

# METAL ROOFING



**Zökodach**

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## Perfecting plans and projects since 2000

Zenith (PMS) Limited is a leading contracting company focussed on pushing the boundaries of construction technology. We specialise in modern façade and metal roofing systems.

With over 30 years of experience, our team excels in delivering high-quality design, engineering, and project management services, ensuring that our products meet and exceed expectations.



# OUR CAPABILITIES

Zenith provides its clients with an extensive range of design and engineering services, encompassing project planning, management, procurement, sourcing, design, installation, and quality inspection for both façade and metal roofing systems.



## Design

- System & Conceptual Development
- Shop Drawings
- Local Statutory Submissions
- Engineering and Production Drawings
- BIM and Parametric 3D modelling



## Project Management

- Project and Progress Tracking
- Coordination
- Logistics and Delivery of Materials
- On-site Monitoring



## Production

- Long-term Strategy Partner Factory
- Vast Local Supply Network in China
- In-house Quality Control Team



## Installation

- Management Personnel
- Experienced Safety Officer
- Skilled Workforce
- Local Know-how and Expertise

# WHY METAL ROOF

## AESTHETIC APPEAL

### – Versatile in Design and Colour Options

Metal roof is suitable for a wide range of designs, from traditional to cutting-edge. A vast selection of stunning colours offers limitless possibilities to enhance a building's visual appeal.

## DURABILITY

### – Low Maintenance

Built to withstand severe weather conditions and high wind load specifications in Hong Kong, marine-grade material has superior corrosion resistance if compared to standard 3004 series.

## COST EFFECTIVE

### – Light Weight & Longevity

The lighter weight of a metallic roofing system helps to reduce the material cost on primary structure. Metal roofs can easily last for more than 50 years, reducing long-term maintenance and replacement costs.

## ENVIRONMENTALLY FRIENDLY

### – 100% Recyclable

The majority of metal roofs, such as the aluminium or steel ones, are fully recyclable at the end of their life. This helps to reduce the amount of waste associated with the project.

## COMFORT

### – Excellent Acoustic Performance

The combination of roofing layers meets stringent specifications for Airborne Sound Reduction, Rain Impact Noise Insulation, and Sound Absorption, enhancing the building comfort levels.

## ENERGY EFFICIENCY

### – Reduce Cooling Cost

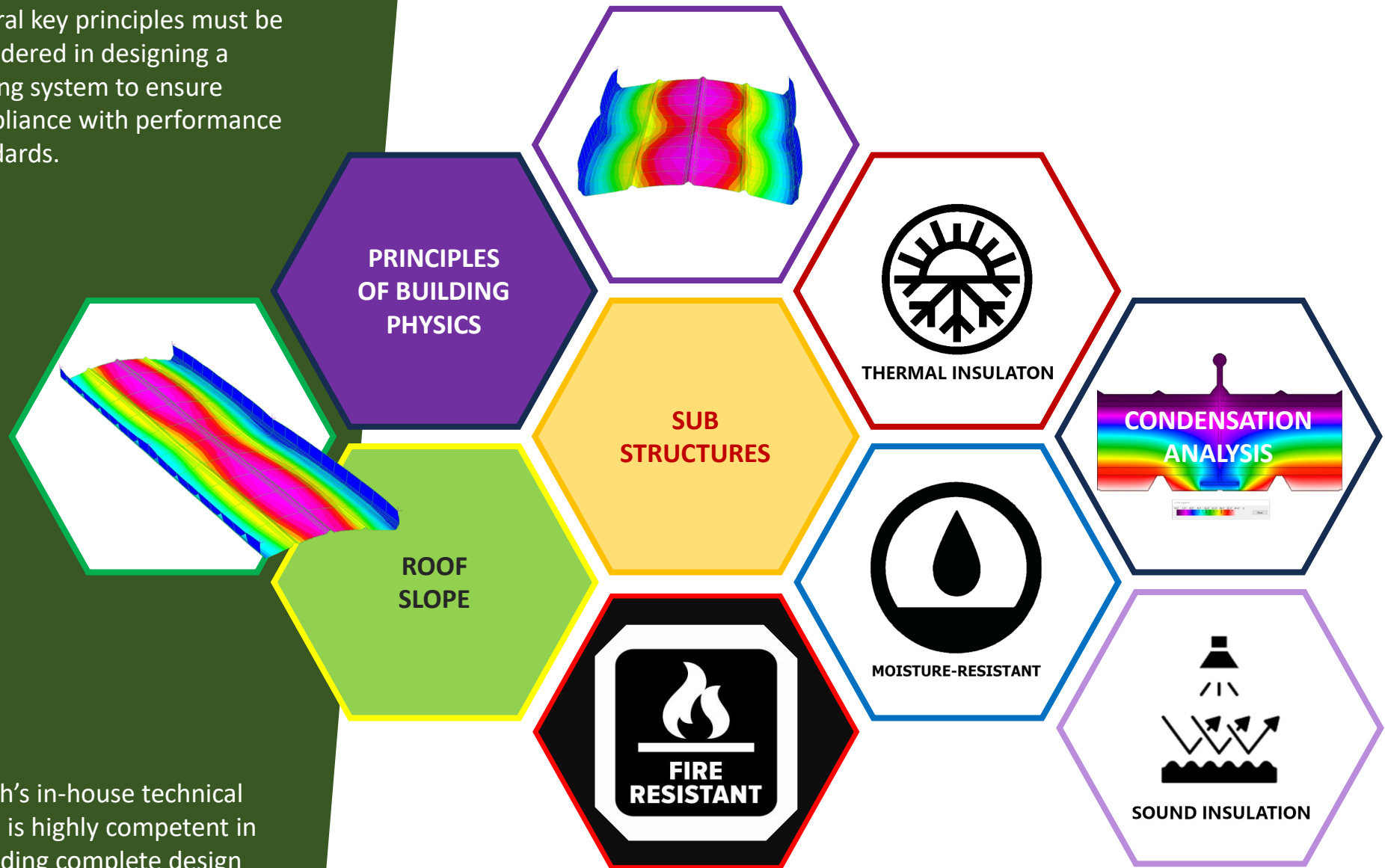
Through proper planning, a metal roofing system can improve the energy efficiency of the property. Customisable layers of metal roofs can enhance the thermal resistance performance resulting in long-term cost savings on cooling expenses.

The roof is a crucial component of any building. Metal roofs have gained immense popularity in modern structures due to the numerous advantages they offer.



# THE PRINCIPLES

Several key principles must be considered in designing a roofing system to ensure compliance with performance standards.



Zenith's in-house technical team is highly competent in providing complete design solutions, to fulfill client's specifications.

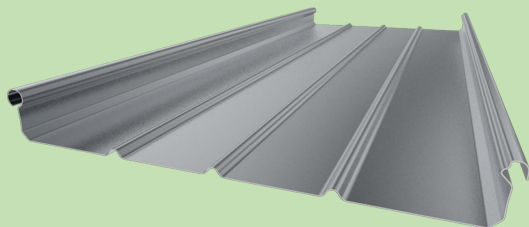
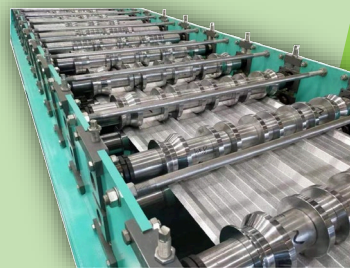
# OUR PRODUCTS

Our Metal Roofing Systems are developed in accordance with the German Industrial Standard \*DIN 18339 & \*\*DIN18338, and further customised to meet British Standards, ASTM standards and the local statutory requirements of Hong Kong.

## Standing Seam Roofing System

General features of the system:

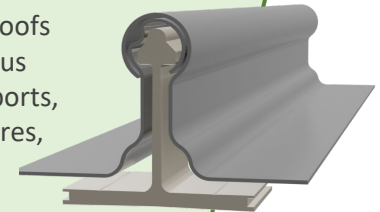
- Long-span rolled form panel from a single continuous sheet, ensure excellent waterproof performance.
- Mechanically locked with concealed clip fixing, eliminating the risk of screws punching through the roofing panels.
- No sealant is required along the seams, preventing deterioration of weather seal performance due to aging.
- System components can be customised with multiple layers and thicknesses to accommodate thermal resistance and acoustic performance.



We offer 2 types of Standing Seam:

### Single Lock Seam

Widely applied in linear roofs with slopes or larger-radius curved roofs, such as airports, stadiums, exhibition centres, industrial buildings, etc.



### Double Lock Seam

Generally applied in roofs with smaller-radius curves, special geometries, and spherical ones. It can also be applied to flat roofs and green roofs such as dome roofs, stadiums, convention centres, etc.

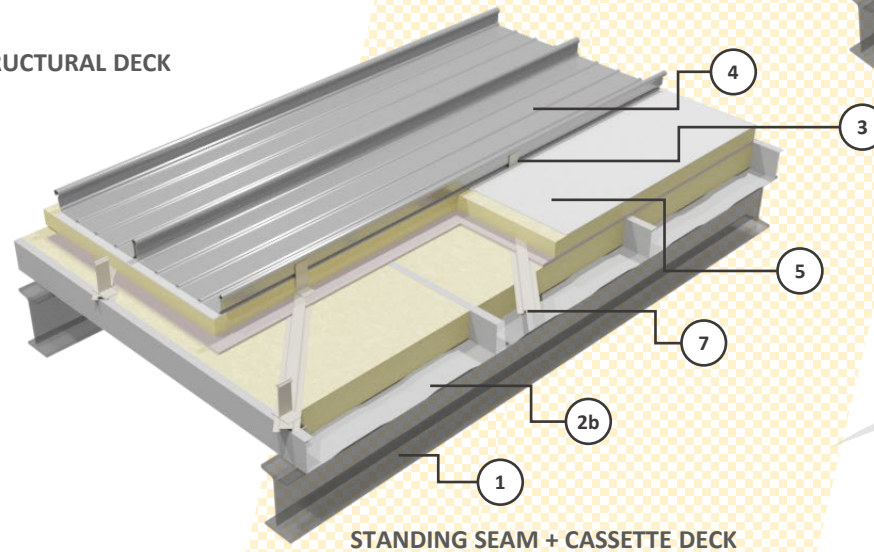
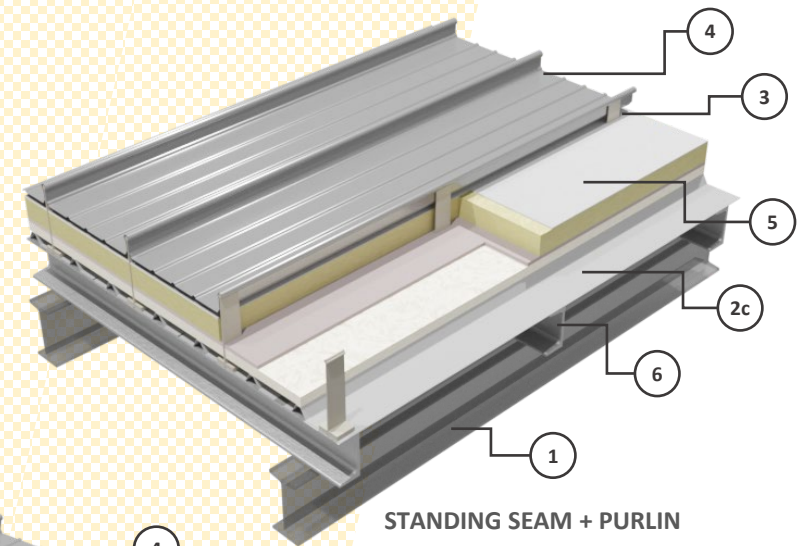
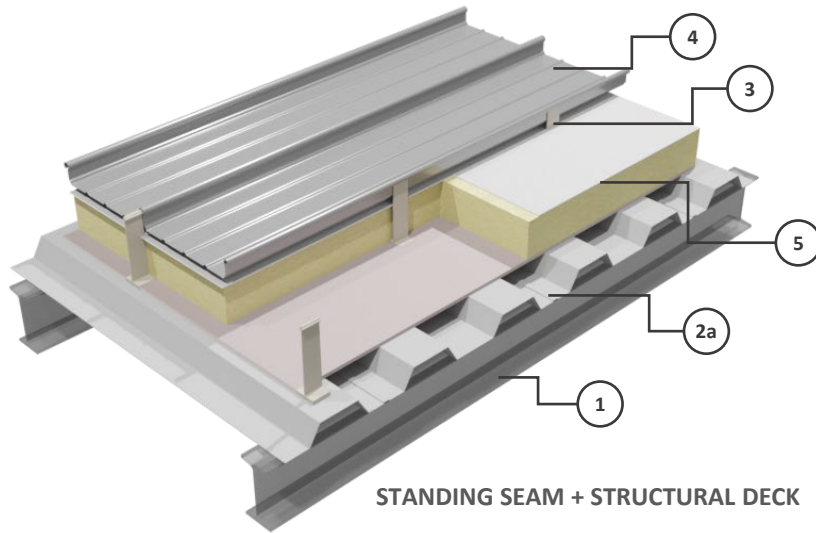


\* DIN 18339: German construction contract procedures (VOB) - Part C: General technical specifications in construction contracts (ATV) - Sheet metal roofing and wall covering work

\*\* DIN 18338: German construction contract procedures (VOB) - Part C: General technical specifications in construction contracts (ATV) - Roofing works

# SYSTEM, BEYOND SKIN!

Our Metal Roofing Systems go beyond mere layers; our dedicated team meticulously integrates various structural elements and high performance layers in our designs to create a truly comprehensive Roofing System



- ① Primary Structure (By Others)
- ②a Structural Deck
- ②b Structural Cassette
- ②c Trapezoidal Liner Sheet
- ③ ZL Clip
- ④ ZL-S65 Roofing Profile
- ⑤ Vapor Control Layer
- ⑥ Purlin
- ⑦ Top-hat Sub-frame

# CRAFTSMANSHIP

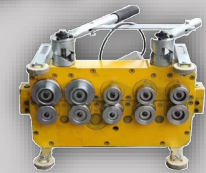
Our own team of skilled and experienced workers combines their expertise with the utilisation of specialised tools and machinery to deliver roofing systems of unparalleled excellence



LOCK-SEAMER TOOLS

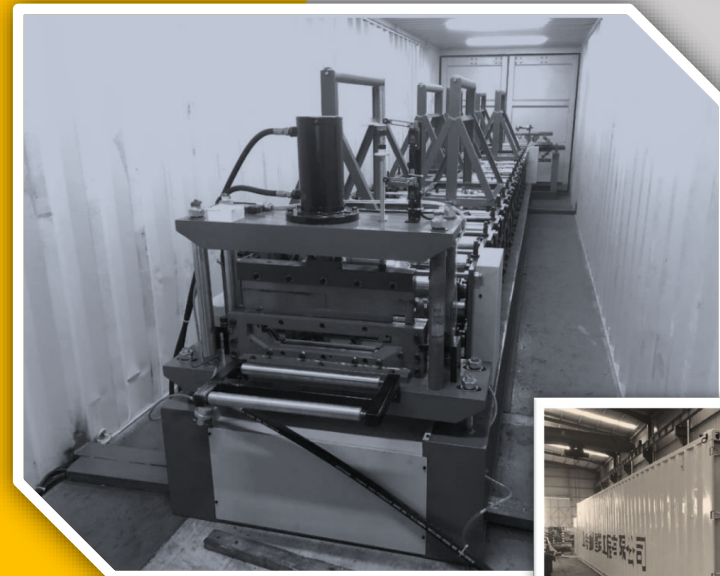


ELECTRICAL LOCK-SEAMING MACHINE



## CONTINUOUS SHEET IS THE KEY!

In situations where panels are too long to be transported, we offer on-site forming. This allows us to produce the same high-quality product without compromising performance and minimizing the number of joints.

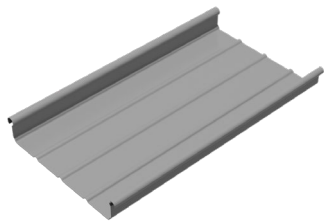


SITE PROFILING MACHINE

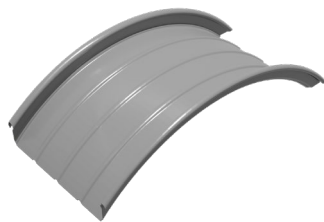


# VERSATILITY WITH CURVES

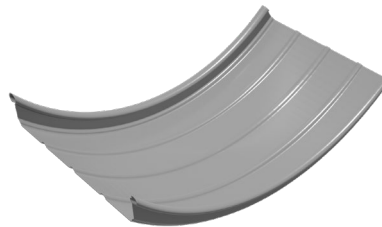
Depending on the material used (aluminium, stainless steel, zinc, copper or titanium zinc), the standing seam profile offers the flexibility to shape configurations that match the architectural design.



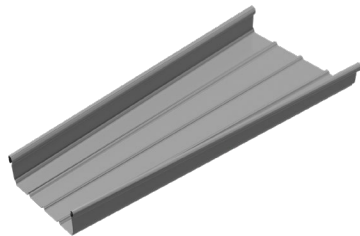
STRAIGHT



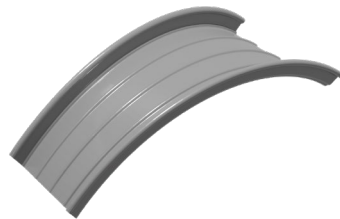
CONVEX



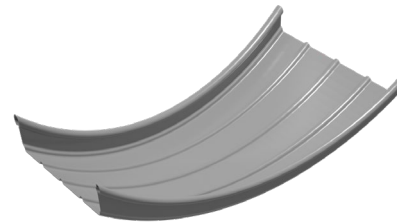
CONCAVE



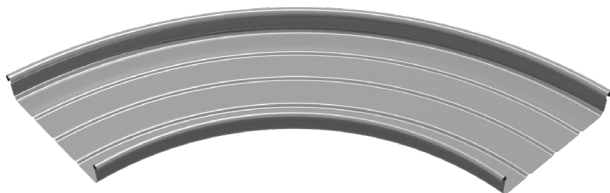
TAPERED



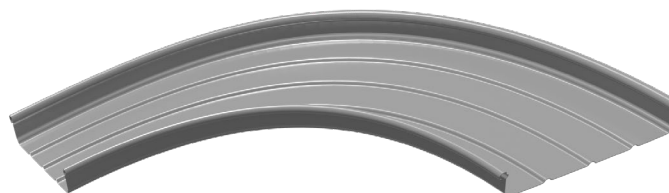
CONVEX TAPERED



CONCAVE TAPERED



SIDE CURVE



SIDE CURVE TAPERED



SAMPLE OF MULTIPLE CURVED



SAMPLE OF CURVED PANEL



CURVING MACHINE

# METAL IS A SERIOUS BUSINESS

Metal roofing is an excellent choice, offering durability, energy efficiency, and a stunning aesthetic. The selection of the top sheet is essential, each option having its own unique features and benefits.

## ALUMINUM ALLOY – 3004

Aluminium roofing is a popular choice due to its minimal use of iron, offering supreme resistance to corrosion. Its lightweight nature makes it easy to install. Additionally, aluminium is highly energy-efficient, reflecting the sun's rays instead of absorbing heat. Investing in aluminium roofing is a long-term investment that can save you money in the long run.

## ALUMINUM ALLOY – 5754

This marine-grade material possesses the characteristics of being lightweight, strong, and rustproof, offering superior resistance to corrosion compared to standard 3004 series, resulting in an extremely durable and long-lasting roof.

## STAINLESS STEEL

Stainless steel roofing is another excellent option for your property. While steel roofs are susceptible to rusting, this is not the case for stainless steel roofs. Known for its immense strength, durability, and resistance to corrosion, stainless steel can withstand even highly corrosive environments.

## ZINC

Zinc, although not as popular as aluminium and steel, can significantly enhance the value of a property with its self-healing ability. When the surface of zinc gets scratched, it reacts with carbon dioxide and water in the atmosphere to form a protective zinc carbonate layer. In addition to its self-healing properties, zinc roofs are also 100% recyclable, making them a sustainable choice.

## COPPER

Copper is an upscale, premium roofing material with a beautiful bronze-like colour that adds superb aesthetic appeal. It is lightweight and has a life expectancy of over 100 years. Copper is also recyclable, making it an environmentally friendly choice.

Another unique quality of copper is its natural development of a distinctive green patina.

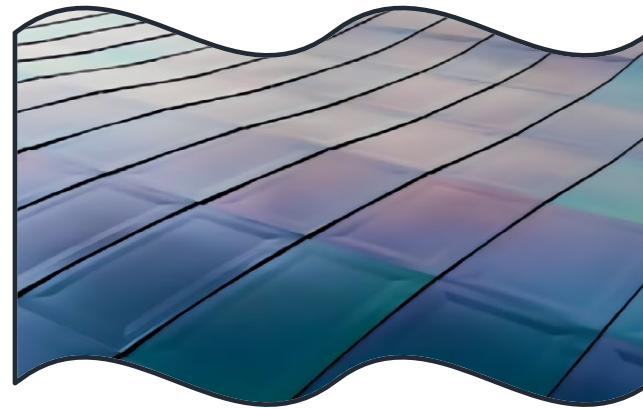
## TITANIUM ZINC / TITANIUM

Titanium zinc is a non-ferrous metal, which means the alloy contains no traces of iron, ensuring that the material does not rust over time.

# FINISHES & COLOURS

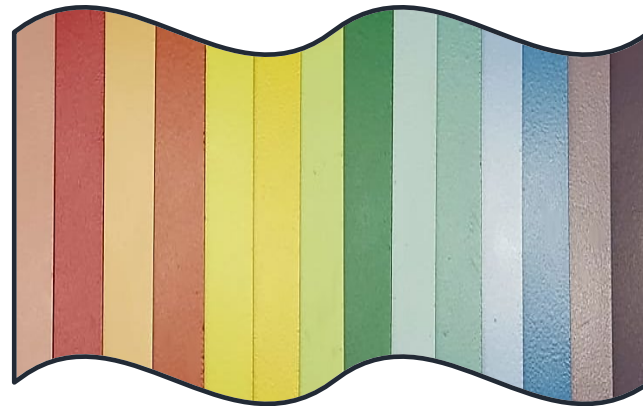
Finishes and colours are key elements that express the architecture of a property. These unique visual features help integrate the property with the surrounding landscape and skyline.

**ZENITH** offers a range of finishes depending on the metal selected.



## **INOX-SPECTRAL on STAINLESS STEEL**

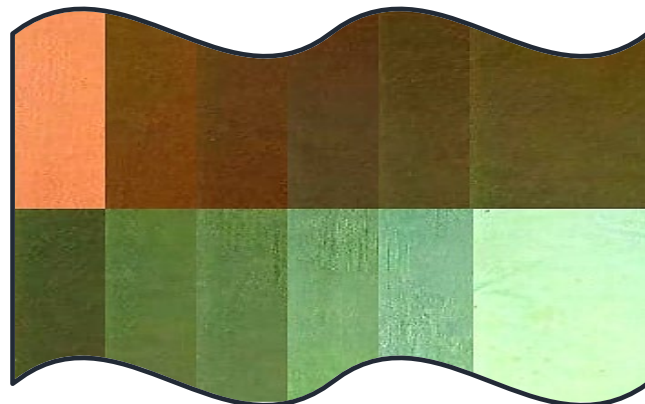
In addition to refining stainless steel sheets, the INOX-SPECTRAL process is also perfectly suited for colouring of other premium stainless steel products.



## **PVDF COATING on ALUMINIUM ALLOY**

PVDF coating systems offer excellent adhesion overall due to the high-quality resins used in their formulas.

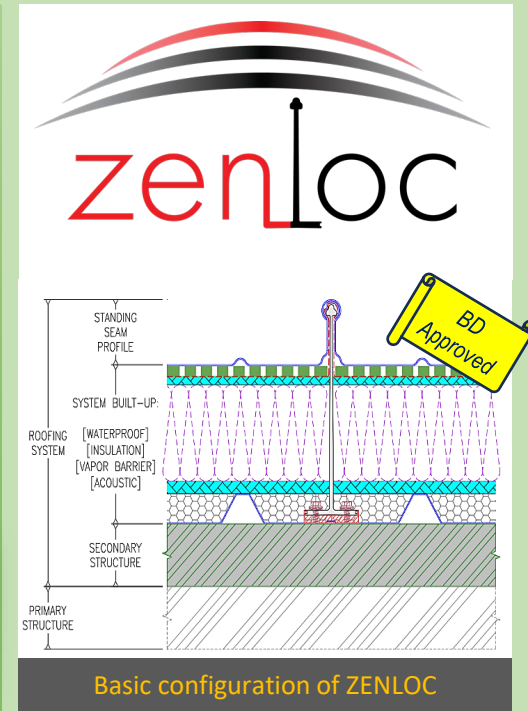
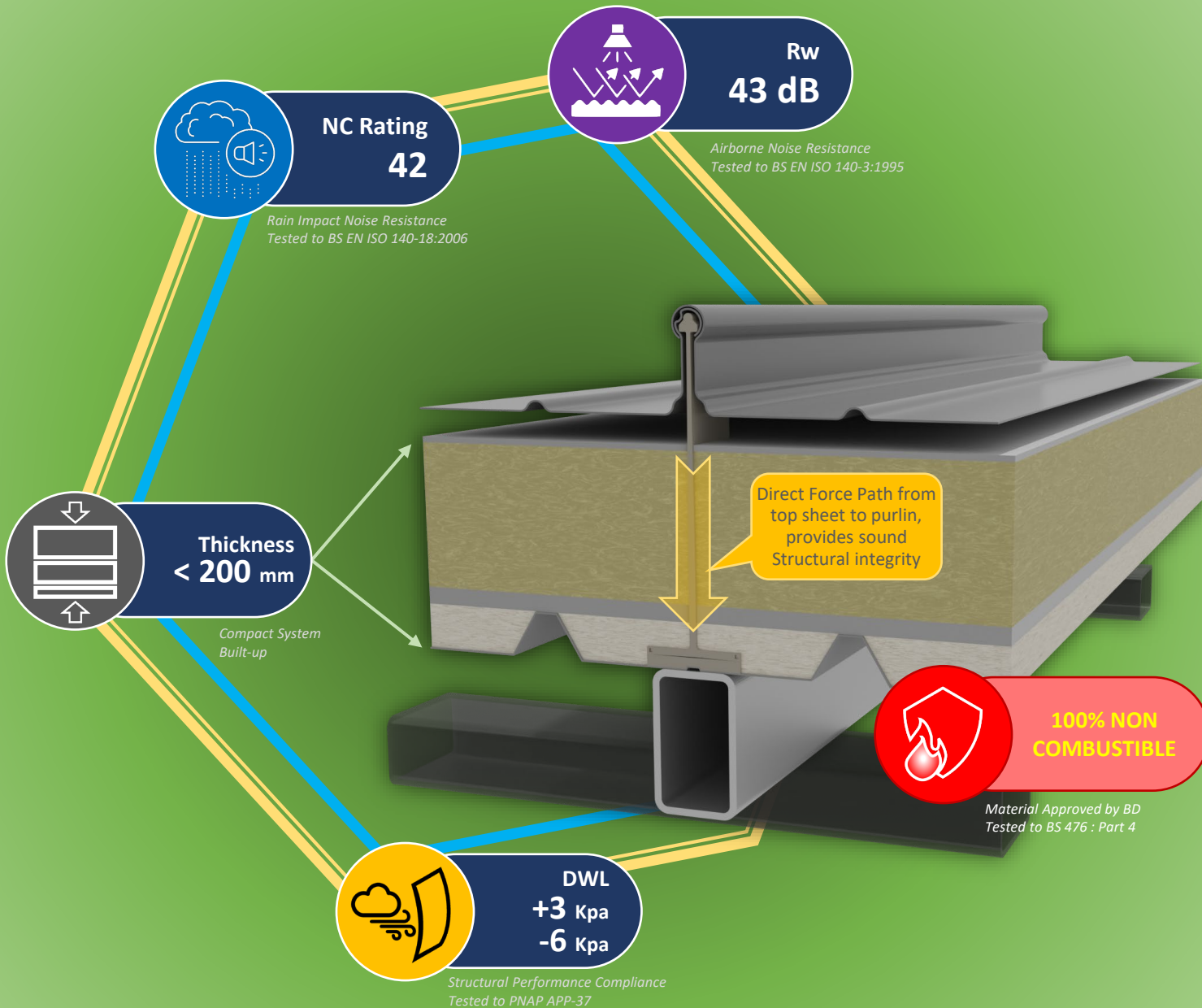
It also provides a wide range of choices, meeting the RAL colour series.



## **PRE-PATINATED COPPER**

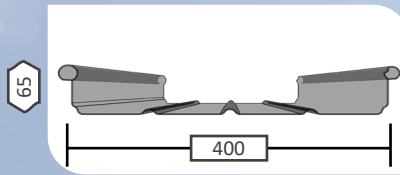
Feeling nostalgic? Copper is available at various stages of patination, offering your building a timeless aesthetic.

# ZENLOC SYSTEM



ZENLOC is a metal roofing system constructed using proven Single Standing Seam technology with non-combustible materials, ensuring compliance with the most stringent requirements for both structure and fire safety. It was developed for the Buildings Department (BD) and Airport Authority in Hong Kong.

zenloc



Project : **Terminal 1 Annex Building**  
Location : Hong Kong International Airport  
System : ZENLOC Standing Seam, Aluminium Alloy  
Area : 2400 sqm  
Status : Completed

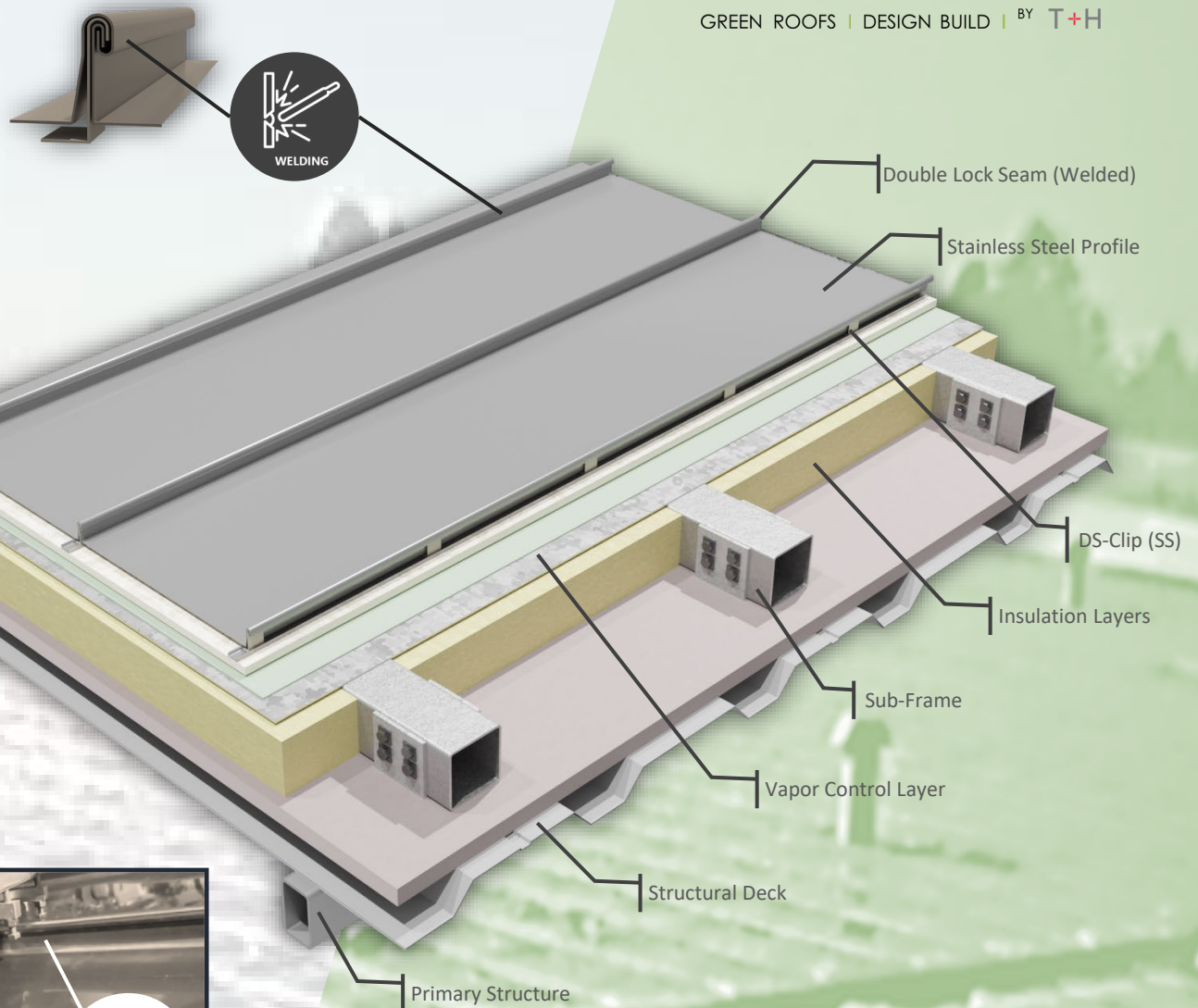
ZENLOC roofing system features: constructed with 100% non-combustible materials, including an aluminium standing seam profile, acoustic anti-drumming layer, non-breathable sarking, fiber cement board, rockwool insulation, acoustic insulation, and aluminium-zinc coated surface steel sheet.

This non-combustible roofing system has been successfully used in projects such as the New T1 Annex Building in the Terminal 1 of the Hong Kong International Airport in 2019, meeting all stringent specifications for fire safety, structural performance and acoustic performance against rain and wind required by the Hong Kong Airport Authority and the Buildings Department. It was tested and confirmed by a series of performance mock-ups.

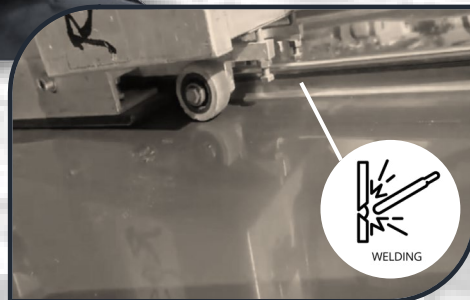


# ZOKODACH SYSTEM

A double seam stainless-steel roofing system fully welded, developed with German welding technology, providing superior weather seal performance and expanding design possibilities for contemporary architecture, such as Flat Roofs.



SEAMS FULLY-WELDED BY MACHINE



# ZOKODACH FEATURES

100% waterproof by **0 degree** slope  
(Flat Roof)

Low maintenance and permanently weatherproof

Appearance similar to double standing seam but fully welded

Perfect underlayer for green roofing system

Basic Built-up of a Green Roof Layers

Layer 6: Plants

Layer 5: Growing Medium

Layer 4: Filter Fabric

Layer 3: Drainage Layer

Layer 2: Root Barrier

Layer 1: Welded Stainless Steel layer

Layer 3.5:  
Optional Water Retention Layer

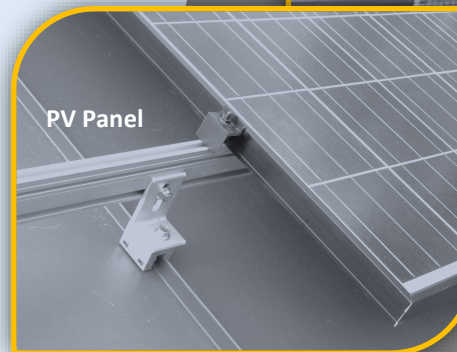
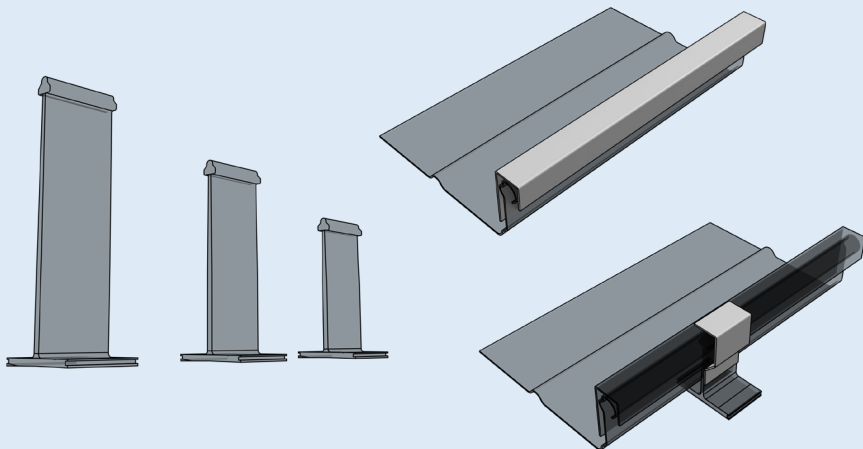
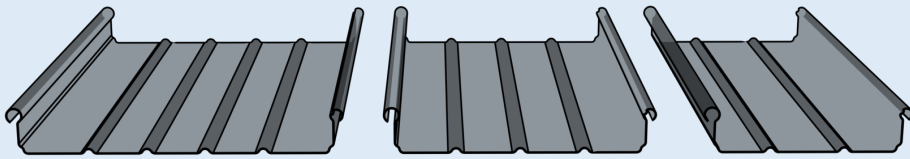
Zökodach

Green roof weights can vary significantly depending on the type and amount of vegetation. Most extensive green roof designs with sedum and other lightweight plants typically weigh between 60-150 kg/m<sup>2</sup>. Therefore, early planning of green roof is essential to determine the design of the roof system and primary structure.

# ACCESSORIES & ADD-ON

Metal roofing is a fantastic choice by offering durability, energy efficiency, and a stunning aesthetic. However, it's important to note that there are various styles and materials involved, each with its own unique features and benefits.

- A range of Roof Shape
- Fixing clips for different applications
- Integrated Anti-condensation Layers
- Integrated Anti-drumming Layers
- Profile fillers, closure, gable and clips
- Custom-made Flashing matching the architecture design.



Value added with versatility to integrate third-party systems:

- Fall Arrest
- Catwalk / Walkway
- PV Panel

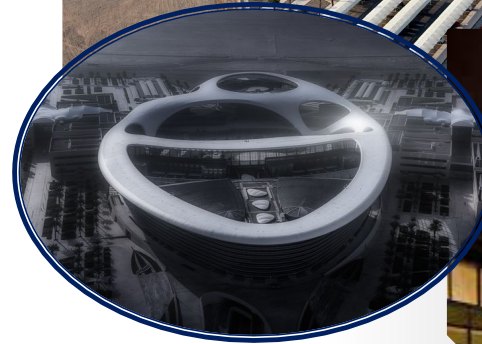


Zenith (PMS) Ltd.

**GLOBAL PROJECT REFERENCE**



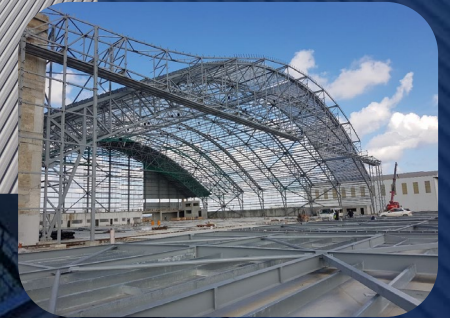
**Project :** *Metro Stations*  
**Location :** *Dubai, UAE*  
**System :** *Metal Panel, Aluminium Alloy*  
**Area :** *84000 sqm (1200 sqm x 70 entrance pods)*  
**Status :** *Completed*



**Project :** *Zayed University*  
**Location :** *Zayed City, Abu Dhabi, UAE*  
**System :** *Metal Panel, Aluminium Alloy*  
**Area :** *17000 sqm*  
**Status :** *Completed*



**Project :** *Airport Hanger*  
**Location :** *Malta International Airport*  
**System :** *Klip Lock, Aluminium*  
**Area :** *30000 sqm*  
**Status :** *Completed*



**Project :** *Airport Buildings*  
**Location :** *Changi International Airport*  
**System :** *Standing Seam, Aluminium Alloy*  
**Area :** *5500 sqm*  
**Status :** *Completed*



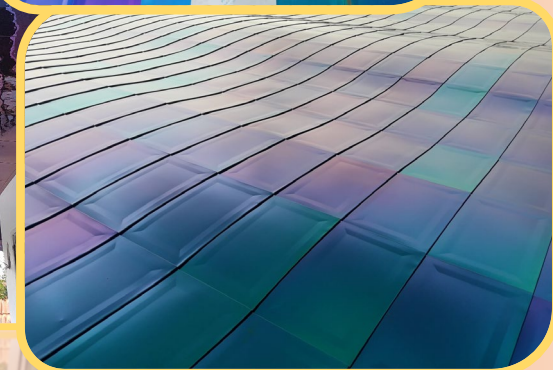
**Project :** *NEW Water Factory*  
**Location :** *Bedok, Singapore*  
**System :** *Double Standing Seam, Stainless Steel*  
**Area :** *10000 sqm*  
**Status :** *Completed*



**Project :** *Farrer Road MRT Station*  
**Location :** *Singapore*  
**System :** *Standing Seam, Aluminium*  
**Area :** *2000 sqm*  
**Status :** *Completed*



**Project :** *Spanish Pavilion*  
**Location :** *Expo 2010 in Shanghai, China*  
**System :** *Designer Mesh*  
**Area :** *5500 sqm*  
**Status :** *Completed*



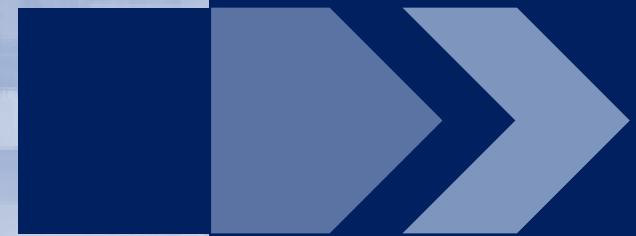
**Project :** *Designer Bungalow*  
**Location :** *Munshi Abdullah Walk, Singapore*  
**System :** *Double Standing Seam, Coloured Stainless Steel*  
**Area :** *250 sqm*  
**Status :** *Completed*



## Zenith's Team

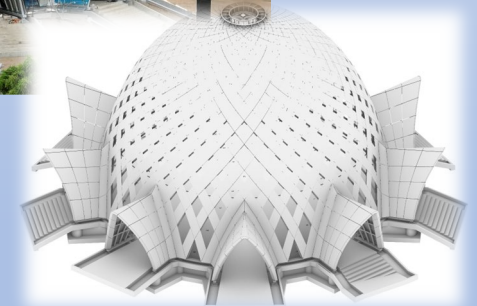
### PROJECT REFERENCE

We had delivered in regions  
with EXTREME WEATHER conditions





Project : **Venetian Event Centre**  
 Location : *Cotai, Macau*  
 System : *Standing Seam, Aluminium Alloy*  
 Area : *5000 sqm*  
 Status : *Completed*



Project : **Bahai Temple**  
 Location : *Papua New Guinea*  
 System : *Standing Seam, Aluminium Alloy*  
 Area : *1500 sqm*  
 Status : *Completed*



Note: Ceramic Tile by Tile Specialist



Internal View



Project : **Happy Valley Jockey Clubhouse**  
 Location : Hong Kong  
 System : Composite Build-up, Aluminium  
 Area : 2300 sqm  
 Status : Completed

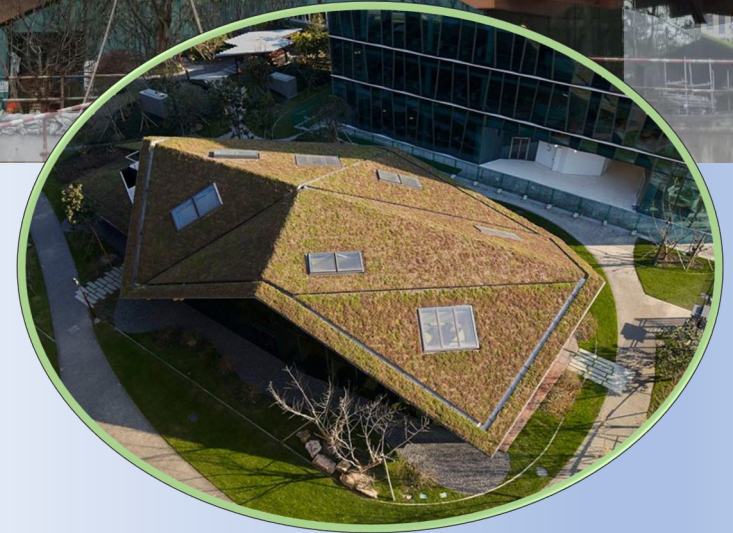
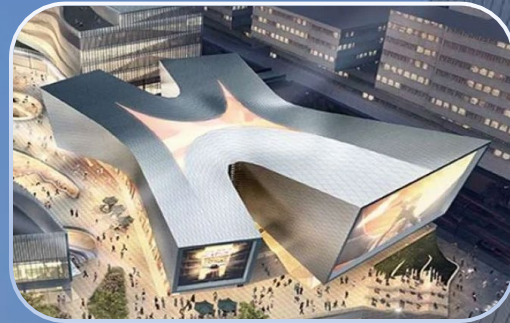


Project : **Lok Ma Chau Loop PM Office**  
 Location : Hong Kong  
 System : Corrugated Composite Panel, Aluminium  
 Area : 1100 sqm  
 Status : Completed





**Project :** *Dream Centre*  
**Location :** *Shanghai, China*  
**System :** *Standing Seam, Aluminium Alloy*  
**Area :** *6000 sqm*  
**Status :** *Completed*



**Project :** *Cafeteria @ Novartis Campus*  
**Location :** *Shanghai, China*  
**System :** *Standing Seam, Aluminium Alloy + Green*  
**Area :** *280 sqm*  
**Status :** *Completed*

匠心未來 | 煥演昔貌  
Creating the Future | Retrofitting the Past



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