



香港煌商佑鋼鐵實業有限公司
HK HuangShangYou Steel Industrial Limited



Fireproof



Ventilation



Heat Dissipation



FIRE-RATED LOUVER
防火百葉

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Company introduction

公司介紹

Introduction to fire rated louvers

防火百葉介紹

In the event of a fire, fire-rated louvers and louver doors become of utmost importance. They offer resistance to the spread of fire, thereby saving lives and buying precious time for everyone involved. Even vented openings for air and light can become passive fire-fighting elements. This is achieved through the use of fire-resistant materials, cores, and louver structures. Fire-rated louvers are used for passive fire protection in buildings and also protect electrical rooms and equipment.

在發生火災時，防火百葉窗及百葉門變得至關重要，它們能有效阻擋火勢蔓延，從而拯救生命，並為相關人員爭取寶貴時間。就連用於通風採光的開口，也能成為被動防火的一環。這一切都透過使用耐火材料、內芯及百葉結構實現。防火百葉窗可用於建築物的被動防火保護，同時也能保護配電室及設備。

All HSY-Steel fire-rated louvers and louver doors—not just the louver components—are designed and manufactured with safety and longevity in mind. When activated during a fire, all HSY-Steel fire-rated louvers and doors fuse together to form a non-combustible barricade, providing fire resistance for 90 to 180 minutes depending on specification requirements. When temperatures reach 74°C, 120°C, or higher, the fusible link triggers immediately, closing all louver blades to prevent the spread of fire.

所有煌商佑防火百葉窗及百葉門不僅僅是百葉部分，在設計與製造時都充分考慮了安全性與耐用性。當火災發生啟動後，所有煌商佑防火百葉窗及門會融合形成一個不燃性屏障，根據規格要求，其防火時效可達 90 分鐘至 180 分鐘。當溫度達到 74 攝氏度、120 攝氏度或更高時，易熔鏈會立即啟動，關閉所有百葉葉片，防止火勢蔓延。

Manufactures a variety of standard and specialized fire-rated louvers and doors for numerous applications in residential, commercial, industrial, onshore, and offshore settings. We are committed to high-quality manufacturing processes, delivering superior products on time and in compliance with customer specifications.

生產多種標準及特製防火百葉窗與門，廣泛應用於住宅、商業、工業、岸上及海上等多種場景。我們致力於以高品質的製造工藝，按時交付符合客戶規格的優質產品。



Selection & Design

選型與設計

In the event of a fire, a lead-made fusible link is situated at the rear side of the louver, with a temperature rating of 165°F (70°C). When this temperature is reached, the steel spring mechanism snaps all louver blades shut immediately, preventing the penetration of fire and smoke.

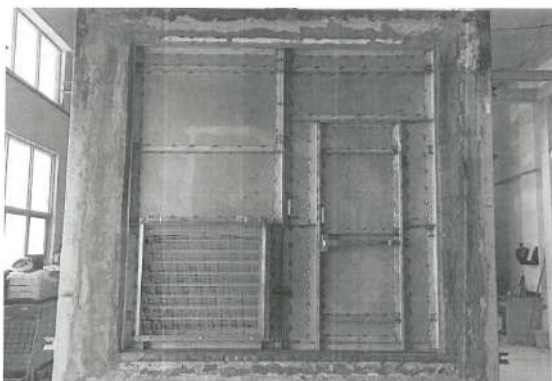
在火災發生時，百葉窗後側設有一個鉛製易熔鏈，其溫度等級為 165°F (70°C)。當達到此溫度時，鋼製彈簧機構會立即帶動所有百葉葉片關閉，阻止火勢與煙霧穿透。

HSY-Steel fire-rated louvers and doors are designed and manufactured in compliance with international standards, including Hong Kong's HOKLAS certification and British Standard BS 476, to ensure optimal fire protection performance.

煌商佑防火百葉窗及門的設計與製造均符合國際標準，包括香港的 Hoklas 認證及英國 BS 476 標準，以確保達到最佳防火效果。

Testing

測試



Burn for
240 min

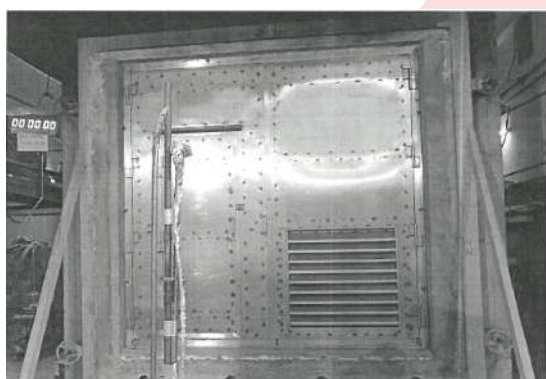
Front/前面

Burn for
240 Minutes!

燃燒240分鐘

煌商佑對防火百葉產品進行了測試。半小時內測試溫度達到800°C以上，測試溫度在800°C到1050°C持續90分鐘。

HuangShangYou tested the fireproof shutter products. The test temperature reached above 800°C within half an hour and remained between 800°C and 1,050°C for 90 minutes.



Rear/後面

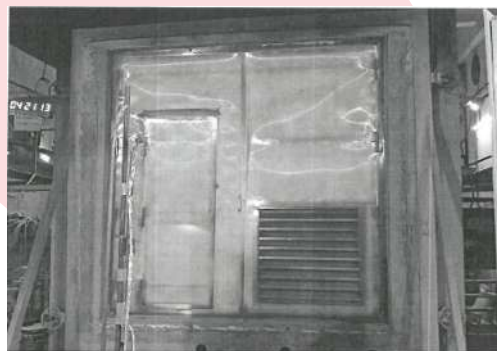
After burn

燃燒後

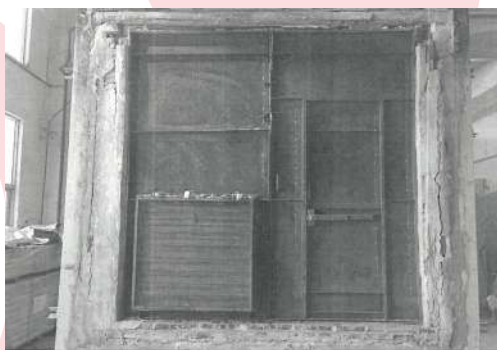
燃燒過程可以隔斷火焰，由右圖可見，燃燒135分鐘後，金屬百葉完整度良好，可見本公司該防火百葉的質量及安全可靠性。

The combustion process can isolate the flame. As shown in the right figure, after 135 minutes of combustion, the metal shutters remain in good integrity, demonstrating the high quality and safety reliability of our company's fireproof shutters.

Front/前面



Rear/後面



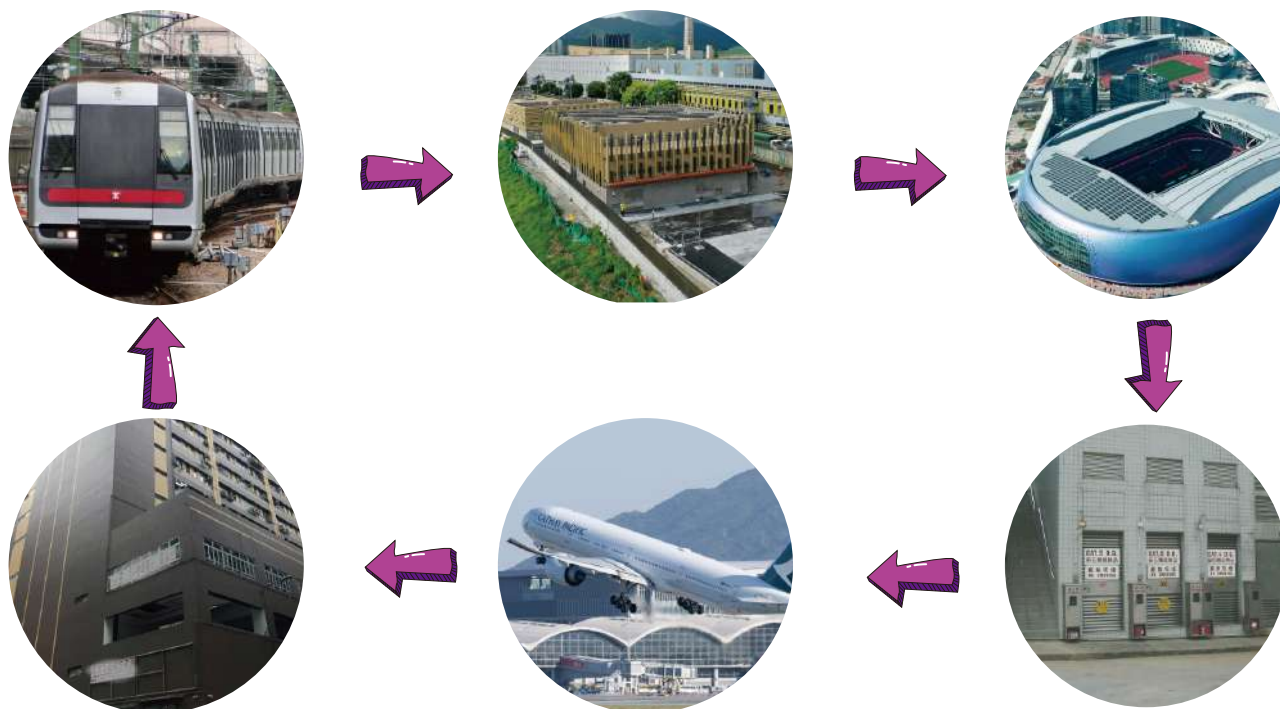
Project cases

工程案例

Contract name 工程合約名稱	Work amount 工程量	Work type 工程種類	Start 開工	Complete 完工	Client 業主
合約編號C21W18 - 航天走廊- 接駁大橋香港口岸及航天城 Airport Authority Hong Kong (AAHK) Contract No. C21W18	2025.5 3pcs	不鏽鋼百葉防火門 Stainless steel Louver fire door	2025	Completed 完成	香港機場管理局 Airport Authority China State Construction Engineering (Hong Kong) Ltd.
Contract No. DC/2019/09 "Provision of Village Sewerage in Sai Kung" 合約號DC/2019/09「西貢鄉村污水收集系統」	2025-5 4pcs	Stainless steel Louver fire door 不鏽鋼百葉防火門	2025	Completed 完成	渠務署 Drainage Services Department China Geo-Engineering Corporation
Contract No.: DE/2018/03 Shek Wu Hui Effluent Polishing Plant -Main Works Stage 1 - Sidestream Treatment Facilities and E&M Works for Sludge Treatment Facilities 合約號: DE/2018/03.石湖墟淨水設施- 主體工程第一階段- 側流處理設施及污泥處理設施的機電工程	2024-2025 2Pcs	Stainless steel Louver fire door 不鏽鋼百葉防火門	2024	Completed 完成	渠務署 Drainage Services Department The Jardine Engineering Corporation Limited
Contract No. 7/WSD/21 Construction of Siu Ho Wan Water Treatment Works Extension and Siu Ho Wan Raw Water Booster Pumping Station Contract No. 7/WSD/21 興建小蠔灣濾水廠擴建部分及小蠔灣原水增壓抽水站	2022.7-2025. 5 PCS	Stainless steel Louver fire door 不鏽鋼百葉防火門	2022	Completed 完成	水務署 Water Supplies Department China Road and Bridge Corporatio
Contract C18W02 - HKIA - Intermodal Transfer Terminal Building. 合約號 C18W02 - 香港國際機場-多式聯運中轉航站樓.	2022.6 6PCS	Stainless steel fire Louver 不鏽鋼防火百葉	2022	Completed 完成	香港機場管理局 Airport Authority Build King Construction Limited
Contract no. CV/2021/05 Infrastructure Works for Public Housing Developments at Long Bin, Yuen Long - Castle Peak Road (Ping Shan) and Long Tin Road 合約編號: CV/2021/05 元朗朗邊公營房屋發展之基礎設施工程 - 青山公路(屏山段) 及朗天路	2025.3 2PCS	Stainless steel fire Louver 不鏽鋼防火百葉	2025	Completed 完成	土木工程拓展署 Civil Engineering and Development Department Contractor: CNCEC - CRCC15 Joint Venture
Tai Po Andy Building Corporation 大埔安迪大廈法團 火牛房	2025 1pcs	Stainless steel Louver fire door 不鏽鋼百葉防火門	2025	Completed 完成	Tai Po Andy Building Corporation
.....

Project cases

工程案例



應用 (Application)

- 住宅建築 (Residential Buildings)
- 海上應用 (Offshore Applications)
- 整合至聲屏障牆系統 - 交叉通風 (Incorporated into an Acoustic Barrier Wall System - Cross Ventilation)
- 體育場 (Stadiums)
- 商業建築 (Onshore Applications)
- 地鐵 (Subway)
- 設計為單扇或雙扇門 - 確保暢通出入及適當通風 (Designed as single or Double Doors - Allowing unfettered access and proper ventilation)

性能機制 (Mechanism of Performance)

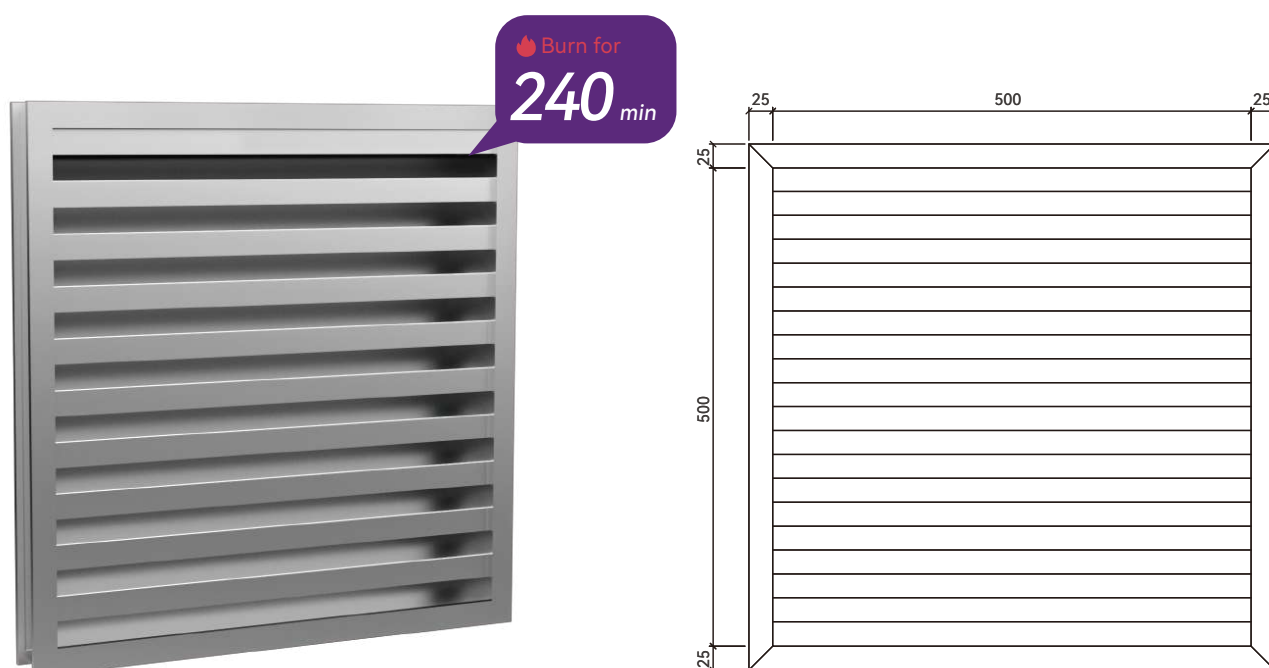
- 葉片傾斜以防止直接視線 (The blades are angled to prevent direct line of sight)
- 每片水平葉片的頂部為實心。每片葉片的下側有穿孔 (The top of each horizontal blade is solid. The underside of each blade is perforated)
- 具備防火特性，能在火災時發揮阻火作用 (With fire - proof characteristics, can play a fire - resisting role in case of fire)
- 相對大的吸聲表面積，彌補了深度的不足 (Relatively large absorptive surface area which compensates for lack of depth)

Introduction to fire rated louvers

防火百葉介紹

HuangShangYou's fire-rated louvers achieve dual requirements of fire safety and air circulation with excellent performance. When the temperature reaches 70°C, the fusible link will melt, causing the louvers to close and ensuring safety. Through precise structural design and intelligent temperature control mechanisms, they become a reliable choice for industrial, commercial, and public building scenarios.

煌商佑設計的防火百葉窗以卓越性能實現消防安全與空氣流通的雙重需求，當溫度達到70°C時，易熔元件會熔斷，百葉窗關閉，從而確保安全。透過精密結構設計與智能溫控機制，成為工業、商業及公共建築場景的可靠選擇。



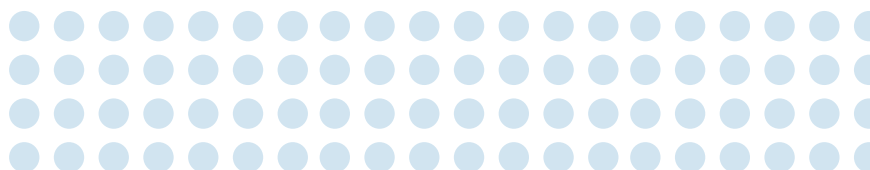
Fireproof



Ventilation



Heat Dissipation

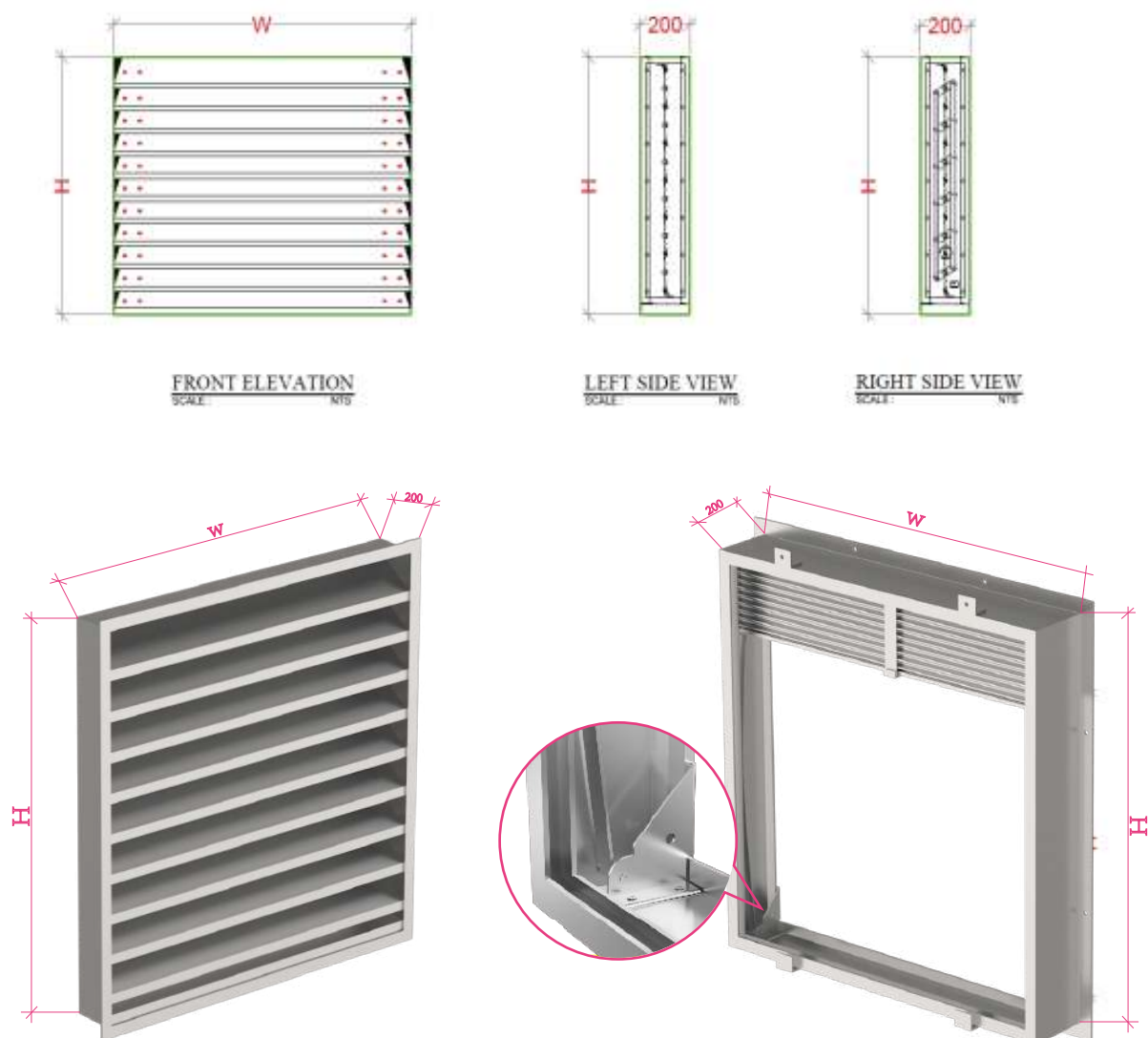


The fire - resistant louvers of HuangShangYou are certified solutions. They are manufactured in accordance with the International Building Code (EN 1634) and the British standard (BS 476: Part 22: 1987). All have been tested and verified, meeting the fire regulations of the Fire Services Department of Hong Kong and the requirements of the Buildings Department of Hong Kong. Valid and certified safety test reports can also be provided.

煌商佑的防火百葉窗是經過認證的解決方案。它們依照國際建築規範（EN 1634）和英國標準（BS 476: 第 22 部分: 1987）製造。所有產品均經過測試和驗證，符合香港消防處的防火規例以及香港屋宇署的要求。亦能提供有效且經認證的安全測試報告。

Introduction to fire rated louvers

防火百葉介紹



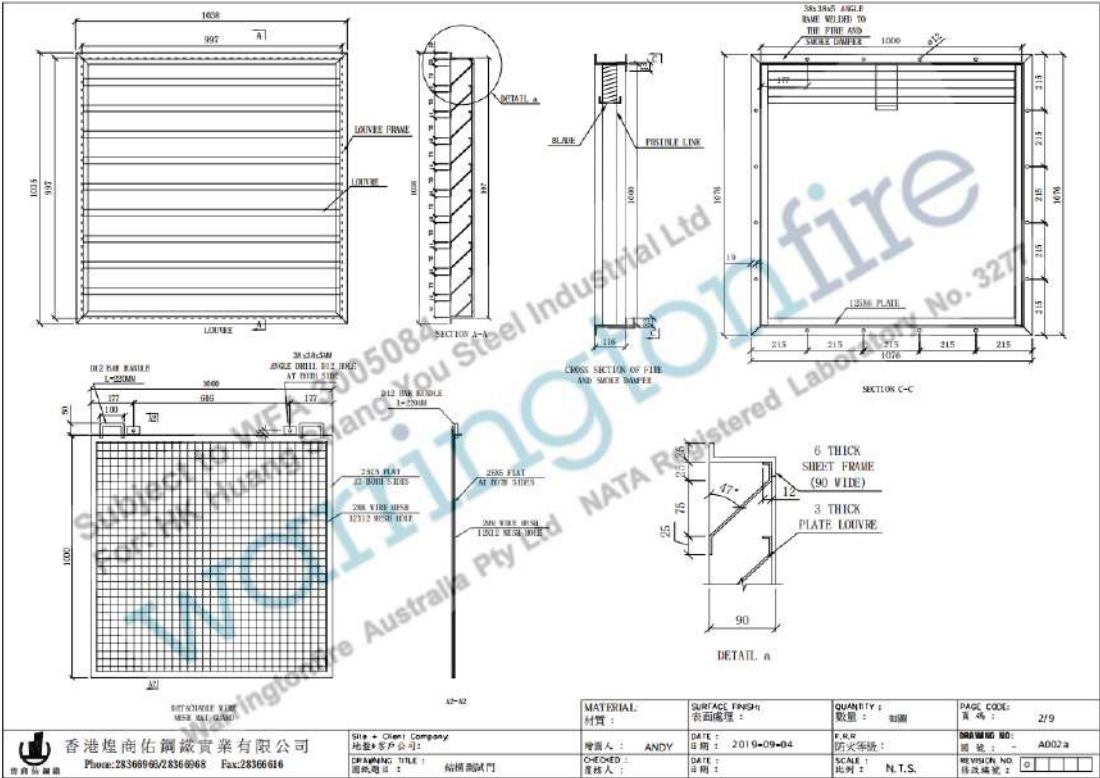
Minimum Single Module Size (Width x Height) 最小單模組尺寸 (寬 x 高)	Maximum Single Module Size (Width x Height) 最大單模組尺寸 (寬 x 高)	Maximum Multiple Module Size 最大多模組尺寸
300 x 300mm(毫米)	1000 mm x 1000mm(毫米)	Customers Option 客戶可選

Fire rated louvers larger than the maximum single module sizes are fabricated in multiple section assemblies. These assemblies consists of sections of equal size, which are coupled together with the help of full length Axle / Shaft.

超過最大單模組尺寸的防火百葉窗，會以多段式組裝方式製造。這些組裝件由等尺寸的分段組成，並藉由全長的軸 / 桿相互連接。

Fire damper

防火閥



Shutter baffle can be replaced with a fire damper, usually open state, when the temperature reaches 70 °C, the fire damper will close, play a fire prevention role to block the spread of fire.

百葉擋板可以更換成防火閥，平時是常開狀態，當溫度達到70℃，防火閥會關閉，起到防火作用隔斷火災蔓延



FIRE PROTECTION

Fire resistance test report

防火測試報告

FUGRO TECHNICAL SERVICES (GUANGZHOU) LIMITED
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Guangzhou, China
Postal Code: 511438
Tel: +86-20-3482 5832
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E-mail: fsg@fsg.com
Website: www.fsg.com

TUORO
RAC-MRA
HKAS

**REPORT ON FIRE RESISTANCE TEST
OF METAL DOORSET**

Client : HK Huang Shang You Steel Industrial
Limited / Vanguard Doors Engineering
Co., Limited

Project : Fire Resistance Test on Metal Doorset
in accordance with BS 476 : Part 22 : 1987

Client Ref. : --

Report No. : G18634FU190078

Date of Report Issue : 16 Aug 2019

The Hong Kong Accreditation Service (HKAS) has accredited Fugro Technical Services (Guangzhou) Limited (Reg. No. 105444) under the Hong Kong Laboratory Accreditation Scheme (HKAS LAS) for specific laboratory services in accordance with the HKAS Code of Good Laboratory Practice. The results shown in this report were obtained by Fugro Technical Services (Guangzhou) Limited. The accuracy of the results is subject to the HKAS Code of Good Laboratory Practice. The results shown in this report were obtained by Fugro Technical Services (Guangzhou) Limited. The accuracy of the results is subject to the HKAS Code of Good Laboratory Practice.

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Report No. : G18634FU190078


REPORT ON FIRE RESISTANCE TEST

1. Introduction
Fugro Technical Services (Guangzhou) Limited was commissioned by HK Huang Shang You Steel Industrial Limited / Vanguard Doors Engineering Co., Limited to determine the fire resistance performance of a single-acting, double-leaf, metal doorset with a small active leaf in the active leaf and a kyrie in the inactive leaf in accordance with BS 476: Part 22: 1987. The specimen was an uninsulated construction and the test was therefore conducted in accordance with Clause 8 of BS 476: Part 22: 1987 'Methods for determination of the fire resistance of non-loadbearing elements of construction'. This test report should be read in conjunction with that Standard and with BS 476: Part 20: 1987, 'Method for determination of the fire resistance of elements of construction (general principles)'. The specimen was received on 12 June 2019 and given a Lab. Sample I.D.: FU190078. The test was conducted at Jin Ke Ecological Park, Nancun, Panyu, Guangzhou, China on 14 June 2019. The test was witnessed by Mr. Y. J. Ren, a representative of HK Huang Shang You Steel Industrial Limited.

2. Summary
The performance of the specimen was judged against the criteria for integrity and radiation intensity as specified in Clause 8 of BS 476: Part 22: 1987, for an uninsulated doorset, and the results obtained were as follows:

Integrity	261 minutes, no failure
60 min	5.99
120 min	11.96
180 min	17.73
240 min	21.88

The test was discontinued after a period of 261 minutes at the request of the client.

Approved Signatory: 
Yan Cai Sheng
Deputy General Manager

Date of Report Issued : 16 Aug 2019

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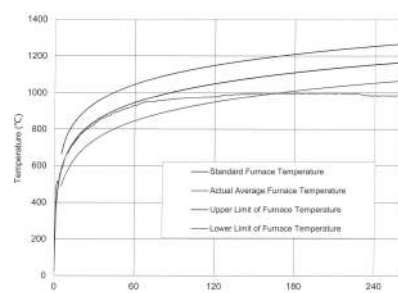


Figure 9 - Actual Mean Furnace Temperature/Time Curve and Standard Furnace Temperature/Time Curve

A lot of heat is coming out of the furnace through the specimen so as to achieve a significant cooling effect to the furnace. The tolerance of the temperature / time curve is inadvertently exceeded.

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Table 1 Lateral Deflections of the Specimen as Viewed from the Unexposed Surface

Time (mins)	Deflections (mm)
	A
0	0
20	85
40	122
60	120
80	121
100	122
110	122
120	122
150	125
180	127
210	128
220	129
230	129
240	130

Positive deflections indicate movement towards the heat source.

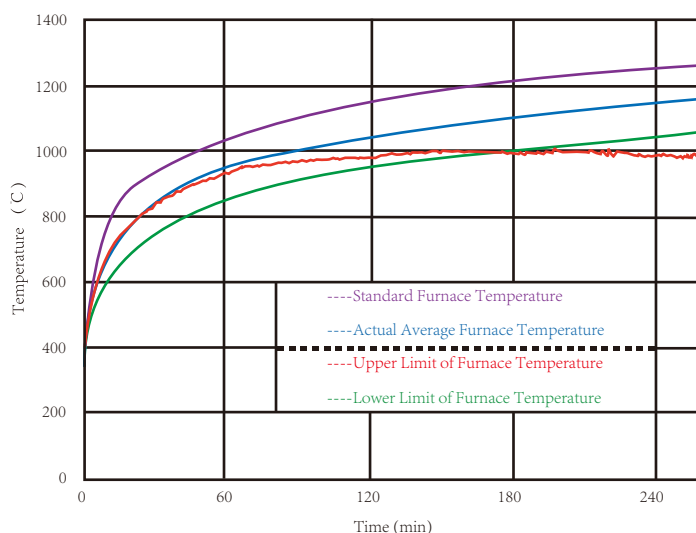
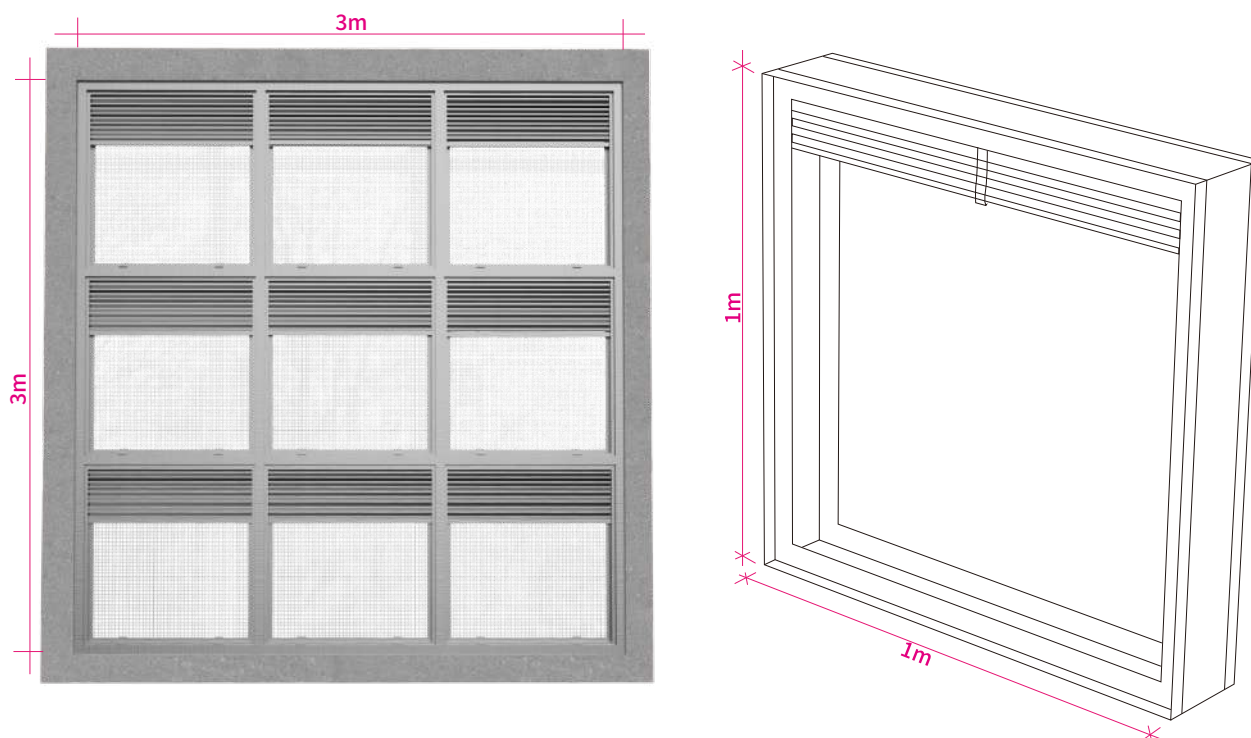
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Fire - rated louver

防火百葉

When a fire breaks out and the ambient temperature reaches the operating temperature of the fire - rated louver, it will automatically activate the fire - protection function (for some products with automatic control functions), or under the linkage of the relevant fire protection system, the blades will quickly adjust to the fire - protection closed or specific state, block the spread of flames and high - temperature flue gas, play the role of fire separation, and gain time for personnel evacuation and fire fighting.

當發生火災，環境溫度達到防火百葉的動作溫度時，其會自動啟動防火功能（部分帶有自動控制功能的產品），或在相關消防系統聯動下，葉片會迅速調整至防火閉合或特定狀態，阻隔火焰與高溫煙氣的蔓延，發揮防火分隔作用，為人員疏散和火災撲救爭取時間。



Our company has tested the product. The test temperature reaches above 800°C within half an hour, and the test temperature lasts from 800°C to 1050 °C for 90 minutes.

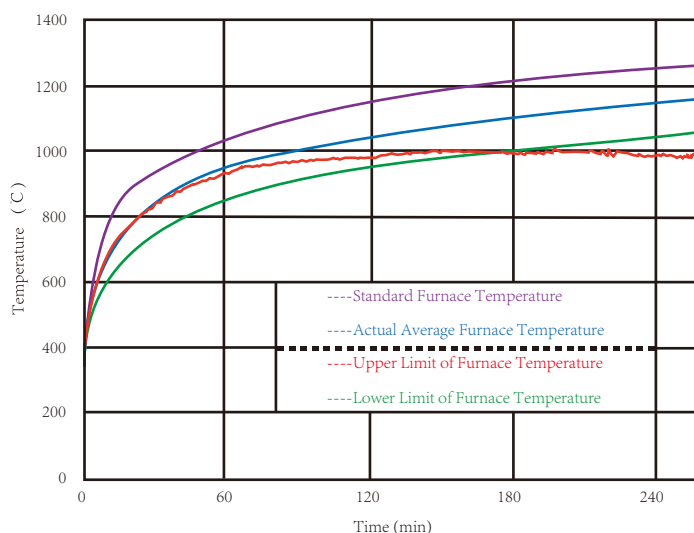
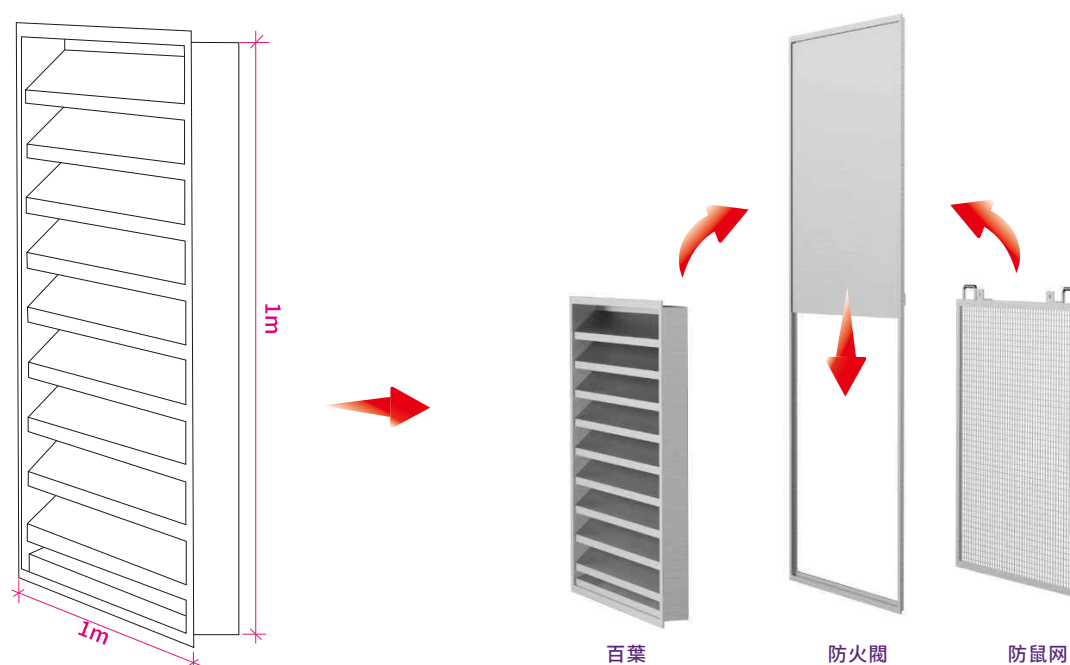
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半小時內測試溫度達到800°C以上，測試溫度在800°C到1050°C持續90分鐘。

Fire proof door

防火門

Product Introduction

This fire - proof door, with its scientific structural design and high - quality fire - resistant materials, can effectively prevent the spread of fire and smoke, providing you with a safe space in case of fire. It is suitable for various scenarios such as homes, offices, and public buildings, meeting the fire safety needs of different places.

產品介紹

這款防火門，憑藉科學的結構設計與高品質的耐火材料，能有效阻止火災與煙霧蔓延，在火災發生時為您提供安全空間。適用於家庭、辦公場所、公共建築等多種場景，滿足不同場所的消防安全需求。

Product Advantages

Excellent Fire - resistant Effect: It can greatly delay the spread of fire and smoke, gain precious escape time and improve the safety of life and property.

Wide Range of Applicable Scenarios: Whether it is for home fire safety, office fire protection, or use in public buildings, it can play an important role.

Strong Durability: Made of high - quality materials, it has a stable structure and is durable. It can maintain good fire - resistant performance and use status for a long time.

產品優勢

出色防火效果：能大幅延緩火災與煙霧蔓延，為逃生爭取寶貴時間，提升生命財產安全性。

適用場景廣泛：無論是家庭消防安全、辦公場所防火，還是公共建築使用，都能發揮重要作用。

耐用性強：採用高品質材料打造，結構穩固，經久耐用，可長期保持良好的防火性能與使用狀態。



Surface treatment

表面處理

Standard finishes include:

- Anodised - clear
- Anodised - colour
- Polyester powder coated to any RAL Classic colour
- Zero VOC fluoro-polymer powder coated

標準表面處理包括：

- 陽極氧化—透明
- 陽極氧化—顏色
- 聚酯粉末噴塗成任何RAL經典顏色
- 無VOC氟聚合物粉末塗層



Accessories and Materials

配件和材料

A comprehensive range of optional accessories can be specified with HSY louver systems.

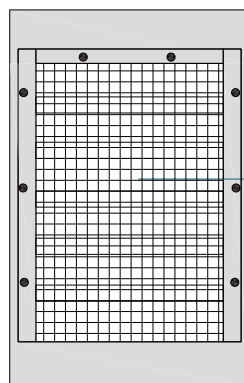
Standard options include:

- **Louver doors**
- **Blanking plates:** single skin aluminium plates (mill finished or polyester powder coated) or insulated panels in a choice of thicknesses to meet insulation requirements
- **Guards:** bird/vermin guards, insect meshes

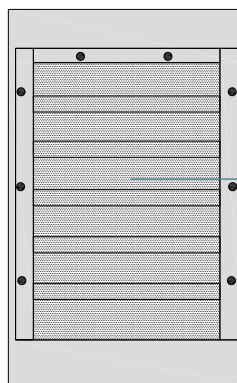
煌商佑百葉系統可提供全面的配件選擇。

標準選項包括：

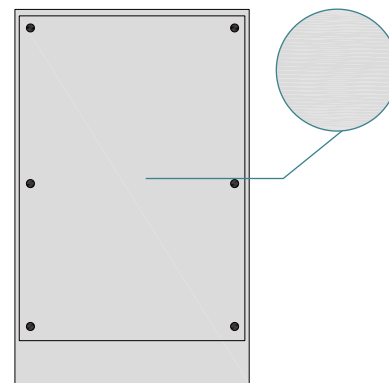
- **百葉門**
- **擋板：**單層鋁板（磨光或聚酯粉末塗層）或厚度可滿足絕緣需求的絕緣板
- **防護裝置：**鳥類/害蟲防護、防蟲網



Rodent-resistant net
防鼠網



Insect mesh
防蟲網



Blanking plate
擋板

Bird/vermin mesh select from the following:

- Galvanised
- Stainless steel
- Plastic
- Perforated metal
- Expanded metal

鳥類/防蟲網從以下選項中選擇：

- 鍍鋅
- 不銹鋼
- 塑料
- 沖孔網
- 擴展網

Insect mesh select from the following:

- Aluminium
- Fiberglass

防蟲網從以下選項中選擇：

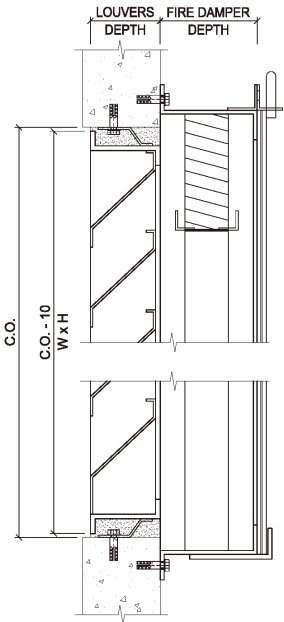
- 鋁
- 玻璃纖維

Node connection

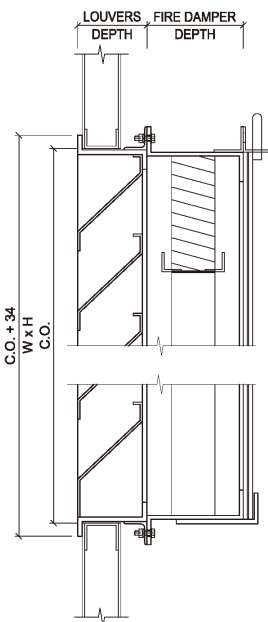
節點連接

OPTION1

節點1



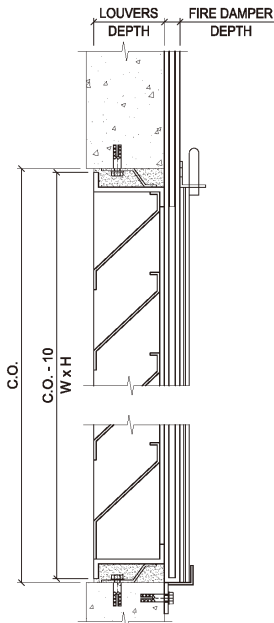
NODES INSTALLED OF WALL



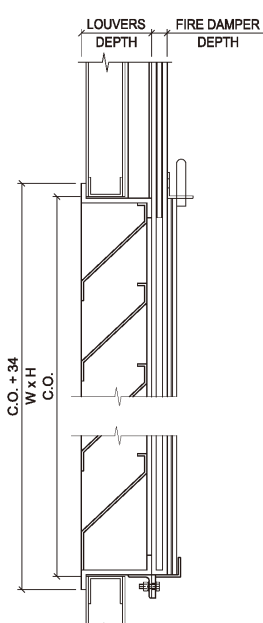
NODES INSTALLED OF DOOR

OPTION2

節點2



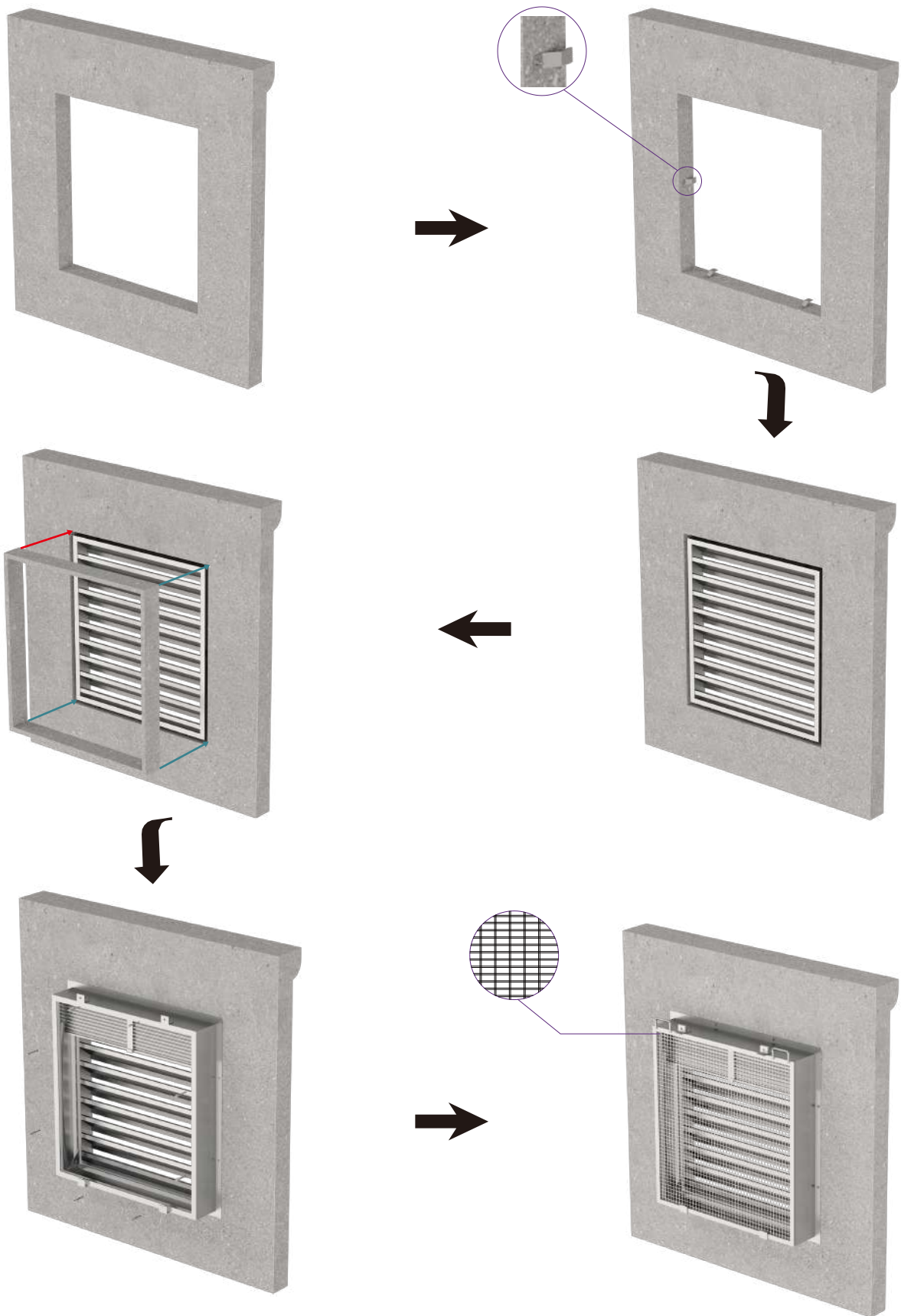
NODES INSTALLED OF WALL



NODES INSTALLED OF DOOR

Assembly

裝配





香港煌商佑鋼鐵實業有限公司

HK HuangShangYou Steel Industrial Limited



Fireproof



Ventilation



Heat Dissipation



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