

# CAST-IN-PLACE INDUSTRIAL PLANT SOLUTIONS

现浇工业厂房解决方案



# COMPANY PROFILE

## 公司简介

GETO is mainly engaged in green construction and new energy.

Green prefabricated building products include aluminium formwork, steel formwork, steel-framed timber formwork, climbing systems, fair-faced concrete formwork, infrastructure formwork and scaffolding products; prefabricated steel structures, assembly precast concrete components, and modular building (including PC and steel structures).

The main focus of new energy is investment, construction, and operation of "Photovoltaics, Storage, and Charging" projects, while providing the "Green Energy Future Living" one-stop residential energy solution.

In 2021, GETO was listed on the ChiNext board of the Shenzhen Stock Exchange in China. We have established 12 production bases around the world and registered 32 international trademarks in different countries and regions.

志特集团主营绿色装配式建筑和新能源两大板块。

绿色装配式建筑包括:铝模,钢模,钢框木模,爬升式模架,清水混凝土模架,公基建类模架;装配式建筑钢结构,装配式建筑 PC, 模块化房屋 (包括 PC、钢结构两大类)。

新能源主营工商业“光、储、充”项目投资、建设、运维,“绿能未来居”一站式家庭能源解决方案。

“志特新材”于 2021 年在 A 股创业板挂牌上市,目前已在全球设立 12 大生产基地,在 32 个国家和地区注册了“GETO®”国际商标,产品和服务遍及全球。



# CONTENTS

## 目录

### FORMWORK AND SCAFFOLDING SOLUTIONS 模架解决方案

### PROJECT CASES 项目案例

1. VERTICAL STRUCTURE SOLUTIONS P4  
竖向结构解决方案

SHENZHEN FUBAO ECOLOGICAL SCIENCE AND TECHNOLOGY PARK P23  
深福保生态科技园

2. HORIZONTAL STRUCTURE SOLUTIONS P6  
水平结构解决方案

SHENZHEN DIGITAL MANUFACTURING CENTER P24  
深圳数字智造中心

2-1 Independent Support + Aluminium Formwork System  
独立支撑 + 铝模体系

CHAOSHENG BUILDING P24  
潮盛大厦

2-2 GT48 Industrial Formwork System (Ringlock Scaffolding + Aluminium Formwork)  
GT48 工业模板体系 (盘扣 + 铝模)

2-3 Construction Technology Of Ringlock Scaffolding+ Aluminium Beam+Plywood  
盘扣脚手架 + 铝梁 + 木胶合板施工工艺

3. CONSTRUCTION PROCESS P17  
施工工艺流程

MING LAKE SMART VALLEY INDUSTRIAL PARK P24  
明湖智谷产业园

3-1 Independent Support + Aluminium Formwork System  
独立支撑 + 铝模体系

3-2 GT48 Industrial Formwork System  
GT48 工业模板体系

3-3 Ringlock Scaffolding+Aluminium Beam+Timber Plywood Formwork  
盘扣脚手架 + 铝梁 + 木胶合板解决方案

4. OTHER STRUCTURAL SOLUTIONS P22  
其他结构解决方案

# FORMWORK AND SCAFFOLDING SOLUTIONS

## 模架解决方案

### 1. VERTICAL STRUCTURE SOLUTIONS

#### 竖向结构解决方案

For vertical structures such as independent columns and shear walls, the aluminium formwork construction technique is adopted.

#### Column Formwork Solution 1:

Aluminium Formwork, Steel Channel Waler, Tie Rod Assemblies, Vertical Waler, and Brace

#### Column Formwork Solution 2:

Aluminium Formwork and Square Coupler

#### Wall Formwork Solution:

Aluminium Formwork, Tie Rod Assemblies, Horizontal Vertical Waler, and Wall Braces

竖向结构独立柱、剪力墙等竖向结构采用铝模施工工艺。

#### 柱模板解决方案一:

铝合金模板 + 槽钢背楞 + 对拉螺杆组件 + 竖向背楞 + 斜撑

#### 柱模板解决方案二:

铝合金模板 + 方圆扣

#### 墙模板解决方案:

铝合金模板 + 对拉螺杆组件、水平背楞 + 竖向背楞 + 墙体斜撑

### Advantages

#### 优势

- **Easily Assemble**  
Compared to traditional timber formwork, the aluminium formwork, with the tool-type assembly, requires no on-site cutting, has low skill demands for workers, and enhances construction efficiency.
- **High Forming Quality**  
Aluminium formwork is prefabricated in the factory with higher precision and better forming quality.
- **拼装方便。**  
传统木模工艺，铝模工具式拼装无需裁剪，对工人水平要求低，施工效率高
- **成型质量好。**  
铝模板工厂预制，拼装精度更高，成型质量更好



Column Formwork Solution 1

柱模解决方案一



Column Formwork Solution 2

柱模解决方案二



Wall Formwork Solution

墙模解决方案

## 2. HORIZONTAL STRUCTURE SOLUTIONS 水平结构解决方案

### 2-1 INDEPENDENT SUPPORT + ALUMINIUM FORMWORK SYSTEM

#### 独立支撑 + 铝模体系

#### Components of the support system 支撑体系构件组成

Independent Support, Horizontal Tie, 60\*48 Swivel Coupler, 48\*48swivel Coupler, and Sleeve Coupler  
独立支撑、水平拉杆、60\*48 旋转扣件、48\*48 旋转扣件、对接扣件

#### Application 适用范围

Suitable for industrial and public buildings with a floor height of  $\leq 6$  meters, such as industrial plants, cast-in-place frame structure basements, stilt floors, and cold chain storage logistics parks.  
适用于层高 $\leq 6$ m 的工业厂房、现浇框架结构地下室、架空层、冷链仓储物流园等工业建筑和公共建筑。

#### Support selection 支撑选型

- For slab heights up to 4.5 meters, two-section independent supports are recommended.
- For slab heights greater than 4.5 meters and up to 6 meters, three-section independent supports are recommended.
- 层高 $\leq 4.5$ m 可选用两段式独立支撑
- $4.5\text{m} < \text{层高} \leq 6\text{m}$  可选用三段式独立支撑

#### Advantages 优势

- No need to set positioning lines for support; install formwork before erecting independent support.
- Flexible horizontal tube connection, and there is no need for formwork support spacing arrangement according to 300, which makes it more organized.
- The three-section supports meet multiple floor heights in the same building, as well as the inner pipe of one support can be disassembled to satisfy while the floor height decreases.
- 无需放支撑定位线，可先安装模板后架设独立支撑
- 水平杆连接灵活，模板支撑间距无需按 300 的模数间距布置，模板更规整
- 三段式支撑可满足同一栋楼多种层高变化，层高变矮时，将其中一段支撑内管拆除使用来满足相应层高的支设。



Construction Method of Independent Support and Aluminium Formwork  
独立支撑 + 铝模施工工艺

## 2-2 GT48 INDUSTRIAL FORMWORK SYSTEM (RINGLOCK SCAFFOLDING + ALUMINIUM FORMWORK) GT48 工业模板体系 (盘扣 + 铝模)

Comprising 48 Ringlock Scaffolding, Transition Components, Structural Accessories, and Aluminium Formwork.

GT48 工业模板体系由 48 盘扣脚手架、转接构件、构造配件、铝合金模板组成。

### 48 Ringlock Scaffolding Components 48 盘扣脚手架构件

Base Jack, Adjustment Nut, Standard Base Collar, Standard, Ledger, Diagonal Brace, Head Jack.  
 可调底座、调节螺母、标准基座、立杆、水平横杆、竖向斜杆、可调托座

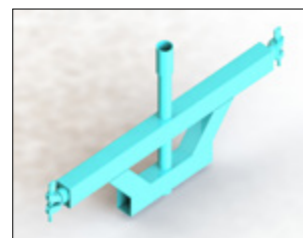
### Transition Components 转接构件

Joist Crossbar, Reinforced Crossbar, Free Adjustable Sleeve Head Prop Components, Locking Adjustable Sleeve Head Prop Components.

托梁横杆、加强横杆、自由可调套管顶托组件、锁紧可调套管顶托组件



Joist Crossbar  
 托梁横杆



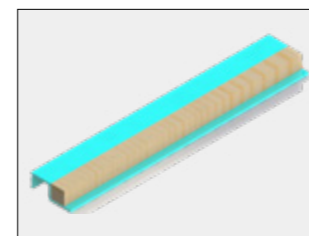
Reinforced Crossbar  
 加强横杆



Free Adjustable Sleeve Head Prop Components  
 自由可调套管顶托组件



Locking Adjustable Sleeve Head Prop Components  
 锁紧可调套管顶托组件



Non-standard Transition Adapter  
 非标过渡转接件

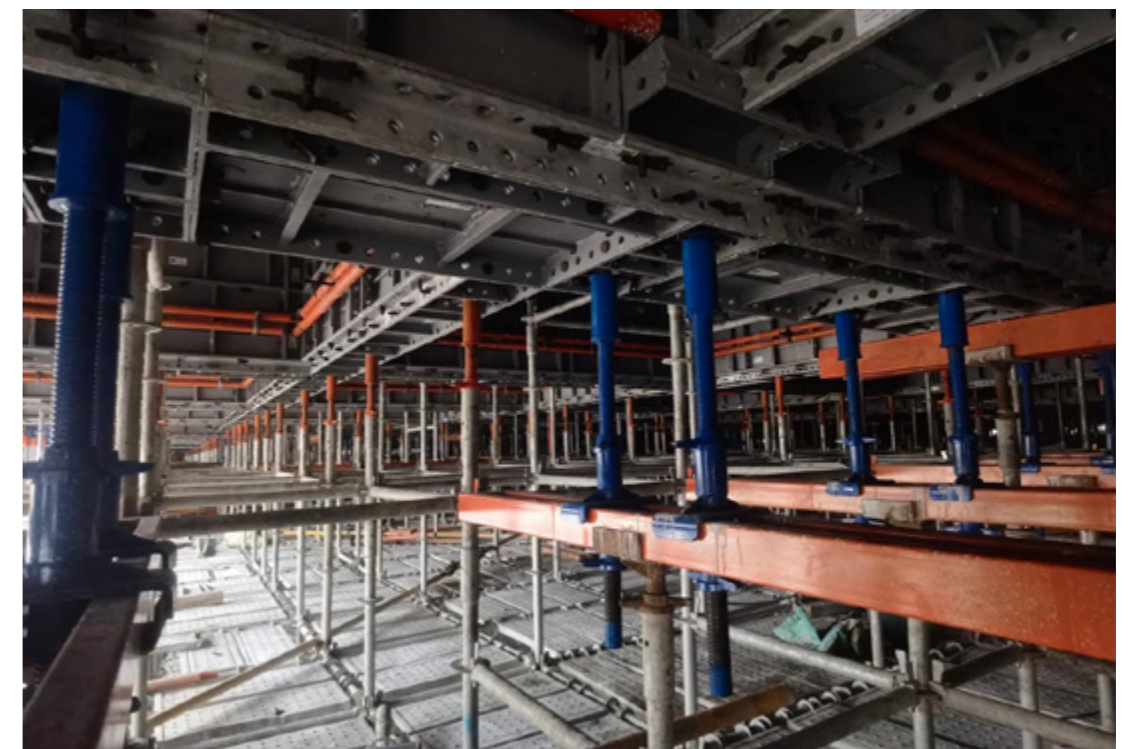
### Structural Accessories 构造配件

48 Steel Pipes, Swivel Coupler, Steel Planks, Horizontal Safety Nets.  
 48 钢管、旋转扣件、钢踏板、水平安全兜网

### Application 适用范围

Suitable for industrial and public buildings with a floor height of > 6 meters, such as industrial plants, airport, cast-in-place frame structure basements, stilt floors, and cold chain storage logistics parks.

模板体系适用于层高 > 6m 的工业厂房、机场、现浇框架结构地下室、架空层、冷链仓储物流园等工业建筑和公共建筑。



Construction Method of Ringlock Scaffolding, Transition Components, and Aluminium Formwork  
 盘扣脚手架 + 转接件 + 铝模施工工艺

## 2-2-1 Node Scheme of GT48 Industrial Formwork System GT48 工业模板体系节点方案



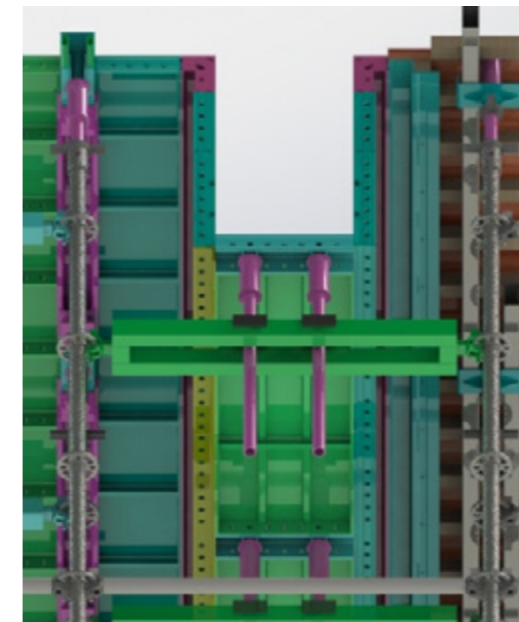
Early-removal Node Scheme for Main Beam  
主梁早拆节点方案



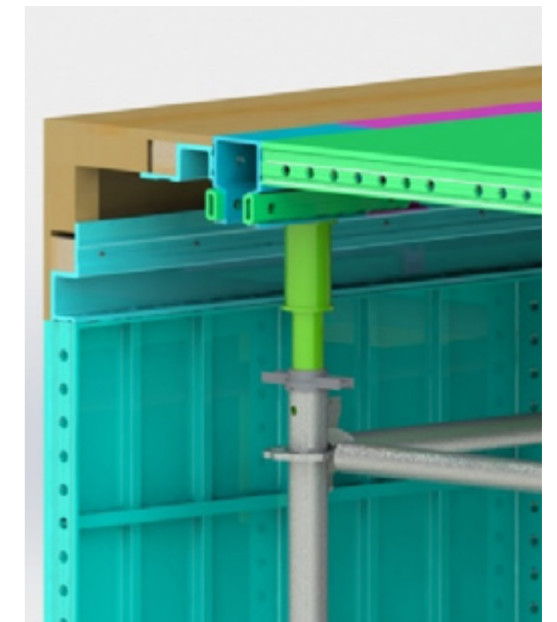
Early-removal Node Scheme for Secondary Beam  
次梁早拆节点方案



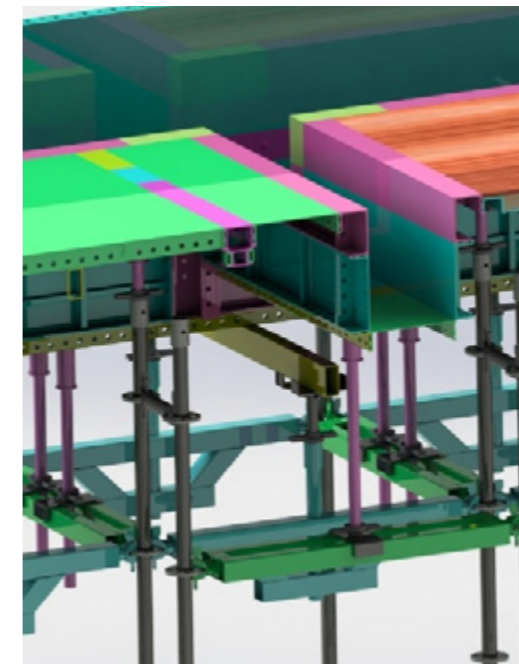
Early-removal Node Scheme for Slab Panel  
顶板早拆节点方案



Non-standard Transition Node Scheme for Beam Panel  
非标梁板过渡节点方案



Non-standard Transition Node Scheme for Wall Panel  
非标墙板过渡节点方案



Transition Node Scheme for Main and Secondary Beams  
主次梁过渡节点方案



Reinforcement Scheme for Slab Panel with Heavy Loads  
大荷载顶板加强方案

## 2-2-2 Advantages of GT48 Industrial Formwork System GT48 工业模板体系优势分析

### High Standardization 高标准

The GT48 industrial formwork system adopts a common support design for beam and panel, perfectly integrating the high formwork system with early-removal aluminium formwork so that release support spacing. This system solves the difficulties that traditional early-removal aluminium formwork systems are not suitable for buildings with floor heights of  $\geq 6$  meters but instead can be used for various floor height buildings.

该体系采用支撑梁板共支支撑设计,将高支模体系与早拆铝合金模板体系进行完美融合,释放了支撑间距,该套体系解决了传统铝模早拆体系无法适用于层高 $\geq 6$ m 建筑的难题,可适用于各种层高的建筑。



High Support Height  
支撑高度高



Reusable & Quick Turnover  
可重复使用,可快速周转



Excellent Forming Quality  
成型质量优



Environmentally Friendly  
绿色环保

### Easy Management 易管理

Adoption of formwork panel management through colour, which facilitates on-site panel management and enhances work efficiency.

采用通过颜色管理模板,将部分不容易分辨的模板分别用不同颜色表面处理,方便现场模板管理,解决现场找板难、工作效率低的问题。



### Low Cost 低成本

The more regular the cast-in-place frame structure constructed using aluminium formwork is, the lower the cost will be, saving expenses on materials, garbage removal, labor, and later repairs and polishing.

In the same construction project, firstly, the material usage coefficient of aluminium formwork is low, meaning that only 15m<sup>2</sup> of aluminium formwork is required for every 100m<sup>2</sup> of concrete contact area, which saves material compared to timber formwork(70%). Secondly, in terms of labor costs, the use of aluminium formwork is expected to save 10 yuan per square meter compared to timber formwork.

采用铝模施工的现浇框架结构越规整,成本越低,节约材料费、垃圾清理、人工费、后期的修补打磨等费用。在同一个建筑项目上,首先,铝模的用料系数较低,即每 100 m<sup>2</sup>混凝土接触面积仅需要 15 m<sup>2</sup>的铝模板,相比木模 (70%) 更节省材料。其次,在人工成本方面,铝模的使用预计比木模节省 10 元 / m<sup>2</sup>。



### Early Removal 可早拆

Our high aluminium formwork system with early removal technique enables the removal of the formwork shortly after the concrete has finally set, while the supports are removed later when the concrete reaches its full strength. This early removal method facilitates the swift turnover of the aluminium formwork and enhancing construction efficiency.

我们采用的高支模铝模早拆技术允许在混凝土终凝后即提前拆除模板,而支撑则在混凝土达到所需强度后拆除。这种早拆方法实现了铝模的快速周转,提高了施工效率。

## Comparison Analysis of Traditional Formwork System and GT48 Industrial Formwork System

### 传统模板体系和 GT48工业模板体系对比分析

TRADITIONAL FORMWORK SYSTEM VS GT48 INDUSTRIAL FORMWORK SYSTEM			
Comparison Category	Traditional Formwork System	GT48 Industrial Formwork System	Notes
Implicit Cost	Cleaning Fee, Utilities	Release Agent	
Turnover Times	3 times	120 times	
Installation Efficiency	25-30 m <sup>2</sup> /day	40-50 m <sup>2</sup> /day	Including reinforcement
Assembly Accuracy	<ul style="list-style-type: none"> <li>Dependent on workers' skill level</li> <li>Assembly quality varies</li> </ul>	<ul style="list-style-type: none"> <li>Low requirements for workers</li> <li>There are clear assembly tutorials and assembly acceptance specifications</li> </ul>	
Concrete Surface Quality	<ul style="list-style-type: none"> <li>Plywood absorbs water and deforms</li> <li>The corners are easily damaged during turnover use</li> <li>Influence on concrete forming effect</li> </ul>	<ul style="list-style-type: none"> <li>Factory-processed tooled formwork with high processing precision</li> <li>Neat formwork seams and good forming effects</li> </ul>	
Civilized Construction	<ul style="list-style-type: none"> <li>High randomness of material use</li> <li>Large amount of cutting formwork waste and wood chips</li> <li>Relatively chaotic construction environment with safety risks</li> </ul>	<ul style="list-style-type: none"> <li>Tool-type assembly reduces the on-site cutting rate by more than 95%</li> <li>Clean and tidy site with a good image</li> </ul>	
Service Model	<ul style="list-style-type: none"> <li>Project department purchases formwork or workers bring their own formwork, often use old panels</li> <li>Difficult to manage</li> </ul>	<ul style="list-style-type: none"> <li>Professional subcontracting</li> <li>Offer an integrated service mode of material supply, on-site construction, and on-site management</li> </ul>	
Cost-Effectiveness	<ul style="list-style-type: none"> <li>Large project capital investment</li> <li>Low turnover times</li> <li>Total cost is uncontrollable</li> </ul>	<ul style="list-style-type: none"> <li>No upfront investment required for the project</li> <li>Clear quotation</li> <li>Total cost is controllable</li> </ul>	

传统模板体系 VS GT48 工业模板体系			
对比名称	传统模板体系	GT48 工业模板体系	备注
隐形成本	清洁费、水电费	脱模剂	
周转次数	3次	120次	
安装效率	25-30 m <sup>2</sup> / 天	40-50 m <sup>2</sup> / 天	含加固
拼装精度	<ul style="list-style-type: none"> <li>依赖工人水平</li> <li>拼装质量参差不齐</li> </ul>	<ul style="list-style-type: none"> <li>对工人要求低</li> <li>有明确的拼装教程和拼装验收规范</li> </ul>	
混凝土表面质量	<ul style="list-style-type: none"> <li>胶合板吸水变形</li> <li>周转使用边角易损坏</li> <li>影响混凝土成型效果</li> </ul>	<ul style="list-style-type: none"> <li>工厂加工工具化模板,加工精度高,模板拼缝整齐,成型效果好</li> </ul>	
文明施工	<ul style="list-style-type: none"> <li>材料使用随机性高</li> <li>大量裁剪模板废料和木屑</li> <li>施工环境混乱,安全隐患大</li> </ul>	<ul style="list-style-type: none"> <li>工具式拼装,现场裁剪率减少 95% 以上</li> <li>现场干净整洁,形象好</li> </ul>	
服务模式	<ul style="list-style-type: none"> <li>项目部采购模板或劳务自带模板</li> <li>自带模板常用旧板</li> <li>管理难度大</li> </ul>	<ul style="list-style-type: none"> <li>专业分包</li> <li>物资供应、现场施工、现场管理一体化服务模式</li> </ul>	
经济性	<ul style="list-style-type: none"> <li>项目资金投入量大</li> <li>周转次数少</li> <li>总成本不可控</li> </ul>	<ul style="list-style-type: none"> <li>项目无需前期投入</li> <li>报价明确</li> <li>总成本可控</li> </ul>	



## 2-3 RINGLOCK SCAFFOLDING+ALUMINIUM BEAM+ PLYWOOD FORMWORK 盘扣脚手架 + 铝梁 + 木胶合板施工工艺

### Support System Components 支撑体系构件

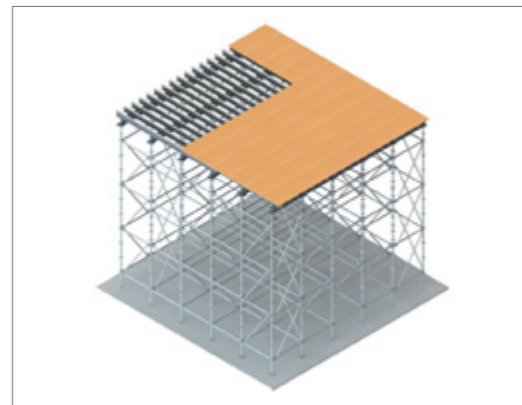
48 Ringlock Scaffolding Including Base Jack, Adjustment Nut, Standard Base Collar, Standard, Ledger, Diagonal Brace, and Head Jack.  
 由 48 盘扣脚手架组成包括可调底座、标准基座、标准立杆、水平横杆、竖向斜杆、可调托座。

### Formwork System Components 模板体系构件

It Is Composed Of Aluminium Main Beam, Aluminium Secondary Beam, Main and Secondary Beam Connectors, and T14\*1830\*915 Plywood Formwork.  
 由铝合金主梁、铝合金次梁、主次梁连接件、t14\*1830\*915 木胶合板组成。

### Application 适用范围

Suitable for cast-in-place factory structures without beams and with large beam spans.  
 模板体系适用于无梁板、梁跨度较大的现浇厂房结构。



Construction Method of Ringlock Scaffolding, Aluminium Beam, and Plywood Formwork  
 盘扣脚手架 + 铝梁 + 木胶合板施工工艺

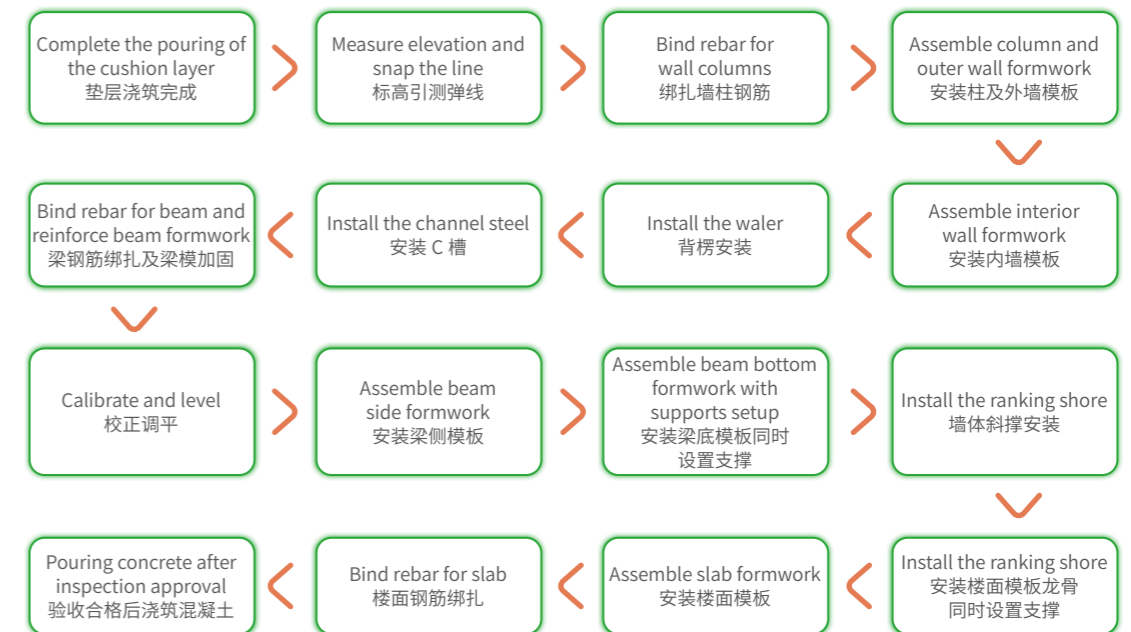
### Advantages 优势

- Flexible construction and high efficiency
- Low material costs for formworks
- Suitable for complex structures and structures with high floor heights
- 施工灵活效率高
- 模板材料成本低
- 适用于复杂结构和层高较高结构

## 3. CONSTRUCTION PROCESS 施工工艺流程

### 3-1 INDEPENDENT SUPPORT + ALUMINIUM FORMWORK SYSTEM 独立支撑 + 铝模体系

#### Assembly Process of Formwork System 模板体系拼装流程

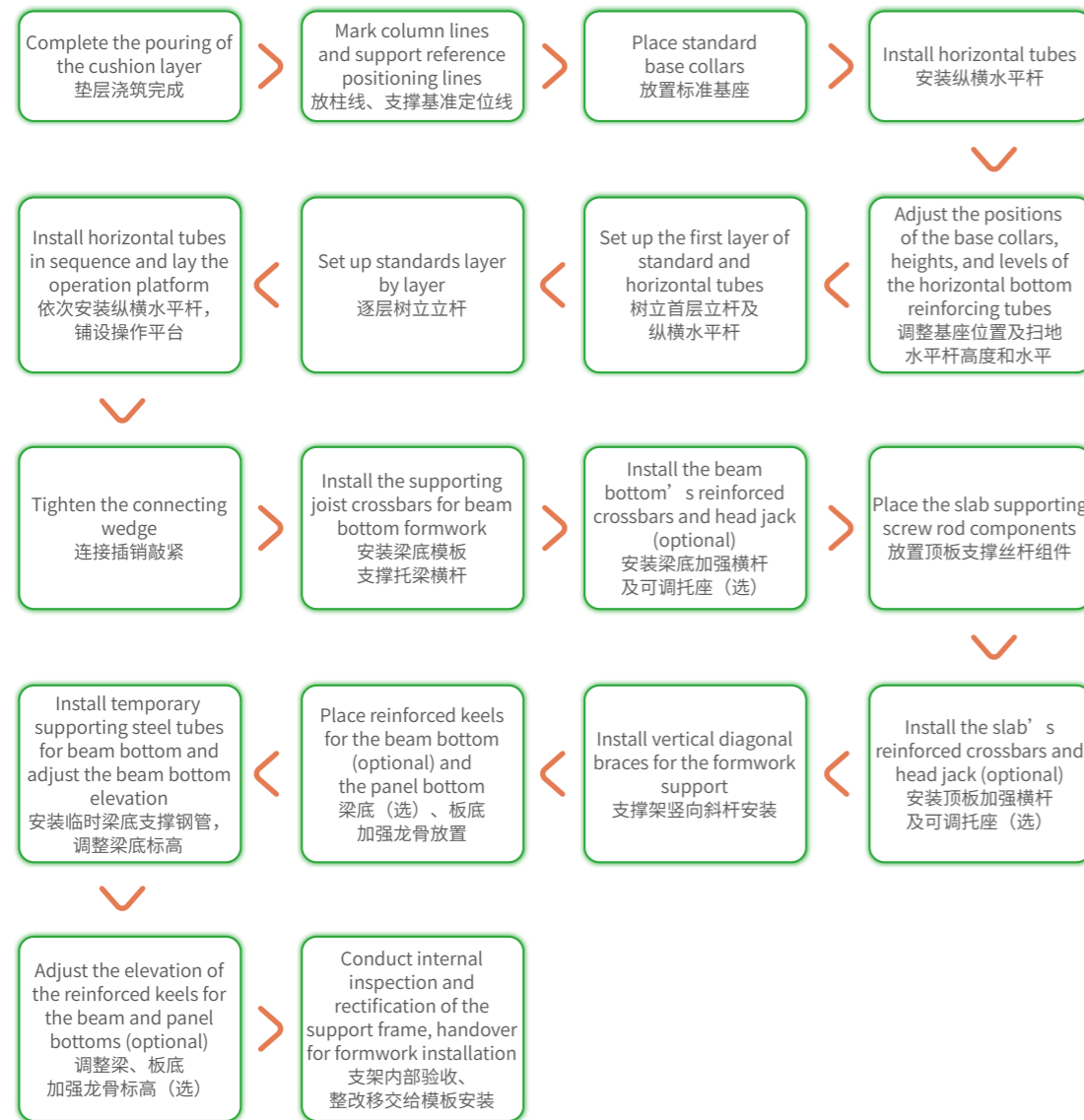


#### Early-removal Process of Formwork System 模板体系早拆流程



### 3-2 GT48 INDUSTRIAL FORMWORK SYSTEM GT48 工业模板体系

#### Erection Process of Support System 支撑系统搭设流程



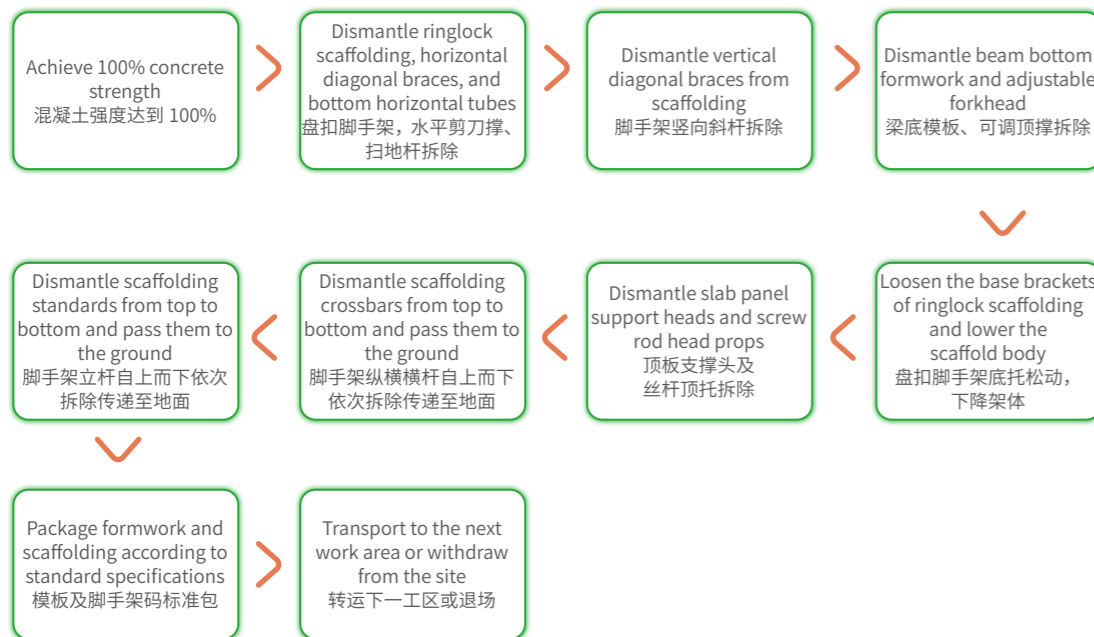
#### Assembly Process of Formwork System 模板系统拼装流程



### Early-removal Process of Aluminium Formwork System 铝模板早拆流程



### Dismantling Process of Support and Formwork 支架模板拆除流程



### 3-3 RINGLOCK SCAFFOLDING+ALUMINIUM BEAM+ PLYWOOD FORMWORK 盘扣脚手架 + 铝梁 + 木胶合板解决方案

#### Erection and Assembly Process 搭设拼装流程



#### Dismantling Process 拆除流程



## 4. OTHER STRUCTURAL SOLUTIONS 其他结构解决方案

### FOUNDATION BEAM SOLUTIONS

#### 基础地梁解决方案

#### Foundation Beam Formwork Components

##### 地梁模板构件

Standard Formwork, Extension Formworks, Internal Corner Formworks, Non-Standard Corner Formworks, End Telescopic External Barriers, End Telescopic Internal Barriers, High-Low Beam Formworks, Pin Connection Components.

标准模板、接长模板、内转角模板、非标转角模板、端头伸缩外挡板、端头伸缩内挡板、高低梁模板、销轴连接件

#### Advantages

##### 优势

- Tooling assembly without the need for cutting, flexible and efficient construction.
- Factory-processed formwork ensures high precision and quality.
- Materials can be reused, resulting in low comprehensive costs.
- 工具式拼装，无需裁剪，施工灵活效率高
- 模板工厂加工，拼装精度高，成型质量好
- 材料可重复利用，综合成本低



Foundation Beam Aluminium Formwork Solutions  
基础地梁铝模解决方案

## PROJECT CASES 项目案例

ShenFuBao Ecology and Technology Park, Shenzhen:  
深福保生态科技园

10.5m in storey height, the project adopts GT-48 industrial formwork system.  
10.5m 层高，采用 GT-48 工业模板体





Shenzhen Digital Manufacturing Center  
深圳数字智造中心



ChaoSheng Building  
潮盛大厦



Ming Lake Smart Valley Industrial Park  
明湖智谷产业园



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**Southern China Production Base I :**

Cuishan Lake Science and Technology Park, Kaiping, Jiangmen City ,Guangdong Province

**Southern China Production Base II :**

Huizhou Industrial Transfer Industrial Park, Huizhou City, Guangdong Province

**Eastern China Production Base I :**

Guangchang Industrial Park, Fuzhou City, Jiangxi Province

**Central China Production Base:**

Hi-tech Industry Development Zone, Xianning City, Hubei Province

**Northern China Production Base:**

China Aluminium Industrial Park, Linqu, Weifang City, Shandong Province

**Southwest China Production Base:**

Modern Manufacturing Industrial Park, Tongnan High-Tech District, Chongqing City

**Northwest China Production Base:**

The Circular Economy Park, Anding District, Dingxi City, Gansu Province

**Hainan Production Base:**

Gold Medal Port Industrial Park, Lingao County, Hainan Province

**ASEAN Production Base:**

Negeri Sembilan, Malaysia

**Singapore Production Base :**

West Region, Singapore

**Saudi Arabia Production Base:**

Riyadh, Saudi Arabia

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