

# **Photovoltaic bracket mortise and tenon structure**





## Overview

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What is a fixed adjustable photovoltaic support structure?

In order to respond to the national goal of “carbon neutralization” and make more rational and effective use of photovoltaic resources, combined with the actual photovoltaic substation project, a fixed adjustable photovoltaic support structure design is designed.

What is a “mortise-tenon” structure after spin-coating hole-transport layer?

Herein, we develop a thermally form monolithic perovskite grain and a unique “Mortise-Tenon ” structure after spin-coating hole-transport layer. Importantly, the suppressed non-radiative recombination and balanced interface charge extraction benefit from high-

Do disorder crystallization and unbalanced charge extraction limit the performance of perovskite solar cells?

Disorder crystallization of perovskite and unbalanced charge extraction limit the performance of perovskite solar cells. Here, the authors develop self-polymerizing additive to form monolithic perovskite grains with mortise-tenon structure, achieving efficiency over 24% and long device stability.

Can a thermally polymerized additive form a monolithic perovskite film?

Herein, we develop a thermally polymerized additive as the polymer template in the perovskite film, which can form monolithic perovskite grain and a unique “Mortise-Tenon” structure after spin-coating hole-transport layer.

How did a perovskite/NVP film form?

For the perovskite/NVP film (Fig. 2d), the PVP and the miscellaneous phases on the perovskite and in the boundaries were effectively washed away after CB extraction, leaving distinct boundary gaps between perovskite grains, and eventually forming monolithic perovskite grains.



What is mortise-tenon (m-t) structure for perovskite/HTL composite LM?

Furthermore, this process results in the formation of a novel Mortise-Tenon (M-T) structure for “ ” perovskite/HTL composite lm (Fig. 1a, b), which provides an obviously larger contact area between perovskite and HTL, thereby facilitating hole extraction to achieve balanced charge management.



## Photovoltaic bracket mortise and tenon structure

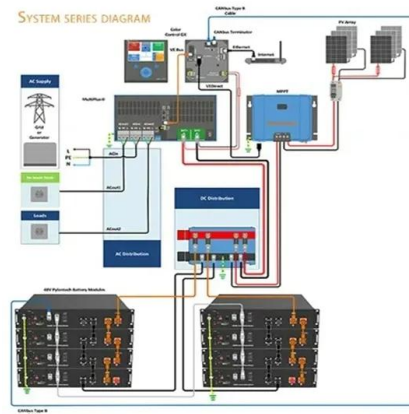


### Theoretical estimation of the mechanical performance of ...

The mortise-tenon joint, which connects columns and beams of a wooden building, often creates a gap in contact part of members. This gap is considered to affect ...

### Mortise and Tenon Joints

A mortise and tenon joint is the method of joining timber by working a solid rectangular projection in the one piece and cutting a corresponding cavity to receive it in the adjoining piece. The ...



### Traditional Wooden Buildings in China , IntechOpen

Taking Dou-gong brackets and mortise and tenon joints of Chinese traditional timber structure as objects, the ongoing research project of our team includes structure ...

### Monolithically-grained perovskite solar cell with Mortise-Tenon

emerging photovoltaic technology<sup>1-3</sup> due to the expressive power conversion efficiency (PCE) up to 26%<sup>4</sup>. Although the PCE values are b Diagram of Mortise-Tenon structure. c Enlarged ...



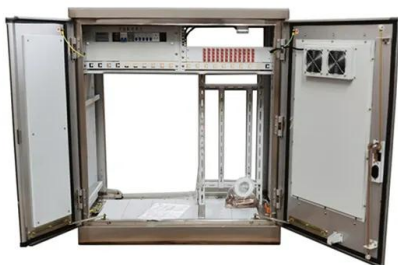
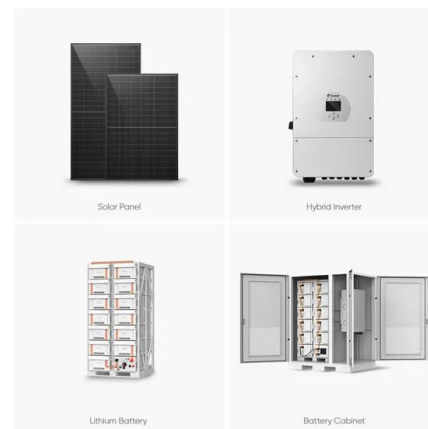
### Creating a flexible continuum robot using origami and mortise-tenon ...

But the mortise-tenon structure can be flexibly arranged according to the needs to realize the connection of components, which adds more flexibility to the OBMs. However, ...



### Verification of the shear performance of mortise and tenon ...

Shear experiments on mortise and tenon joints with top and bottom notches in the beam end were conducted with the length of the tenon as a variable. In addition, material ...



### Research on damage and identification of mortise tenon joints ...

mortise-tenon joint has a good resistance to horizontal thrust, and can effectively reduce the seismic response of the structure (Xue et al. 2004). Historically, it is known that mortise-tenon



### Mechanical properties of typical mortise-tenon joints of post and

PDF , Four kinds of the typical mortise-tenon joints, the Mantou mortise-tenon joint, the Tou mortise-tenon joint, the Ban mortise-tenon joint and the , Find, read and cite all ...



### Innovative design of modern mortise and tenon structure ...

The Difference between Modern and Traditional Mortise and Tenon Structure. The so-called modern mortise and tenon structure does not completely deviate from the traditional mortise ...

### Monolithically-grained perovskite solar cell with Mortise-Tenon

emerging photovoltaic technology 1 3 due to the expressive power conversion efficiency (PCE) up to 26% 4. Although the PCE values are b Diagram of Mortise-Tenon structure. c Enlarged ...



### Mortise and tenon

Egyptian stool with through tenons, c. 1991-1450 BC The mortise and tenon joint is an ancient joint. One of the earliest mortise-tenon structure examples dates back 7,000 years to the Hemudu culture in China's Zhejiang Province. [3] ...



### Research on the Inheritance and Innovation of Mortise and Tenon

The tenon-mortise structure is criss-crossed, and curves and straight lines are combined. The wood is arranged and combined in different ways to form a harmonious and unified structural ...



### Innovative Design Exploration based on Traditional Mortise and Tenon

Innovative Design Exploration based on Traditional Mortise and Tenon Structure . Yanbin Song. Liaoning Communication University, Shenyang 110113, China . 13709880633@163 .

...

### Fully Floatable Mortise-and-Tenon Architecture for Synergistically

The mixture was cross-linked for up to 2 h using a cross-linking agent: glutaraldehyde: hydrochloric acid in a ratio of 10:1:0.1. To fabricate a "protruding mortise" ...



### The Timeless Art of Mortise and Tenon Joints: How ...

Mortise and tenon joints are a classic woodworking technique that has been used for centuries. This technique involves joining two pieces of wood together by creating a mortise (a hole or slot) in one piece and a tenon ...



### Structural Behaviour of Mortise and Tenon Joints

A scientist, Brungraber classified the moment behaviour of mortise and tenon in two distinctive ways (Fig. 3.1) rst, the wood dowels are taking the entire load when it is ...

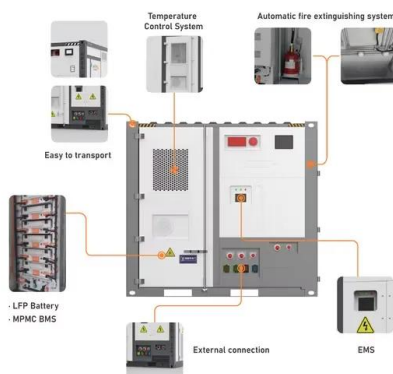
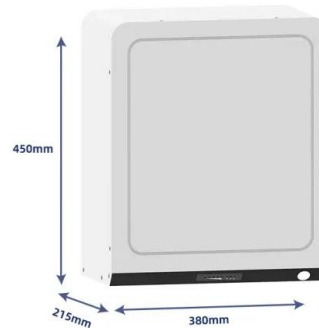


### Construction Forms and Seismic Performance of the Ancient ...

Zijincheng, also known as the Forbidden City, is the largest and best-preserved ancient palace-type wooden building in China, built without using a single nail.

### Innovative design model for the mortise and tenon structure

Mortise and tenon structure cultural and creative products are those centered on the traditional mortise and tenon joinery. These products incorporate the cultural elements and creative ...



### A new mortise and tenon timber structure and its automatic ...

Fig. 11 shows the design process of the new mortise and tenon beam-column joint. The most complex beam-column joint in timber structure is the joint with four beams and ...



## Experimental Study on Tenon and Mortise Joints of ...

To improve the seismic performance of Chinese traditional wood-structure houses, this paper proposes to strengthen their mortise and tenon joints by applying an innovative metal damper. According to the dimensions of ...



## (PDF) Turbine blade arc tenon/mortise structure and

An arc tenon/mortise assembly is designed and optimized based on the free-form deformation (FFD) technique. Traditional tenon connection structure with planar-to-planar ...

## Mortise and Tenon Structure

The mortise and tenon structure is an important invention of ancient Chinese craftsmen, and an excellent symbol of traditional Chinese craftsmanship. Traditional buildings such as the ...



## The Application Research of Mortise and tenon structure in ...

This paper takes the form of Mortise and tenon structure as the entry point, analyzes the structural characteristics, style and use advantages, studies the application of ...



### **Behavior of traditional Chinese mortise-tenon joints: ...**

Mortise-tenon joints in traditional Chinese architecture are of major importance. Studying their performance under horizontal loads loads is paramount for China, where there ...



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