PRANCE®
METAL CEILING & FAÇADE SOLUTIONS

GUANGZHOU BAIDU APOLLO PARK
FACADE PROJECT

PRANCE METALWORK BUILDING MATERIAL CO.,LTD

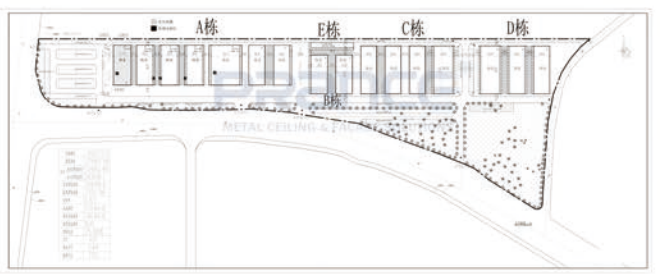
Project Introduction And Architectural Overview

A typical project that showcases PRANCE's capabilities involves the renovation of an old building, encompassing the design, production, and installation of a new facade with 4000m2 within 45 month.

Located on Hulin Road in Wenchong Street, Huangpu District, Guangzhou, the property initially had low efficiency. However, after the construction, it has been transformed into Baidu Apollo Park, which is now recognized as China's most comprehensive and visually appealing intelligent connected vehicle application park. Notably, the park features the establishment of Baidu's national next-generation AI open innovation platform for autonomous driving.

Baidu is a prominent Chinese technology company that provides a diverse range of Internet-based services and products. It is widely recognized as the leading search engine in China, akin to Google's prominence worldwide. Baidu offers an extensive array of services encompassing search engines, online advertising, maps, cloud storage, artificial intelligence, autonomous driving, and more.

This project involves the renovation of an existing building by refurbishing it on the foundation of its original architectural structure and installing beautiful exterior wall cladding.



Project Duration:

November 4th, 2020 to January 28th, 2021

Project Area:

4000 square meters

Total Aluminum Panel Usage:

4000 square meters

Total Steel Usage:

100 tons

Number Of Construction Personnel:

60 people

Construction Equipment:

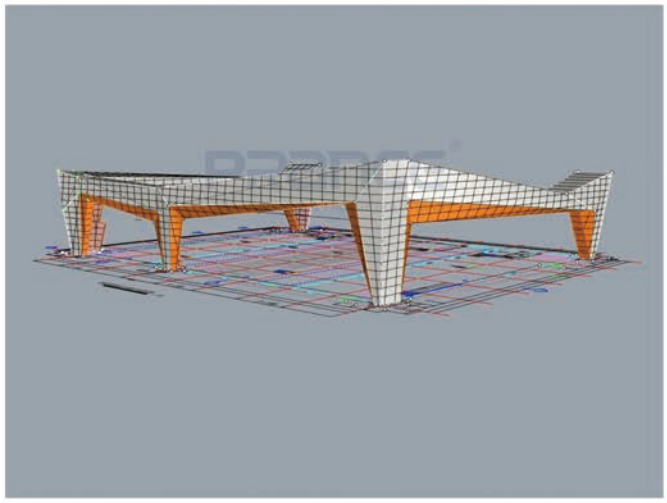
40 welding machines, 10 aerial work platforms, 2 cranes, 4 cutting machines, and N units of other auxiliary tools.

Challenge

First Difficulty:

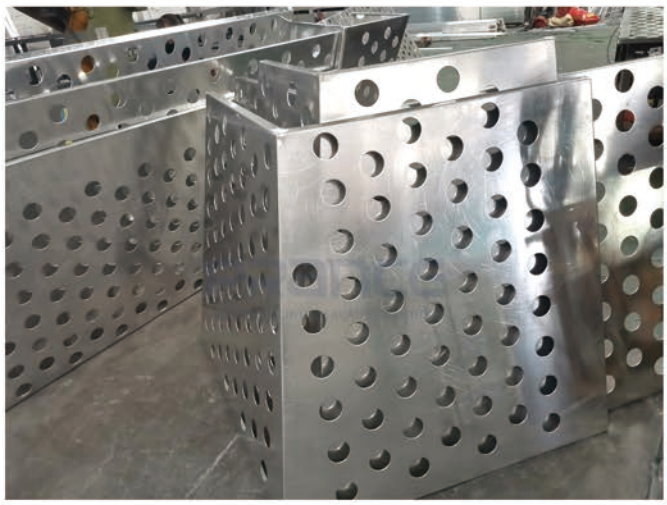
Given short completion time: Complete 4000m2 metal facade cladding project within 45 month.

Our work included:



Detailed Engineering Design

Sending our technician to the jobsite to do the on-site measurement, recording the data with the 3D scanner and creating the 3D model so we have construction drawings, aluminum plate layout drawings, and fabrication drawings based on the model.



Production

Manufacture the 3.0mm thick perforated aluminum cladding panels with PVDF surface finish.

Installation

Welding the steel frame, Assembling the steel frame components on the ground, Lifting and stabling partial and overall steel frame on wall, Aluminum cladding installation + Application of sealant + Aluminum cladding Surface cleaning.

Challenge

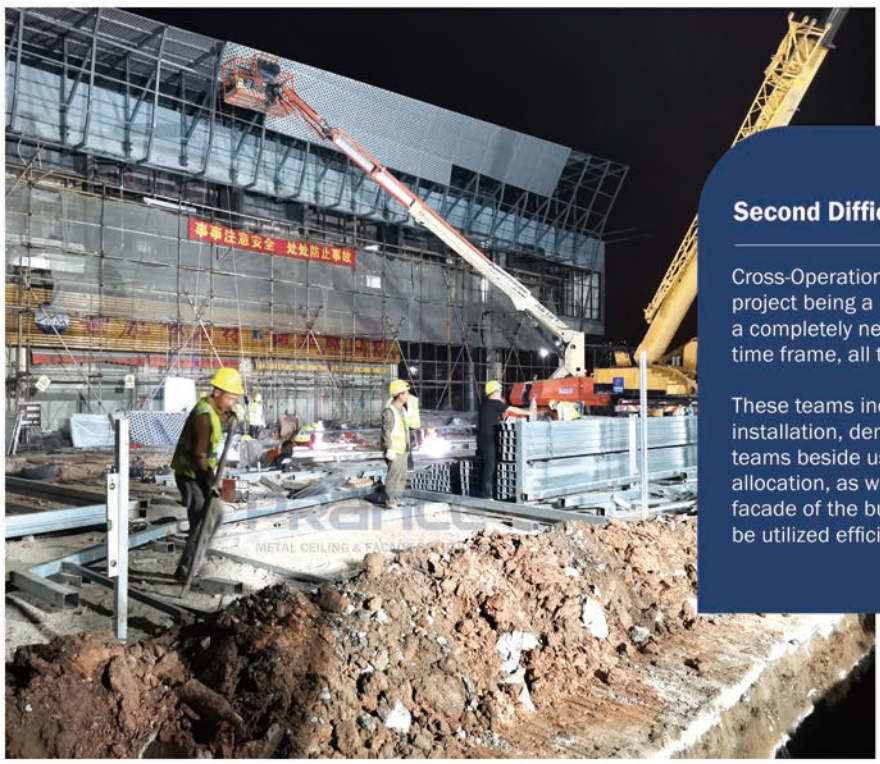
Second Difficulty

Due to the short time frame, simultaneous operations across multiple processes are required.

Each material needs to have its dimensions and quantities extracted from the model separately, and production and welding should be arranged directly.

A seamless flow from the framework to the aluminum panels is essential, and any errors should be avoided to ensure completion within the given timeframe.

There are high demands for on-site personnel coordination, precision in framework fabrication, and speed in factory processing.



Second Difficulty

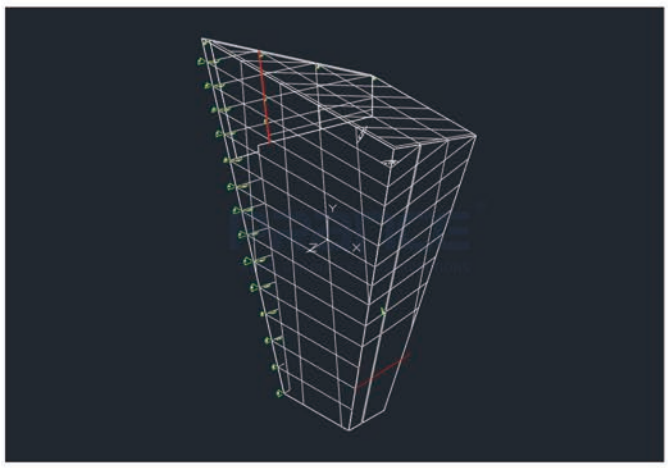
Cross-Operations with Multiple Teams on Site: Due to this project being a renovation of an existing building rather than a completely new construction, combined with the short time frame, all teams are required to work at the same time.

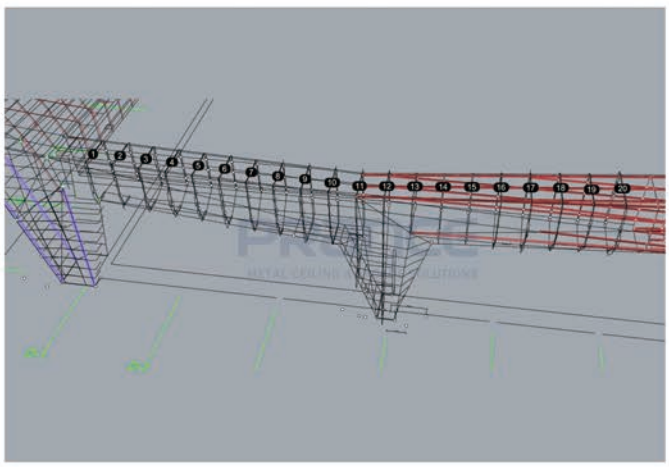
These teams include landscaping, aluminum cladding installation, demolition, transportation, piping, and other teams beside us. There is a high demand for site and time allocation, as we are working around the entire exterior facade of the building. Every corner of the site needs to be utilized efficiently.

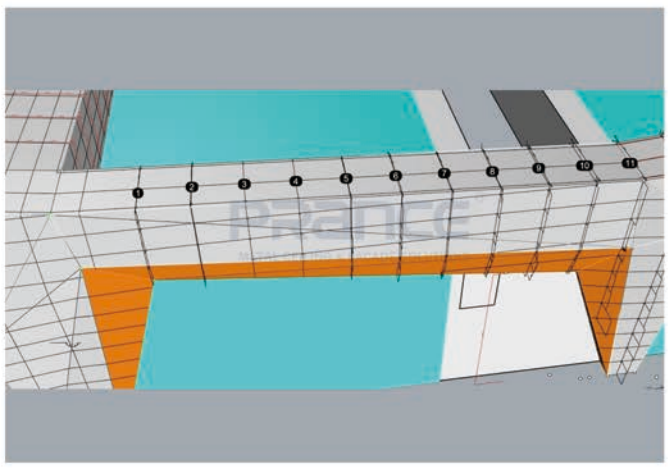
Technical Solution

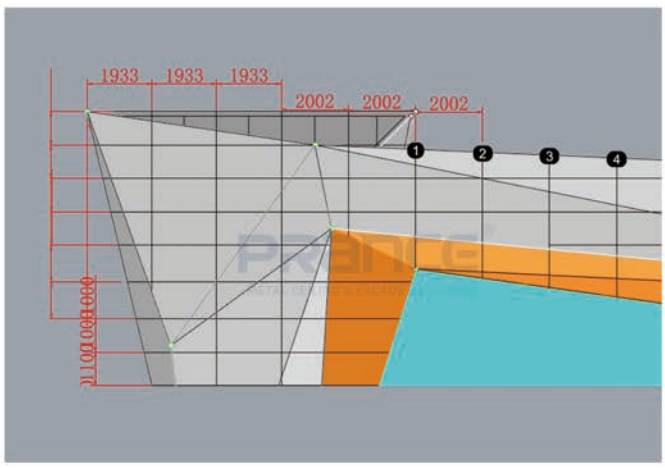
Due to the tight timeline and the fact that the client has awarded us the project for both material supply and installation, our technical team and project management team have decided to adopt a modified construction sequence.

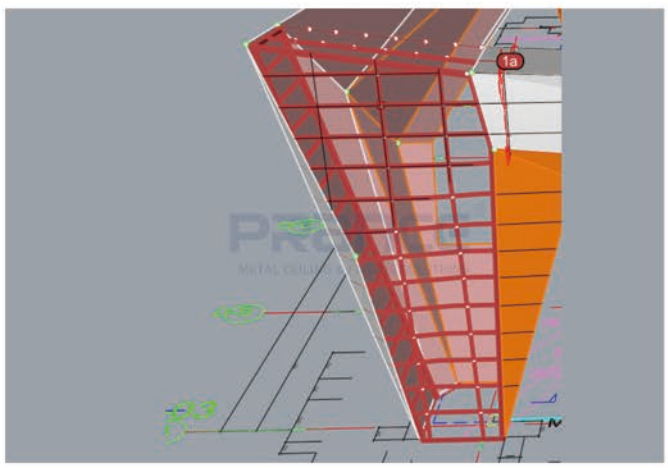
Typically, the standard procedure involves constructing the framework first, followed by on-site measurements, ordering and manufacturing the aluminum panels, and finally installing the panels. However, in order to expedite the project, we have made the decision to simultaneously proceed with framework welding, wall installation, and the parallel process of ordering and fabricating aluminum panels based on the model dimensions. Subsequently, the aluminum panels will be installed synchronously, prioritizing progress while ensuring that the steel framework is in place.

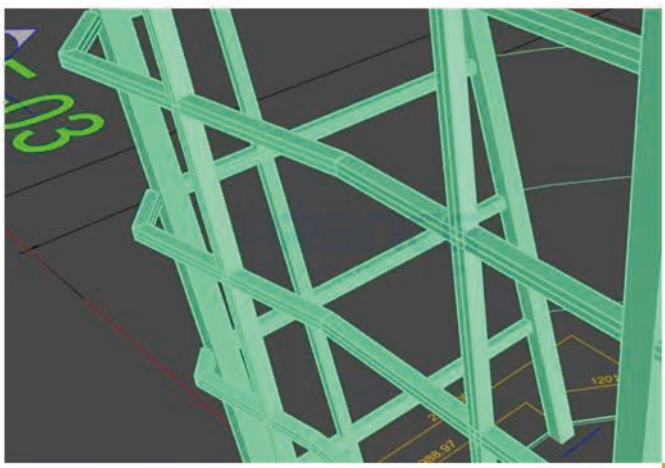












Product On-Site Pictures

Base On The Requirement, PRANCE Offer The Product Feature Shown Below:

Aluminum Panels:

Utilizing 3.0mm thick 3003 series alloy aluminum panels with 60mm perforations and integrated corner processing, the surface is coated with a three-layer fluorocarbon spray coating. The design lifespan is 25 years.

Structural Steel Support:

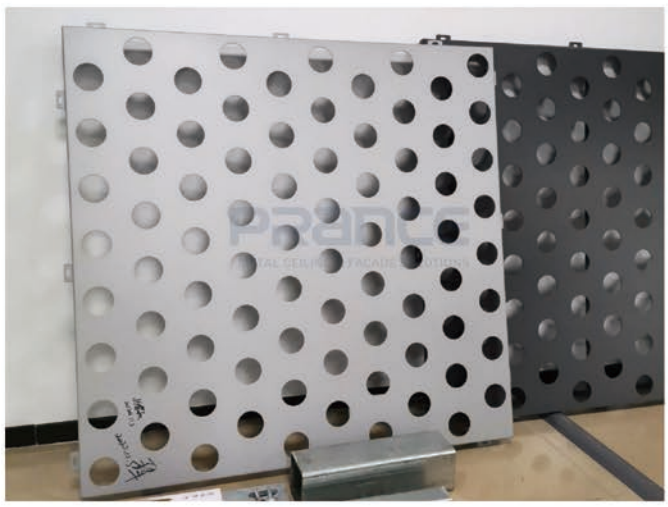
Made of Q235B steel, the surface undergoes a 250g galvanized treatment. Welded joints require two coats of anti-rust paint, and the entire structure needs to be coated with two layers of fluorocarbon paint. The design lifespan for the structure and materials is 50 years, while the lifespan for the rear-embedded plates is 30 years.

Fasteners:

All fasteners are made of SUS304A2-70 stainless steel, including tapered chemical bolts.

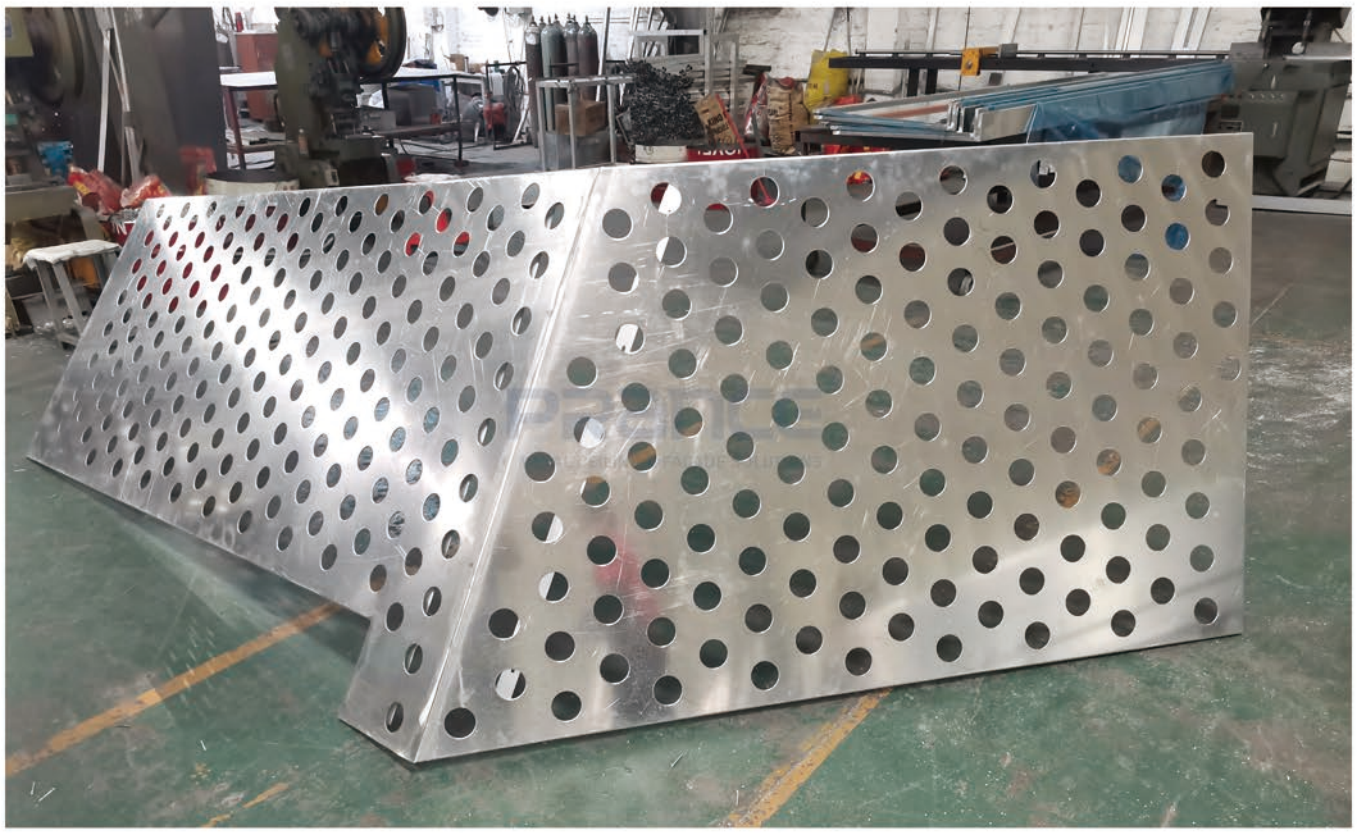
Structural Adhesive And Sealant:

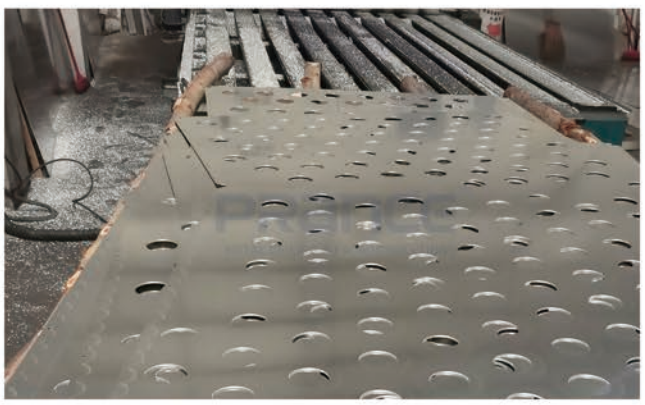
Both are weather-resistant silicone sealants.



Production Process And Technical Services

Production is a crucial aspect where we have always excelled, as we align with and meet the schedule set by the on-site project team. Ensuring the accuracy of the framework dimensions, on-site measurements, and aluminum panel dimensions, all intricately interconnected, requires meticulous coordination. Effective division of labor is not a simple task to accomplish.





Installation Procedure

This project has been contracted to the PRANCE team as a complete package, including the supply of materials and installation. This includes the provision of embedded components and iron square passageways. Due to the tight timeline, we need to deliver the project to the client within two months. Therefore, we are combining several processes together for this project. We will weld and assemble the iron square passageways and simultaneously arrange workers to install the embedded components on the upper floors. Next, we will lift the fully formed iron framework onto the building and securely fix it in place. Once the framework is in position, we will take on-site measurements to ensure consistency with our existing model dimensions before ordering and installing the facade wall cladding.

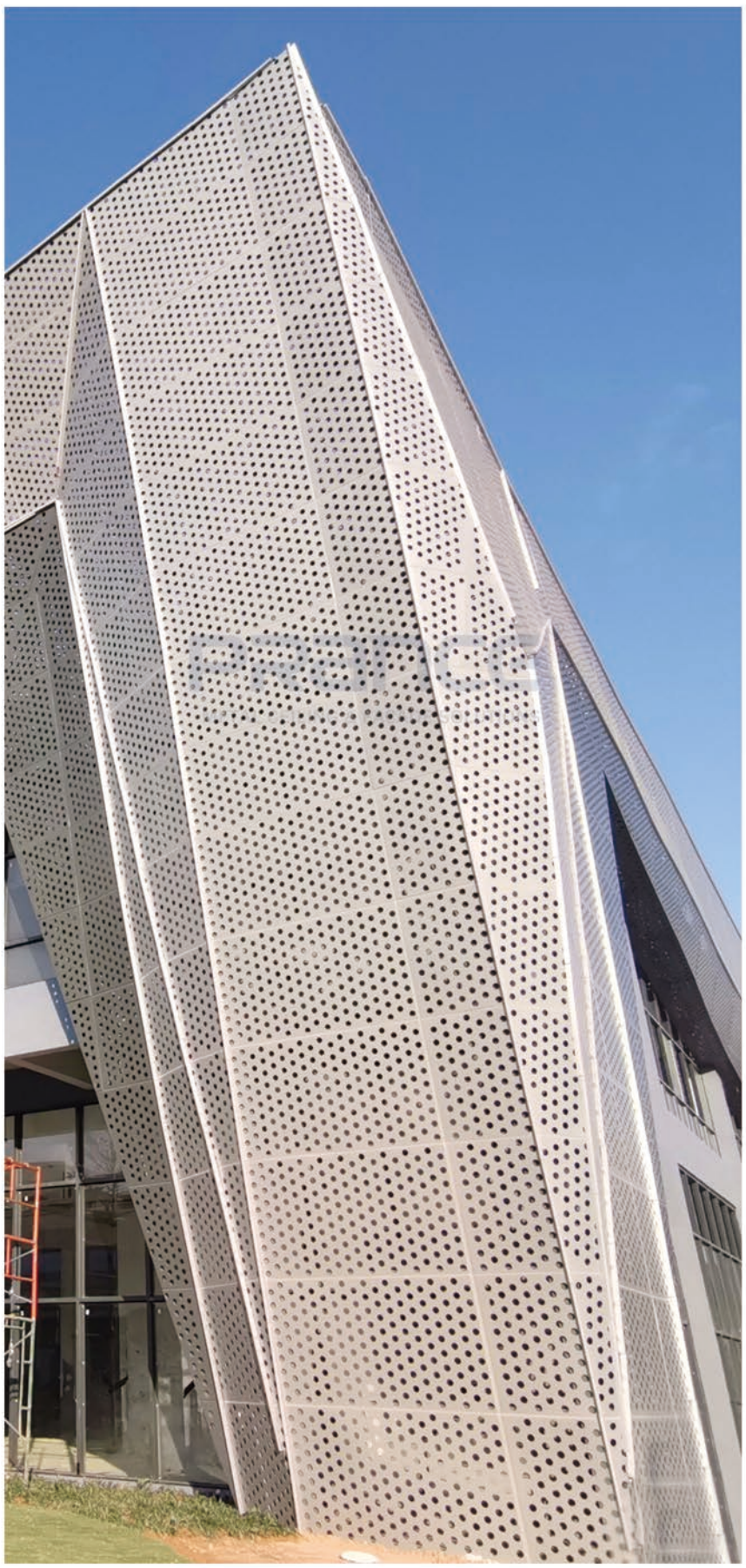
Installation Procedure

Installing the Steel Frame Onto the Building

Installation Procedure

Installing the Facade Wall Cladding Onto the Steel Frame

Preliminary Solution Content



Project Completed

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