contractors' ESH Blue Book for details), the contractor must provide proof of valid CNS/ISO 45001 system certification.(Reference: F-RMS-4001 VisEra Contractor ISO 45001 Operational Control C.I.)</p>
<p>B.工作守則報備 Filing of Safety and Health Work Rules</p>	<p>1. 承攬工作人數在 30 人以上，必須向主管機關(承攬商公司所在地之勞動檢查機構)報備安全衛生組織及工作守則(依據「采鈺承攬商環安衛藍皮書」)</p> <p>If the contractor's workforce reaches 30 or more personnel, the contractor must file their Safety and Health Organization and Work Rules with the Competent Authority (the Labor Inspection Agency having jurisdiction over the contractor's registered location). (In accordance with the VisEra Contractor ESH Blue Book).</p>
<p>C.工程使用之機械設備器具 Machinery, Equipment, and Tools Used for the Works</p>	<p>1. 若涉及職業安全衛生法第 7 條第 1 項指定機械設備或第 8 條第 1 項公告機械設備，須取得符合安全標準證明文件或國際同等認證(如：UL、ANSI 等)，且於中央主管機關指定之資訊申報網站登錄，並張貼安全標示或安全合格標章(例如：堆高機、砂輪片及交流電焊機用自動電擊防止裝置等)</p> <p>If the work involves machinery or equipment designated under Article 7, Paragraph 1, or publicly announced under Article 8, Paragraph 1 of the Occupational Safety and Health Act, valid documentation proving compliance with safety standards or equivalent international certification (e.g., UL, ANSI, etc.) must be obtained. Furthermore, such equipment must be registered on the information reporting website designated by the</p>

項目 Item	供應商環安衛要求事項 Supplier ESH Requirements
	<p>Central Competent Authority and bear safety labels or safety qualification marks. (Examples include: forklifts, grinding wheels, and automatic electric shock prevention devices for AC arc welding machines, etc.)</p>
<p>D. 管路標示 The pipeline marking</p>	<ol style="list-style-type: none"> <p>針對潔淨室區、廠務機房、倉庫、廢水處理廠、中央供給系統等管路，例如水管、排氣管(含製程廢氣)、廢液排放管、氣體管路、化學品含特殊氣體管路、製程尾氣管、真空管(check pumping line)等，管路標籤規範請參照 F-RMS-1209 「采鈺新廠環保安全衛生設計與建築物內控工作指導」</p> <p>For pipelines located in the Cleanroom, Facility Utility Rooms, Warehouses, Wastewater Treatment Plants, and Central Supply Systems—including, but not limited to, water pipes, exhaust pipes (including process exhaust), waste liquid discharge pipes, gas pipelines, chemical and specialty gas pipelines, process tail gas pipes, and vacuum lines (pump lines)—pipeline labeling must comply with F-RMS-1209, VisEra New FAB ESH Design & Construction C.I..</p> <p>消防配管之管路識別，依循 CNS 932-管線系統內容物識別顏色依化學品/氣體危害特性張貼符合法規之危害標示、安全資料表、安全告示牌等，及符合 VisEra 格式之管路、閥件標示或掛牌</p> <p>Identification of Fire Protection Piping shall follow CNS 932: Color Identification of Contents of Pipeline Systems. For pipelines containing hazardous chemicals or gases, statutory hazard labels, Safety Data Sheets (SDS), and safety signage must be posted according to their hazard characteristics. Additionally, pipeline and valve markings or tags must conform to VisEra's specified format.</p>
<p>E. 消防管理/室內裝修 The management of fire safety /the interior decoration</p>	<ol style="list-style-type: none"> <p>隔間工程若涉及用途/防火區劃/消防各系統變更，需詢問建築/消防專業技師會同討論評估送審事宜</p> <p>If partition works involve changes to room usage, fire compartments, or fire protection systems, a Professional Architect or Fire Protection Engineer must be consulted to jointly assess the project and manage the regulatory submission for approval.</p> <p>隔間用途有火災爆炸之虞之空間，其隔間材質應採耐燃/不燃特性，並出示相關證明文件</p>

項目 Item	供應商環安衛要求事項 Supplier ESH Requirements
	<p>For spaces with a potential risk of fire or explosion, partition materials must be fire-retardant or non-combustible. Relevant certification documents must be submitted.</p> <p>3. 防火填塞工法及材料應符合國家標準 CNS 14514、CNS 15030、CNS 15814-1、CNS 15814-2、ASTM E814、UL 1479、BS 476 或同等級以上之國際規範，並提供試驗報告。</p> <p>Firestopping installation methods and materials must comply with national standards CNS 14514, CNS 15030, CNS 15814-1, CNS 15814-2, or equivalent international standards (such as ASTM E814, UL 1479, BS 476). Test reports must be provided</p> <p>4. 現場設施及其附屬設備之材質及耐壓、防火、防爆等相關安全檢驗證明</p> <p>Safety inspection certificates regarding material properties, pressure rating, fire resistance, and explosion-proof capabilities for on-site facilities and auxiliary equipment must be provided.</p>
F.安全防護 Safety protection	<p>1. 工件/料件/管材於進廠前完成，銳邊倒角應確實包覆。</p> <p>Prior to entering the plant, workpieces, materials, and pipes must have all sharp edges and corners securely wrapped or protected.</p> <p>2. 工程中使用之機械捲夾點，應先行以護蓋將危險部件進行包覆。</p> <p>For machinery used in the project, all pinch points must be enclosed with protective guards prior to operation.</p>
G.地震防護 The earthquake protection	<p>1. 若涉及廠務(SP1)設施及供應、儲存系統及其管路固定，皆須提供耐震設計計算書。計算書得委由具專業之顧問公司設計或檢核並加蓋其公司章及技師簽章。(其餘規定詳參 F-RMS-3900 「VisEra 地震防護程序」)</p> <p>If the work involves Facility (SP1) equipment, supply/storage systems, or the anchorage of their piping, a Seismic Design Calculation Report must be provided. The report must be prepared or reviewed by a professional consulting firm and must bear the company seal and the Professional Engineer's (PE) signature/stamp. (For further details, please refer to F-RMS-3900 VisEra Earthquake Protection Procedure.)</p> <p>2. 防震腳座須固定於機台廠商提供之防震固定點(主機台、附屬設備)</p> <p>Seismic mounts must be secured to the seismic anchor points provided by the equipment manufacturer (applicable to both the main equipment and auxiliary equipment).</p>

項目 Item	供應商環安衛要求事項 Supplier ESH Requirements
H. 防爆電氣設備安裝 Explosion proof electronic air equipment installation	<ol style="list-style-type: none"> 1. 防爆電氣設備施工(安裝)人員須具備經勞動部認可之防爆電氣配線相關專業證照者 Personnel installing explosion-proof electrical equipment must hold professional certificates in explosion-proof electrical wiring accredited by the Ministry of Labor. 2. 防爆電氣設備選用應依照危險區劃等級選用 The selection of explosion-proof electrical equipment must be based on the Hazardous Area Classification.
I. 新設置或變更排氣主系統 New Installation or Modification of Main Exhaust Systems	<ol style="list-style-type: none"> 1. 新設置或變更排氣主系統，以使用有機溶劑作業、特定化學物質之密閉設備、局部排氣裝置或整體換氣裝置，且涉及效能變更者，應依據有機溶劑中毒預防規則、特定化學物質危害預防標準，委由合格之局部排氣裝置設計之專業人員進行排氣裝置設計，並出具符合有機溶劑中毒預防規則、特定化學物質危害預防標準之「局部排氣裝置設計報告書」、「局部排氣裝置原始性能測試報告書」。 For new installations or modifications to main exhaust systems involving organic solvent operations or specified chemical substances (including enclosed equipment, Local Exhaust Ventilation (LEV), or general ventilation) where performance is altered, the design must be commissioned to a qualified LEV design professional in accordance with the Regulations for the Prevention of Organic Solvent Poisoning and Standards of Hazard Prevention for Specific Chemicals. The professional must issue an 'LEV Design Report' and an 'LEV Initial Performance Test Report' compliant with the aforementioned regulations.
J. 特定作業：於本公司從事 J-1~J-4、J-7 之特定作業時，請於作業開始一週前先向主管機關以網路(新竹廠/龍潭廠：新竹科學園區管理局特定作業網路通報、中壢廠：桃園市政府勞動檢查處危險作業線上通報)通報作業項目、期程、地點等項目，並於施工申請時檢附申報證明，供業務承辦單位及工安環保單位審核 J. Specific Operations When performing Specific Operations (Categories J-1 through J-4, and J-7) at VisEra, online notification must be submitted to the competent authority at least one week prior to the commencement of work, detailing the operation items, schedule, and location. Hsinchu / Longtan Site: Submit via the Hsinchu Science Park Bureau Specific Operation Online Notification System. Zhongli Site: Submit via the Taoyuan City Government Labor Inspection Office Hazardous Operation Online Notification System.	

項目 Item	供應商環安衛要求事項 Supplier ESH Requirements
Proof of submission must be attached to the work permit application for review by the Sponsor Department and the ESH Unit	
J-1 局限空間作業 Confined Space Operations	<ol style="list-style-type: none"> 1. 依據 J 項說明，向當地主管機關通報。 Notify the local competent authority in accordance with the instructions in Section J. 2. 提供局限空間危害防範計畫書一式 Provide one copy of the Confined Space Hazard Prevention Plan. 3. 提供缺氧作業主管證照、急救人員證照 Provide valid certificates for the Oxygen Deficiency Operation Supervisor and First Aid Personnel. 4. 廠商應備置作業必要之防護器具、輔助通風換氣設備、氣體偵測器、生命偵測儀、救援及救護器材，及其他緊急應變相關器材 The contractor must provide necessary protective gear, auxiliary ventilation equipment, gas detectors, life detectors (or man-down alarms), rescue and first-aid equipment, and other relevant emergency response apparatus. 5. 施工規範應包括但不限於承攬商藍皮書、法規及其他中央主管機關指定事項 Construction standards shall include, but are not limited to, the Contractor Blue Book, relevant regulations, and other items designated by the Central Competent Authority.
J-2 屋頂作業(於石棉板、塑膠浪板、採光罩、生鏽金屬板...等易踏穿材料構築之屋頂，從事組立、拆除、巡視、清潔、工作路徑之作業) Roof Operations (Work involving assembly, dismantling, inspection, cleaning, or traversing work paths on roofs constructed of fragile materials such as asbestos sheets, plastic corrugated sheets, skylights, or rusted metal sheets.)	<ol style="list-style-type: none"> 1. 依據 J 項說明，向當地主管機關通報。 Notify the local competent authority in accordance with the instructions in Section J. 2. 提供屋頂作業危害防範計畫書一式 Provide one copy of the Roof Work Hazard Prevention Plan. 3. 提供屋頂作業主管證照 Provide the roof operation management certification 4. 提供防墜設備錨定／安全母索斷裂強度證明文件 Provide documentation certifying the breaking strength of fall protection anchorages and safety lifelines. 5. 施工規範應包括但不限於承攬商藍皮書、法規及其他中央主管機關指定事項 Construction standards shall include, but are not limited to, the Contractor Blue Book, relevant regulations, and other items designated

項目 Item	供應商環安衛要求事項 Supplier ESH Requirements
	by the Central Competent Authority.
J-3 動火作業 Hot work	<p>1. 以下動火作業需依據 J 項說明向當地主管機關進行網路通報： The following hot work operations require online notification to the local competent authority in accordance with Section J</p> <p>2. 室內裝修工程從事熔接、熔斷、使用明火等，有發生火花之虞作業 Interior renovation works involving welding, thermal cutting, use of open flames, or other operations with a potential risk of generating sparks.</p> <p>(1) 廠內防爆區工作場所從事熔接、熔斷、使用明火等，有發生火花之虞作業 Hot work performed in explosion-proof areas (Hazardous Areas) within the plant, involving welding, thermal cutting, use of open flames, or other operations with a potential risk of generating sparks.</p> <p>3. 在本公司任何場所從事動火作業，皆須由承攬商全程設置一名工安人員(具備法規規範工安證照)、監火人員(具備采鈺科技承攬商長期工作證者)進行監視管理 For hot work performed anywhere within VisEra premises, the contractor must station one Safety Officer (holding statutory safety certificates) and one Fire Watcher (holding a valid VisEra Contractor Long-term Work Badge) to provide full-time supervision.</p> <p>4. 施工規範應包括但不限於承攬商藍皮書、法規及其他中央主管機關指定事項 Construction standards shall include, but are not limited to, the Contractor Blue Book, relevant regulations, and other items designated by the Central Competent Authority.</p>
J-4 危險性機械作業 Hazardous Machinery Operations	<p>1. 若為固定式起重機人員資格證須具以下證照及證明文件 For Stationary Cranes, the following personnel qualifications and documents are required:</p> <p>(1) 固定式起重機操作人員合格證 Stationary Crane Operator Certificate.</p> <p>(2) 固定式起重機操作人員訓練合格證(含吊掛手及指揮手) Training Certificate for Operators (including Riggers and Signalmen).</p> <p>(3) 固定式起重機合格證</p>

項目 Item	供應商環安衛要求事項 Supplier ESH Requirements
	<p>Stationary Crane Inspection Certificate.</p> <p>2. 若為吊籠(如外牆清洗作業之洗窗機)須提供以下事項 For Suspended Scaffolds (e.g., Gondolas for exterior wall cleaning), the following must be provided:</p> <p>(1) 吊籠操作人員應具有危險性機械操作人員安全衛生教育訓練證明 Suspended scaffold operators shall hold an Occupational Safety and Health Education and Training Certificate for Operators of Hazardous Machinery.</p> <p>(2) 吊籠合格證 Inspection Certificate for Suspended Scaffolds.</p> <p>(3) 強度計算書(機架／吊架之基座形式與鎖固方式需符合技師簽核之強度／結構計算書) Strength Calculation Report: The mounting base type and anchoring method of the frame/suspension rig must comply with the strength/structural calculations approved and signed by a Professional Engineer (PE).</p> <p>(4) 卸放工作台用鋼索、吊臂起伏用鋼索、吊臂伸縮用鋼索或救命用鋼索之安全係數 10 以上證明文件；其他鋼索之安全係數 6 以上 Proof of Safety Factor (S.F.): S.F. must be 10 or higher for hoisting wire ropes, luffing wire ropes, telescoping wire ropes, and lifelines; S.F. must be 6 or higher for all other wire ropes.</p> <p>(5) 機架及工作台明顯處標示下列事項之銘牌 A nameplate displaying the required information must be affixed to a conspicuous place on the frame and the platform.</p> <ul style="list-style-type: none"> ● 製造年月 Date of Manufacture ● 製造者名稱 Manufacturer's Name ● 積載荷重 Rated Load <p>3. 若為堆高機須提供以下事項 For Forklifts, the following must be provided:</p> <p>(1) 荷重在 1 公噸以上之堆高機操作人員安全衛生教育訓練證明 Certificate of safety and health training for operators of forklifts with a load capacity of 1 metric ton or more.</p> <p>4. 施工規範應包括但不限於承攬商藍皮書、法規及其他中央主管機關指定事項</p>

項目 Item	供應商環安衛要求事項 Supplier ESH Requirements
	Construction standards shall include, but are not limited to, the Contractor Blue Book, relevant regulations, and other items designated by the Central Competent Authority.
J-5 電力相關作業 Electrical Operations	<ol style="list-style-type: none"> 1. 208V 以上電力活電/活線作業 Live-line electrical work involving voltages of 208V and above. <ol style="list-style-type: none"> (1) 施工人員須俱備電氣人員專業證照 Personnel must hold valid Professional Electrician Certificates. (2) 絕緣手工具須符合 IEC 60900 且須提供證明文件 Insulated hand tools must comply with IEC 60900, and certification documents must be provided. (3) 絕緣用防護具，應提供六個月內檢驗證明文件 Insulating protective gear (PPE) must have valid inspection certificates issued within the last six months. 2. 電氣相關設備(有感電之虞)，須張貼電氣安全警告標語已標示(要有中文說明) Electrical equipment (with a risk of electric shock) must be labeled with Electrical Safety Warning signs containing Chinese descriptions. 3. 電氣相關設備完成，須與廠務會同以 IR Scan 進行溫度量測 Upon completion of electrical equipment installation, a temperature measurement using IR Scan must be performed jointly with the Facility Department.
J-6 高壓水切割作業 High Pressure Power Wash work	<ol style="list-style-type: none"> 1. 操作人員及作業區內輔助人員須穿戴符合 EU 2016/425 或 89/686/EEC 認證之防護具 All operators and supporters must wear PPE conforming to EU 2016/425 or 89/686/EEC certification 2. 機具進廠後需會同廠務檢查並取得「用電設備合格證標籤」 The Equipment must be inspected by both contractor supervisor and the VisEra sponsor
J-7 固定式/移動式施工架 Fixed / Mobile Scaffolding	<ol style="list-style-type: none"> 1. 依據 J 項說明，向當地主管機關通報。 Notify the local competent authority in accordance with the instructions in Section J. 2. 提供施工架作業危害預防計畫書一式 Provide one copy of the Scaffolding Work Hazard Prevention Plan.

項目 Item	供應商環安衛要求事項 Supplier ESH Requirements
	<p>3. 須具備施工架組配作業主管證照 Provide the certificate for the Scaffolding Erection Supervisor.</p> <p>4. 5 公尺以上施工架須有結構計算書 For scaffolding exceeding 5 meters in height, a Structural Calculation Report must be provided.</p> <p>5. 鋼管施工架（單管／框式施工架）CNS 4750 認證文件 CNS 4750 certification documents for steel pipe scaffolding (Single Pipe / Frame-type Scaffolding).</p> <p>6. 其他型式施工架（如系統施工架）材料之抗拉強度、試驗強度及製造要求，應符合 CNS 4750 同等以上之規定 For other types of scaffolding (e.g., System Scaffolding), the material's tensile strength, test strength, and manufacturing requirements must meet or exceed the standards of CNS 4750.</p>
J-8 高空工作車 Aerial Work Vehicles	<p>1. 提供高空工作車作業計畫書一式 Provide one copy of the Aerial Work Vehicle Operation Plan.</p> <p>2. 操作人員須具備高空工作車證照 Operators must hold a valid Aerial Work Vehicle Operator Certificate.</p> <p>3. 報關證明文件 Customs Clearance Documentation.</p>
J-9 碼頭區作業 Loading Dock Operations	<p>1. 運送高度超過 200 公分且重 100 公斤以上物品，須提供搬運計畫（包含物品尺寸/規格/重量、搬運工法與使用器具、作業流程、搬運動線與防護等）。 For transporting items exceeding 200 cm in height and 100 kg in weight, a Material Handling Plan must be provided. The plan must include item dimensions/specifications/weight, handling methods and equipment used, operational procedures, transport routes, and safety protection measures.</p> <p>2. 送貨車輛停放上下貨區域時，必須放置輪檔 Wheel chocks must be placed when delivery vehicles are parked in loading/unloading areas.</p> <p>3. 搬運貨物長度 3 公尺（含）以上，須夥同作業 Handling cargo 3 meters or longer (inclusive) requires team handling (or assistance from a spotter).</p>

項目 Item	供應商環安衛要求事項 Supplier ESH Requirements
J-10 手動、電動鍊條吊車 Manual / Electric Chain Hoists	<ol style="list-style-type: none"> 1. 須提供原廠的荷重強度證明 Provide the Original Equipment Manufacturer (OEM) proof of Load Capacity. 2. 須提供出場檢驗測試證明 Provide the Factory Inspection Certificate or Factory Test Report. 3. 應設置防止過捲及纜繩脫軌裝置，無法設置者得以標示或其他可行之預防措施代替之 Devices for preventing overwinding and cable/chain dislodgement must be installed. If installation is not feasible, distinct markings or other viable preventive measures may be used as substitutes.
J-11 氧乙炔氣焊作業 Oxyacetylene welding	<ol style="list-style-type: none"> 1. 施工人員具有「乙炔熔接裝置或氣體集合裝置從事金屬熔接、切斷或加熱作業人員」特殊安全衛生教育訓練 Personnel must hold a valid certificate for 'Special Safety and Health Training for Operators of Acetylene Welding Equipment or Gas Gathering Equipment for Metal Welding, Cutting, or Heating. 2. 乙炔/氧氣鋼瓶水壓測試環 5 年有效並設置防回火裝置 Acetylene and Oxygen cylinders must have a valid hydrostatic test date (within 5 years) and must be equipped with flashback arrestors.

備註：其他工程有關職安衛現場管理與配合事項，應依據「采鈺承攬商環安衛藍皮書」執行。

Note : Any other matters regarding on-site ESH management and coordination for engineering works shall be executed in accordance with the VisEra Contractors' Safety, Health and Environmental Protection (EHS) Bluebook

(五) 危害性化學品 Hazardous Chemicals

項目 Item	供應商環安衛要求事項 Supplier ESH Requirements
A. 運送 Transportation	<p>1. 危險物品運送司機 Drivers for Hazardous Materials</p> <p>(1) 應具有「一般安全衛生教育訓練」及「危險物品運送人員之專業訓練」，並隨車攜帶有效之訓練證明書。 Drivers should receive "General EHS Training" and "professional training for hazardous substance transport personnel" and carry a valid training certificate along with the vehicle.</p> <p>2. 危險物品運送車輛 Hazardous Substances Transportation</p> <p>(1) 隨車檢附危險物品道路運送計畫書、運送物質之安全資料表、主管機關核發之臨時通行證。 Transportation plan, SDS of the substance(s) and permit issued by the competent authority should be carried along with the vehicle.</p> <p>(2) 車頭及車尾應懸掛布質三角紅旗之危險標識，每邊不得少於三十公分。 Carry red triangle flags that are larger than 30 cm at the front and back of the vehicle.</p>

項目 Item	供應商環安衛要求事項 Supplier ESH Requirements
	<p>(3) 裝載危險物品車輛之左、右兩側及後方應懸掛或黏貼危險物品標誌及標示牌(標誌及標示牌應以反光材料製作,並避免產生變形、磨損、褪色及剝落等現象。 Hazardous substances should be placed on left, right and rear side of the vehicle whose marking shall be made of reflective materials to avoid deformation, wear, fading and flaking.</p> <p>(4) 裝載危險物品罐槽車之罐槽體,應依主管機關規定檢驗合格,並隨車攜帶有效之檢驗(查)合格證明書。 The tank shall be inspected and qualified according to the regulations of the competent authority, and carry a valid inspection report with the vehicle.</p> <p>(5) 不相容性化學品不可同車載運,應專車專載。 Incompatible chemicals should be loaded individually.</p> <p>(6) 隨車檢附應變器材及個人防護用具。 Personal protection equipment should be carried along with the vehicle.</p> <p>(7) 使用軟管以動力輸送硫酸、硝酸、鹽酸、醋酸、甲酚、氯磺酸、氫氧化鈉溶液等對皮膚有腐蝕性之液體時,該輸送設備應: When powered transporting a liquid that is corrosive to the skin i.e. sulfuric acid, nitric acid, hydrochloric acid, acetic acid, cresol, chlorine acid or sodium hydroxide solution, the conveying equipment should:</p> <ul style="list-style-type: none"> ● 設置壓力表、動力遮斷裝置及回流閥等超壓防止裝置。 Have set up overpressure prevention devices such as pressure gauges, power shutoff devices, and return valves. ● 軟管及連接用具應具耐腐蝕性、耐熱性及耐寒性。 Hose and connecting utensils should be corrosion-resistant, heat-resistant and cold-resistant ● 軟管應經水壓試驗並標示於該軟管註明壓力限值。 The hose shall be hydrostatically tested and pressure limit marked on the hose. ● 輸送腐蝕性物質管線,應標示該物質之名稱、輸送方向及閥之開閉狀態。 Conveying the corrosive substance pipeline should be clearly labelled with: the name of the substance, direction and the opening and closing state of the valve.

<p>項目 Item</p>	<p>供應商環安衛要求事項 Supplier ESH Requirements</p>
<p>B. 容器標示 Container Labeling</p>	<p>1. 包裝盒或包裝容器應張貼 GHS 危害標示，並以中、英文方式註明： Conspicuously label the following items on containers containing hazardous chemicals in accordance with the GHS classification, and the label should be displayed in both Chinese and English.</p> <p>(1) 名稱。 Name.</p> <p>(2) 危害成份。 Hazardous ingredients.</p> <p>(3) 警示語。 Signal Word.</p> <p>(4) 危害警告訊息。 Hazard statement.</p> <p>(5) 危害防範措施。 Precautionary statement.</p> <p>(6) 製造者、輸入者或供應者名稱、地址及電話。 Name, address, and telephone number of manufacturer, importer or supplier.</p> <p>2. 安全資料表 Safety Data Sheet</p> <p>(1) 依職業安全衛生法之「危害性化學品標示及通識規則」規定製作安全資料表。 The supplier shall prepare Safety Data Sheets (SDS) in accordance with the Regulations for the Labeling and Hazard Communication of Hazardous Chemicals under the Occupational Safety and Health Act.</p> <p>(2) 危害性化學品安全資料表內容異動或每三年定期檢討一次，主動於采鈺供應商系統進行更新並告知。 Manufacturers, importers or suppliers shall check the accuracy of a Safety Data Sheet (SDS) based on the actual circumstances and update it on VisEra Supply Online System-SDS update as needed. A Safety Data Sheet shall be reviewed at least once every three years.</p>
<p>C. 高壓氣體 High pressure gas</p>	<p>1. 高壓氣體鋼瓶之標示應包含顏色、危害特性、內存物名稱、容積、使用壓力及耐壓試驗日期；另提供危害圖示、內容及安全資料表。 The label of the high-pressure gas cylinder shall include the color, hazard characteristics, content name, volume, pressure of use and the date of the pressure test. Provide the hazard labels, content and safety data sheet.</p>

項目 Item	供應商環安衛要求事項 Supplier ESH Requirements
	<p>2. 每一高壓氣體鋼瓶皆應裝妥護蓋、加以固定後使得運送。 Each high-pressure gas cylinder should be covered and fixed prior to transportation.</p>
	<p>3. 容器應標明所裝氣體之品名，不得任意罐裝或轉裝。 The container shall indicate the name of the gas contained in the container and shall not be canned or repacked.</p>
	<p>4. 國內製造並灌充之高壓氣體鋼瓶，應完成定期檢驗並具備有效之檢驗識別。有效檢驗識別方式，應符合下列任一項： Cylinders manufactured and filled domestically shall undergo periodic inspection and possess valid inspection identification. Valid inspection identification shall meet at least one of the following conditions:</p> <ul style="list-style-type: none"> ● 瓶頸部具有於有效檢驗期限內之檢驗刻印記號。 The cylinder neck bears inspection stamp markings that are within the valid inspection period. ● 水壓試驗識別環（年度識別環）應標示合格檢驗機構代號、檢驗日期或下次檢驗年份。 The hydrostatic test identification ring (annual identification ring) shall indicate the code of the approved inspection body, inspection date, or next inspection year. ● 因材質或構造限制無法刻印時，瓶身應黏貼清晰可辨識之合格檢驗標籤。 Where stamping is not feasible due to material or structural limitations, a clearly legible qualified inspection label shall be affixed to the cylinder body.
	<p>5. 進口高壓氣體鋼瓶（如電子級、半導體製程用或特殊氣體鋼瓶），如未於國內進行灌充者，應具有鋼瓶本體之製造及檢驗刻印標示，或備有製造廠或檢驗機構出具之有效檢驗證明文件。 Imported high-pressure gas cylinders (such as electronic-grade, semiconductor process, or specialty gas cylinders), if not filled domestically, shall have clearly identifiable manufacturing and inspection stamp markings on the cylinder body, or shall be accompanied by valid inspection certification documents issued by the manufacturer or an approved inspection body.</p>

項目 Item	供應商環安衛要求事項 Supplier ESH Requirements
D. 毒性及關注化學物質 Toxic and Concerned Chemical Substance	<p>1. 所有法規列管之毒化物與符合法規定義或中央主管機關公告之關注化學物質，不得隨機台或 PM 合約入廠。</p> <p>All toxic substances listed in regulatory announcements and chemical substances of concern that comply with regulatory definitions or the central competent authority 's announcement must not enter the fab randomly or through PM contracts.</p>
	<p>2. 毒化物與關注化學物質運作前 USER 負責向 ISEP 提出運作需求，並依 VisEra OCCUPATIONAL INJURY/ILLNESS INVESTIGATION PROCEDURE (F-RMS-3300)規定完成環安衛風險評估核可後，始可進行相關申請作業。</p> <p>Before the operation of toxic and chemical substances of concern , USER is responsible for submitting operational requirements to ISEP , and can only apply for related applications after completing the environmental safety and health risk assessment and approval in accordance with VisEra's OCCUPATIONAL INJURY/ILLNESS INVESTIGATION PROCEDURE (F-RMS-3300) Operation .</p>
E. 特定化學物質 Specified Chemical Substances	<p>1. 使用、處置或儲存丙類第一種物質或丁類物質，其合計量達一百公升以上者，應設置於發生洩漏時能迅速通知相關人員之警報裝置，並備有處理洩漏或消除危害所需之藥劑、器具及相關設施。</p> <p>When the total quantity of Category 1 Class C substances or Class D substances used, handled, or stored reaches 100 liters or more, appropriate alarm devices capable of promptly notifying relevant personnel in the event of a leak shall be installed. In addition, necessary chemicals, equipment, and facilities for controlling leaks or eliminating associated hazards shall be provided.</p>
	<p>2. 處置或使用特定化學物質作業時，如有污染之虞，應設置洗眼、洗滌及更衣等設備；若屬丙類第一種或丁類物質等腐蝕性物質者，作業場所應另設置緊急洗眼及沖淋設備。</p> <p>When handling or using specified chemical substances, if there is a risk of contamination, facilities such as eyewash, washing, and changing equipment shall be provided. Where the substances involved are Category 1 Class C or Class D substances (e.g., corrosive substances), the workplace shall additionally be equipped with emergency eyewash and safety shower facilities.</p>

項目 Item	供應商環安衛要求事項 Supplier ESH Requirements
<p>註：其他法規要求執行事項未於上述詳述說明者，各供應商仍應遵守「職業安全衛生法」、「道路交通安全規則」等相關法規要求執行。</p> <p>Note: each supplier should still comply with the relevant regulations which are not explained in the above.</p>	

(六) 化學品貯存櫃 Chemical Storage Cabinet

貯存櫃類型 Cabinet type	供應商環安衛要求事項 Supplier ESH Requirements
A.有機耐燃防爆安全儲存櫃 Organic, Flame and Explosion-proof Storage Cabinet	1. 防爆櫃須通過 FM 認證並符合 OSHA 或 NFPA 要求。 Explosion-proof cabinets must be FM Approved and meet OSHA or NFPA requirements.
	2. 機櫃的底部，頂部，門和兩側應為雙層壁構造，間隙絕緣層不得小於 38mm。 The bottom, top, door and sides of the cabinet shall be double walled, and the gap insulation shall not be less than 38mm.
	3. 門鎖應為三點式鎖扣。 Three-point lock.
	4. 門檻應高於機櫃底部 50mm 防止洩漏液體溢出。 The threshold should be 50mm above the bottom of the cabinet to prevent leakage of spilled liquid.
	5. 具靜電導地功能。 With electrostatic grounding function.
	6. 進氣孔及排氣孔應設有防回火裝置。 The air inlet and exhaust holes should be equipped with anti-tempering devices.
	7. 層板載重 120kg 以上，符合 ASTM 耐重標準。 The load of the laminate is more than 120kg, which meets the ASTM durability standard.
B.腐蝕性液體安全儲存櫃 Anti-corrosive Liquid Storage Cabinet	1. 防爆櫃須通過 FM 認證並符合 OSHA 或 NFPA 要求。 Explosion-proof cabinets must be FM Approved and meet OSHA or NFPA requirements.
	2. 機櫃的底部，頂部，門和兩側應為雙層壁構造，間隙絕緣層不得小於 38mm。 The bottom, top, door and sides of the cabinet shall be double walled, and the gap insulation shall not be less than 38mm.
	3. 門鎖應為三點式鎖扣。 Three-point lock.
	4. 門檻應高於機櫃底部 50mm 防止洩漏液體溢出。 The threshold should be 50mm above the bottom of the cabinet to prevent leakage of spilled liquid.

貯存櫃類型 Cabinet type	供應商環安衛要求事項 Supplier ESH Requirements
	5. 進氣孔及排氣孔應設有防回火裝置。 The air inlet and exhaust holes should be equipped with anti-tempering devices.
	6. 層板載重 120kg 以上，符合 ASTM 耐重標準。 The load of the laminate is more than 120kg, which meets the ASTM durability standard.

(七) 個人防護用具 PPE

部位 Part	種類型式 Type	供應商環安衛要求事項 Supplier ESH Requirements	需檢附認證資料 Certification
A. 頭部 Head Protection	工程安全帽 (含內襯、帽帶) Industrial Helmet	1. 規格需符合 CNS1336 或 ISO 6487 認證規範 Meet requirement of CNS1336 or ISO 6487. 2. 含下頤帶(鬆緊帶式)。 Contains a lower ankle strap (elastic band). 3. 安全帽中間需有 VisEra logo 及左右兩側需有"采鈺科技"字樣，使用之材質不得造成帽體損傷。 There must be a VisEra logo in the middle of the helmet and the words "采鈺科技" on the both sides. The material used must not cause damage to the cap.	帽體須張貼經濟部商品檢驗標識 Commodity Inspection Mark
	無塵室輕便帽 Clean room bump caps	1. 無塵室輕便帽須為防撞擊材質製造。 Clean room bump caps must be made of anti-impact materials. 2. 含下頤帶(鬆緊帶式)。 Contains a lower ankle strap (elastic band). bumper.	-
B. 呼吸防護(含 口罩/濾毒罐) Respiratory Protection Equipment	N/P/R95 口罩-AG(-酸性) Acid type N95 mask	1. 通過 N95 認證品，具排氣閥者優先。 N95 certified, with exhaust valve is preferred. 2. 95% 以上過濾效能 NIOSH 認證。 NIOSH certified and filtration >95%. 3. 出廠日期一年內(需有製造日期)。 Within one year of manufacture (manufacture date indicated).	NIOSH 認證 NIOSH Certification
	N/P/R95 口罩-AG(-酸性) Acid type N95 mask	1. 通過 N95 認證品，具排氣閥者優先。 N95 certified, with exhaust valve is preferred.	NIOSH 認證 NIOSH Certification

部位 Part	種類型式 Type	供應商環安衛要求事項 Supplier ESH Requirements	需檢附認證資料 Certification
		2. 95%以上過濾效能 NIOSH 認證。 NIOSH certified and filtration >95%. 3. 出廠日期一年內(需有製造日期)。 Within one year of manufacture (manufacture date indicated).	
	N/P/R95 口罩-OV(有機) Organic N95 mask	1. 通過 N95 認證品，具排氣閥者優先。 N95 certified, with exhaust valve is preferred. 2. 95%以上過濾效能 NIOSH 認證。 NIOSH certified and filtration >95% 3. 出廠日期一年內(需有製造日期)。 Within one year of manufacture (manufacture date indicated)	NIOSH 認證 NIOSH Certification
	N/P/R95 口罩-防塵 Dusk-proof N95 mask	1. 通過 N95 認證品，具排氣閥者優先。 N95 certified, with exhaust valve is preferred. 2. 95%以上過濾效能 NIOSH 認證。 NIOSH certified and filtration >95% 3. 出廠日期一年內(需有製造日期)。 Within one year of manufacture (manufacture date indicated).	NIOSH 認證 NIOSH Certification
	防有機濾毒罐 Anti-organic canister	1. 符合 NIOSH 認證、CNS6636 或同等級，配合面具使用，無塵室可用。 Compliant with NIOSH certification ,CNS6636 or of the same level, with mask use; clean room suitable.	NIOSH 認證、CNS6636 或同等級認證證書或證明 NIOSH certification, CNS6636 or similar certification or certificate.

部位 Part	種類型式 Type	供應商環安衛要求事項 Supplier ESH Requirements	需檢附認證資料 Certification
	防酸性氣體濾毒罐 Acid-proof gas canister	1. 符合 NIOSH 認證、CNS6636 或同等級，配合面具使用，無塵室可用。 Compliant with NIOSH certification ,CNS6636 or of the same level, with mask use; clean room suitable.	NIOSH 認證、CNS6636 或同等級認證證書或證明 NIOSH certification, CNS6636 or similar certification or certificate.
	綜合性濾毒罐 Comprehensive canister	1. 符合 NIOSH 認證、CNS6636 或同等級，配合面具使用，無塵室可用。 Compliant with NIOSH certification ,CNS6636 or of the same level, with mask use; clean room suitable.	NIOSH 認證、CNS6636 或同等級認證證書或證明 NIOSH certification, CNS6636 or similar certification or certificate
	半面式防護面具 Half face respirator mask	1. 雙濾罐式質輕柔軟舒適輕便可搭配多種濾材使用。 Double filter and is light, soft and comfortable, and can be used with a variety of filter materials. 2. 四點式調整頭戴。 Four-point adjustment of the headset. 3. 採取固定式方式穿戴。 Wear it in a fixed manner. 4. 面體耐用性佳可重複清洗使用。 The durability of the body is good for repeated cleaning. 5. 符合 CNS 6636,6637,14255,ANSI Z87 或 NIOSH 認證標準。 Meet requirement of CNS 6636,6637,14255, ANSI Z87 or NIOSH certification.	-

部位 Part	種類型式 Type	供應商環安衛要求事項 Supplier ESH Requirements	需檢附認證資料 Certification
	全面式防護面具 Full face respirator mask	<ol style="list-style-type: none"> 1. 雙濾罐式質輕柔軟舒適輕便可搭配多種濾材使用。 Double filter and is light, soft and comfortable, and can be used with a variety of filter materials. 2. 四點式調整頭戴。 Four-point adjustment of the headset. 3. 採取固定式方式穿戴。 Wear it in a fixed manner. 4. 面體耐用性佳可重複清洗使用。 The durability of the body is good for repeated cleaning. 5. 符合 CNS 6636,6637,14255,ANSI Z87 或 NIOSH 認證標準。 Meet requirement of CNS 6636,6637,14255, ANSI Z87 or NIOSH certification. 	-
	自給式空氣呼吸器 SCBA	<ol style="list-style-type: none"> 1. 全套需符合 CNS 6860 或 EN137：TYPE II 認證或同等級以上。 Compliant with CNS 6860 or EN137：TYPE II standard. (1) 背板(架)：附有防焰材質氣瓶束帶，肩帶和腰帶可調整，氣瓶壓力降至 55±5bar 時會發出警示聲響，壓力錶面具夜光顯示裝置，符合 CNS 6860 或 EN137 標準，並具認證且標示於背架上。 Backboard (rack): With flame-proof gas cylinder strap, the shoulder strap and belt can be adjusted. When the cylinder pressure drops to 55±5bar, it will sound a warning sound. The surface of the pressure gauge has a luminous display device, which conforms to the CNS 6860 or EN137 standard, certified and marked on the back frame. (2) 呼吸面罩：符合 EN136 或同以上標準，並具認證且標示於面罩上，並具有通訊功能，可搭配廠內無線電通訊器使用。 	CNS 6860, EN137：TYPE II 認證證書或證明 CNS 6860, EN137: TYPE II certification certificate or certificate

部位 Part	種類型式 Type	供應商環安衛要求事項 Supplier ESH Requirements	需檢附認證資料 Certification
		<p>Breathing mask: in accordance with EN136 or above, certified and marked on the mask, and has a communication function, can be used with the factory's radio communicator.</p> <p>(3) 肺力閥：壓扣式快接頭(無螺紋)，具止氣鈕及強制供氣鈕。 Pulmonary valve: push-button quick connector (no thread) with air stop button and forced air supply button.</p> <p>(4) 須提供可搭配 SCBA 面罩之眼鏡架，含 100、300、500、700 度(或 200、400、600、800 度)之鏡片。 Spectacle frames that can be used with SCBA masks, including lenses, must be provided.</p> <p>(5) SCBA 攜行箱。 Carrying box for SCBA.</p> <p>(6) 氣瓶：碳纖維全批覆型 300Bar，填充閥頭需符合 CNS or EN 規格，水容積需為 6.9(含)以上，填充壓力為 300Bar(含)以上，氣閥附防爆膜片，且出廠為一年內全新品，不得為中國製，氣瓶接頭形式需為歐規，並可與廠內背板替換使用。 Gas cylinder: carbon fiber full batch type 300BAR, filling valve head requires CNS or EN specification, water volume needs to be 6.9 (inclusive) or more, filling pressure is above 300Bar (inclusive), gas valve is covered with explosion-proof diaphragm, and it needs to be new products factory-made within one year, shall not be made by China, the form of the gas cylinder joint must be European regulations and can be replaced with the back plate in the factory.</p> <p>(7) 提供出廠檢測報告</p>	

部位 Part	種類型式 Type	供應商環安衛要求事項 Supplier ESH Requirements	需檢附認證資料 Certification
		Provide factory inspection report.	
	空氣呼吸器備用碳纖維鋼瓶 Spare carbon fiber cylinder for breathing apparatus	<ol style="list-style-type: none"> 1. 氣瓶頭需有獨立壓力錶頭可顯示殘值，並具限流閥設計 The gas cylinder head needs to have a separate pressure gauge to display the residual value and has a restrictor valve design. 2. 氣瓶需為碳纖維全披覆。 The cylinder must be fully covered with carbon fiber. 3. 氣瓶水容積需為 6.9(含)以上。 The volume of the cylinder water should be 6.9 or more. 4. 氣瓶填充壓力為 300Bar(含)以上。 The cylinder filling pressure of 300Bar (or more). 5. 氣瓶需為出廠一年內全新品。 Within one year of manufacture (manufacture date indicated). 6. 碳纖維氣瓶不得為中國製。 No product from mainland China is allowed. 	空氣呼吸器備用碳纖維鋼瓶 Spare carbon fiber cylinder for breathing apparatus
C.面部及眼睛防護 Face and Eye	安全眼鏡 Safety glasses	<ol style="list-style-type: none"> 1. 防 UV/IR 強光。 UV-proof 2. 符合 EN 166、CNS 7177 或 ANSI Z87 標準(或同等級之國際規範)。 	-

部位 Part	種類型式 Type	供應商環安衛要求事項 Supplier ESH Requirements	需檢附認證資料 Certification
protection		Complies with EN 166、CNS 7177 or ANSI Z87(or the same level of international specifications).	
	化學品防潑濺護目鏡 Chemical splash Goggle	<ol style="list-style-type: none"> 1. 軟質 PVC 鏡框，PC 鏡片。 Soft PVC frame, PC lens. 2. 符合 EN 166、CNS 7177 或 ANSI Z87 標準(或同等級之國際規範)。 Complies with EN 166、CNS 7177 or ANSI Z87(or the same level of international specifications). 3. 蛙式，下方有透氣孔。 Frog type with venting holes below. 	-
	雷射防護眼鏡 Laser protective glasses	<ol style="list-style-type: none"> 1. 符合 CNS 11640 標準(或等同國際標準) Complies with CNS 11640 (or same level of international specifications) 2. 根據雷射輸出參數、雷射波長，確定所需的保護等級或尋找推薦的光密度值 (OD) According to the laser output parameters and laser wavelength, determine the required protection level or find the recommended optical density value (OD) 	-
化學品防護面罩 Chemical-resistant transparent face shield	<ol style="list-style-type: none"> 1. 符合 ANSI Z87、EN166 或同等級標準。 Meet requirement of ANSI Z87,EN166 or of the same level certification. 		

部位 Part	種類型式 Type	供應商環安衛要求事項 Supplier ESH Requirements	需檢附認證資料 Certification
D.身體防護 Body protection	A 級防護衣 Class A protective clothing	<ol style="list-style-type: none"> 1. 材質：Dupont Tychem TK。 Material: Dupont Tychem TK. 2. 特點：可防氣態及液態化學物質，為全罩式防護衣，EX 特寬視窗面罩，氣密及抗化性佳，可用於 A 級狀態下使用。 Features: It can prevent gas and liquid chemicals, is a full-cover protective clothing, ex-wide window mask, airtight and chemical resistance, can be used in Class A state. 3. 前穿式、拉鍊加蓋、拉鍊蓋內附有粘扣帶，具防濺效果。 Front-wearing, zippered cover, and zipper cover with a hook-and-loop strap for splash-proof effect. 4. 面罩有三層材質組成(40mil PVC, 5 mil TEFLON® , 20mil PVC)。 The shield has two layers (40mil PVC, 5 mil TEFLON® and 20mil PVC on the first floor). 5. 手套組成：內層 Ansell Barrier、外層 Butyl)。 The glove has two layers (Ansell Barrier and Butyl). 6. 褲管具有防濺套蓋及密閉式鞋套。 The pants tube has a splash-proof cover and a closed shoe cover. 7. 內部預留可背式呼吸器的空間及 1 英吋寬的腰帶。 The space for the back breathing apparatus and the belt are reserved kept 1 inch inside. 8. 交貨時須確認為製造日期為一年內之新品。 The delivery must be confirmed as a new product with a factory date of one year. 	<ol style="list-style-type: none"> 1. Tychem TK 材質證明。 Proof of Tychem TK material 2. 製造日期證明。 Proof of manufacturing date.

部位 Part	種類型式 Type	供應商環安衛要求事項 Supplier ESH Requirements	需檢附認證資料 Certification
		9. 交貨時需於廠內進行氣密測試。 The air tightness test shall be carried out in the factory upon delivery. 10. 符合 CNS 16103 標準(或等同國際標準) Complies with CNS 16103 (or same level of international specifications)	
	化學防護圍裙(無袖_可防酸鹼) Chemical protective apron	1. 耐一般酸鹼材質製成。 Resistant to majority of acid and alkali materials. 2. PVC 材質。 PVC material.	-
	後穿式化學防護長袍 Acid resistant robe	1. 耐一般酸鹼材質製成。 Resistant to majority of acid and alkali materials. 2. 依照化學品特性評估適用防護材質 PPE material according to chemical characteristic .	材質證明文件 Material inspection report
	C 級防化學品噴濺長袍 Class C protective clothing	1. 車縫線不得外露，必須加強接合，不得有滲入風險之防護措施，臉部及肢體部份需具鬆緊帶束口。 The sewing thread should not be exposed, and the joint must be strengthened. Ultrasonic welding or suspending or externally waterproofing strips should be used to prevent the risk of infiltration. The face and limbs should have elastic banding. 2. 依照各廠化學品使用品項評估適用防護材質，並提供材質檢測報告 Evaluate the applicable protective materials according to the chemicals used in each factory, and provide the material test report.	1. 材質證明文件 Material inspection report 2. 符合 CNS 16103 標準(或等同國際標準)認證證書或證明 Conforms to the CNS 16103 standard (or equivalent international standard) certification

部位 Part	種類型式 Type	供應商環安衛要求事項 Supplier ESH Requirements	需檢附認證資料 Certification
		3. 符合 CNS 16103 標準(或等同國際標準) Complies with CNS 16103 (or same level of international specifications)	certificate or certificate
	C 級防護腳套 Class C protective foot cover	1. 車縫線不得外露，必須加強接合，不得有滲入風險之防護措施，臉部及肢體部份需具鬆緊帶束口。 The sewing thread should not be exposed, and the joint must be strengthened. Ultrasonic welding or suspending or externally waterproofing strips should be used to prevent the risk of infiltration. The face and limbs should have elastic banding. 2. 依照各廠化學品使用品項評估適用防護材質，並提供防護測試報告 It would be evaluated the applicable protective texture in each chemical using and provide the protective test report.	1.材質證明文件 Material inspection report 2.符合 CNS 16103 標準(或等同國際標準)認證證書或證明 Conforms to the CNS 16103 standard (or equivalent international standard) certification certificate or certificate
	防酸鹼袖套 Acid and Alkali resistant cuff	1. 車縫線不得外露，必須加強接合，不得有滲入風險之防護措施，臉部及肢體部份需具鬆緊帶束口。 The sewing thread should not be exposed, and the joint must be strengthened. Ultrasonic welding or suspending or externally waterproofing strips should be used to prevent the risk of infiltration. The face and limbs should have elastic banding. 2. 依照各廠化學品使用品項評估適用防護材質，並提供防護測試報告 Evaluate the applicable protective materials according to the chemicals used in each factory, and provide the material test report	1.材質證明文件 Material inspection report 2.符合 CNS 16103 標準(或等同國際標準)認證證書或證明 Conforms to the CNS 16103 standard (or equivalent international standard) certification certificate or certificate

部位 Part	種類型式 Type	供應商環安衛要求事項 Supplier ESH Requirements	需檢附認證資料 Certification
	D 級防護衣 Class D protective cloth	1. 使用 Tyvek 材質製成 Made of Tyvek material 2. 通過 CE 0120 認證為可有效防護有害粉塵(TYPE 5)及輕微液體潑濺 (TYPE 6)，或 ISO 5636-5 及 ASTM E398 檢測。 Certified by CE 0120 for effective protection against harmful dust (TYPE 5) and mild liquid spill (TYPE 6), or ISO 5636-5 and ASTM E398. 3. 符合 CNS 16103 標準(或等同國際標準) Complies with CNS 16103 (or same level of international specifications)	材質證明文件 Material inspection report
	D 防護鞋套 Class D Protective shoe cover	1. 連身式 Tyvek 材質。 Made of Tyvek material, full body length.	材質證明文件 Material inspection report
	低溫作業圍裙 Aprons for low temperature	1. 適合液態氮作業。 Suitable for liquid nitrogen operation 2. 非石棉材質。 Non-asbestos material 3. 防靜電、防潮，透氣性佳。 Anti-static, moisture-proof, and good ventilation. 4. 耐低溫。 Low temperature resistance 5. 符合 EN342 認證。 Complies with EN342 certification.	符合 EN342 認證證書或證明 Comply with EN342 certification or certificate.
	防火圍裙	1. 通過 CNS 防焰檢測	檢附產品測試報告

部位 Part	種類型式 Type	供應商環安衛要求事項 Supplier ESH Requirements	需檢附認證資料 Certification
	Welding Apron	Passed CNS flame test 2. 符合 EN 11612(或等同國際標準) Complies with EN 11612 (or same level of international specifications)	Attached product test report
	氣密型化學防護服 (1 型) Gas-tight chemical protective suit (Type 1)	1. 符合 CNS 16103 標準(或等同國際標準) Complies with CNS 16103 (or same level of international specifications)	
	正壓型化學防護服 (2 型) Positive pressure chemical protective clothing (type 2)	1. 符合 CNS 16103 標準(或等同國際標準) Complies with CNS 16103 (or same level of international specifications)	-
	液密型化學防護服 (3 型) Liquid-tight chemical protective clothing (type 3)	1. 符合 CNS 16103 標準(或等同國際標準) Complies with CNS 16103 (or same level of international specifications)	-
	潑濺液密型化學防護服 (4 型)	1. 符合 CNS 16103 標準(或等同國際標準) Complies with CNS 16103 (or same level of international specifications)	-

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	Splash-tight chemical protective clothing (type 4)		
	懸浮固體粉塵防護用密閉型防護服(5 型) Airtight protective clothing for protection against suspended solid dust(Type 5)	1. 符合 CNS 16103 標準(或等同國際標準) Complies with CNS 16103 (or same level of international specifications)	-
	霧型防護用密閉型防護服 (6 型) Airtight protective clothing for fog protection (Type 6)	1. 符合 CNS 16103 標準(或等同國際標準) Complies with CNS 16103 (or same level of international specifications)	-
	局部式化學防護服 (PB 型) Partial Chemical Protection Suit (Type PB)	1. 符合 CNS 16103 標準(或等同國際標準) Complies with CNS 16103 (or same level of international specifications)	-
E. 手部防護 Hand protection	防酸鹼溶劑手套 Acid & Alkali gloves	1. 符合 CNS 8068 或 EN 374 或 CN 標準 Meet requirement of CNS 8068 or EN 374 or CN certification.	1.檢附 CNS 8068,EN 3744 或 CN 認證報告。 Attach the CNS 8068 or

部位 Part	種類型式 Type	供應商環安衛要求事項 Supplier ESH Requirements	需檢附認證資料 Certification
			2.EN 374 or CN test report 檢附產品測試報告
	防有機溶劑手套 Anti-organic solvent gloves	1. 符合 CNS 8068 或 EN 374 或 CN 標準 Meet requirement of CNS 8068 or EN 374 or CN certification.	1.檢附 CNS 8068,EN 3744 或 CN 認證報告。 Attach the CNS 8068 or EN 374 or CN test report 2.檢附產品測試報告
	酸鹼暨溶劑作業防護手套 Acid & Alkali and organic solvent gloves	1. Nitrile 材質製成。 Made of Nitrile material. 2. 符合 CNS 8068 標準(或同等級之國際規範)。 Complies with CNS 8068 (or the same level of international specifications).	檢附產品測試報告 Attached product test report
	可重覆式防有機溶劑手套 Reusable anti-organic solvent gloves	1. Nitrile 材質製成。 Made of Nitrile material. 2. 符合 CNS 8068 標準(或同等級之國際規範)。 Complies with CNS 8068 (or the same level of international specifications).	檢附產品測試報告 Attached product test report
	防切割手套 Cut resistant gloves	1. 通過 CE 認證或符合 ISO13997, CNS 14511 標準(或同等級之國際規範)。 Compliant with CE, ISO13997 or CNS14511 certification (or the same level of international specifications).	檢附產品測試報告 Attached product test report
	耐熱手套 Heat-proof gloves	1. 耐熱溫度需大於作業溫度 Heat-resistance temperature must higher than operating temperature.	符合 EN 標準、CE 認證報告或耐熱溫度相關證明文件

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		2. 以符合 EN 標準、通過 CE 認證或同等級為佳。 Complies with EN 407 standard, CE certification or the same level of specification	Comply with EN 407 standard ,CE certification or heat-resistant supporting documents.
	低溫作業手套 Cryogenic gloves	1. 非石棉材質。 Non-asbestos material. 2. 防靜電、防潮。 Anti-static, moisture-proof. 3. 耐低溫。 Low temperature resistance. 4. 符合 EN 511 標準或通過 CE 認證。 Comply with EN 511 standard or CE certification.	符合 EN 511 標準或通過 CE 認證。 Comply with EN 511 standard or CE certification.
	低電壓絕緣手套 Low voltage insulated gloves	1. 耐 3KV 以上。 Resistant to 3KV or more. 2. 需附牛皮防護手套乙雙。 Need to include leather protective gloves. 3. 提供測試報告。 Manufacture test report is required. 4. 符合 CNS12546、JIS T 8112、IEC60903 或 BS EN 60903 認證標準 Comply with CNS12546、JIS T 8112、IEC60903 or BS EN 60903 certification.	1.耐 3KV 以上測試報告 Resistance test report above 3KV 2.符合 CNS12546、JIS T 8112、IEC60903 或 BS EN 60903 認證標準 Comply with CNS12546、JIS T 8112、IEC60903 or BS EN 60903 certification.

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F.腳部防護 Foot protection	A 級化學品防護鞋 Class A chemical protective shoes	1. 有鋼頭鋼柄、鋼片鞋底。 Steel head steel handle, steel sole 2. 開口採鬆緊繩扣式容易穿著 (繩扣可替換)。 The opening is made of elastic rope and easy to wear (the rope buckle can be replaced). 3. 防滑耐磨。 Slippery resistant 4. 符合 NFPA 1991 化學防護靴及 ASTM F1358 阻燃性要求。 Comply with NFPA 1991 chemical protective boots and ASTM F1358 flame retardant requirements.	符合 NFPA 1991 化學防護靴及 ASTM F1358 阻燃性要求 Meets NFPA 1991 chemical protective boots and ASTM F1358 flame retardant requirements
	化學品防護鞋 Chemical protective shoes	1. 符合 CNS 12707 標準或通過 CE 認證。 Comply with CNS 12707 safety standard or CE certification. 2. 耐酸鹼、具鋼頭、鋼片鞋底、防穿刺 Acid and alkali resistance, steel toe, steel sole, puncture resistance	提供 CNS 12707 或 CE 通過認證。 Attach the CNS 12707 or CE certification report
	安全鞋 Safety shoes	1. 符合 CNS 20345 規範。 Comply with CNS 20345 specification.	Attach the CNS 20345 certification report
	實驗室用安全鞋套 Safety shoe covers for laboratory	1. 材質為 Tyvek 或 Tychem。 The material shall be Tyvek or Tychem	-
G.聽力防護 Hearing Protection	長效性耳塞 Earplugs, Long-lasting	1. 帶線(附盒子)。 Strings attached and came with a box.	符合 ANSI S3.19、AU/NZS 1270。 Complies with ANSI

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		2. 依照作業場所噪音值評估所需 NRR 數值 Evaluate the required NRR value according to the noise value of the workplace.	S3.19, AU/NZS 1270. 提供 NRR 值相關證明文件 Attach the Noise Reduction Rating report
	輕便性耳塞 Earplugs, light	1. 依照作業場所評估 NRR 數值 Evaluate the required NRR value according to the noise value of the workplace. 2. 無塵室可用。 Suitable for clean rooms. 3. 泡棉拋棄式(錐型 & 附線)。 Foam disposable type .	符合 ANSI S3.19、AU/NZS 1270。 Complies with ANSI S3.19, AU/NZS 1270. 提供 NRR 值相關證明文件 Attach the Noise Reduction Rating report
	耳罩 Earmuffs	1. 依照作業場所評估 NRR 數值 Evaluate the required NRR value according to the noise value of the workplace.	符合 ANSI S3.19、AU/NZS 1270。 Complies with ANSI S3.19, AU/NZS 1270. 提供 NRR 值相關證明文件 Attach the Noise Reduction Rating report

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H. 緊急應變器材 Emergency Response Equipment	化學品專用吸液棉片 Absorbent cotton film for chemicals	1. 需採用超細纖維材質，減少發塵狀況，並加厚處理增加吸液量。 Microfiber material is needed to minimize dust generation and increase thickness to enhance liquid absorption capacity.	-
	化學品專用吸液棉條 Absorbent tampons film for chemicals	1. 表面需採用 SMS 複合材質，減少發塵狀況，頭尾需有吊帶方便提拿或連接。 The surface needs to be made of SMS composite material to minimize dust generation, and there is a sling at the head and tail for easy lifting or connection.	-
	化學品專用吸液棉枕 Absorbent cotton pillow for chemicals	1. 表面需採用 SMS 複合材質，減少發塵狀況，頭尾需有吊帶方便提拿。 The surface needs to be made of SMS composite material to r minimize dust generation, and there is a sling for easy lifting at the head and tail.	-
	廢棄物處理袋 Waste disposal bag	1. HDPE 材質。 HDPE material. 2. 檢附一體成形綁帶(非獨立束帶)。 Attach the integrated forming strap (non-detachable type).	1. 材質證明文件 Material inspection report
	消防服 Fire fighting garment	1. 符合 EN 認證。 Comply with EN certification or certificate. 2. 含上衣、褲子、帽子、頭套、手套及靴子。 Includes tops, pants, hats, headgear, gloves and boots.	符合 EN 認證 Comply with EN certification or certificate.
I. 防墜設備 Anti-Falling Equipment	全身背負式安全帶 Full-body harness	1. 符合 CNS14253-1、OSHA 或 ANSI 認證標準。 In line with CNS14253-1, OSHA or ANSI specifications.	認證報告或證書。 certification or certificate
	捲揚式防墜器 Falling	1. 具有捲縮裝置，當墜落時可快速鎖緊 Helps individual protecting against falls work.	認證報告或證書。 certification or certificate

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	protection/Safety catcher	2. 附拉力勾及雙安全扣勾 Attached 1 karabiner and safety snap hook 3. 符合 CNS 14253-3,ANSI 或 EN 360 標準 Meet requirement of CNS 14253-3, ANSI or EN 360 certification. 4. 鋼索長度及安全荷重依作業需求而定 Evaluate the required cable length and safe load according to the operational condition of the workplace	
	繫索與能量吸收器 (緩衝包) Lanyards and energy absorbers	1. 符合 CNS14253-2、OSHA、ANSI 或 EN361 認證標準規範 In accordance with the CNS14253-2, OSHA, ANSI or EN361 certification standards. 2. 依作業高度評估減震包適用性(作業高度<5.65 公尺 時禁止使用緩衝包)。 Assess the necessity of pack rope shock absorber by working height(Prohibited to use when the operating height is < 5.65 meters)	認證報告或證書。 certification or certificate
	垂直母索+抓索器 Vertical lifelines+ Mobile rope grab	1. 符合 ANSI A14.3 1992、ANSI Z359.16 認證標準規範 In accordance with the ANSI A14.3 1992, ANSI Z359.16 certification standards. 2. 安全母索：材質鋼索為直徑 9 公厘以上、材質尼龍繩為直徑 14 公厘以上，最小斷裂強度須 $\geq 2,300$ 公斤 lifelines：Made of steel wire rope with a diameter of 9mm or above, or made of nylon rope with a diameter of 14mm or above. The minimum breaking strength should be $\geq 2,300$ kg.	認證報告或證書。 certification or certificate
	安全網 Safety net	1. 符合標準 CNS 14252，或 CNS 16079-1 與 CNS 16079-2 皆符合	認證報告或證書。 certification or certificate

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		Compliant with either of the following criteria: CNS 14252, or both CNS 16079-1 and CNS 16079-2	
J.感電防護 Electric shock protection	防電弧灼傷之防護具 Protective gear against arc burns	<ol style="list-style-type: none"> 1. 含上衣、褲子、帽子、頭套、手套及靴子。 Includes tops, pants, hats, headgear, gloves and boots. 2. 依 IEEE 1584 進行弧光能量計算，並依 NFPA 70E-2015 之電弧閃光個人防護具等級方法進行個人防護具選用。 The arc flash calculation is performed according to IEEE 1584, and the selection of personal protective equipment is based on the arc flash personal protective equipment grade method of NFPA 70E-2015. 3. 符合 ANSI /ISEA 125 與 NFPA 70E-2015 之弧光防護具類別認證標準 Comply with ANSI /ISEA 125 、NFPA 70E-2015 Arc Flash PPE Category certification. 	符合 ANSI /ISEA 125 與 NFPA 70E-2015 之弧光防護具類別認證標準 Comply with ANSI /ISEA 125 、NFPA 70E-2015 Arc Flash PPE Category certification.