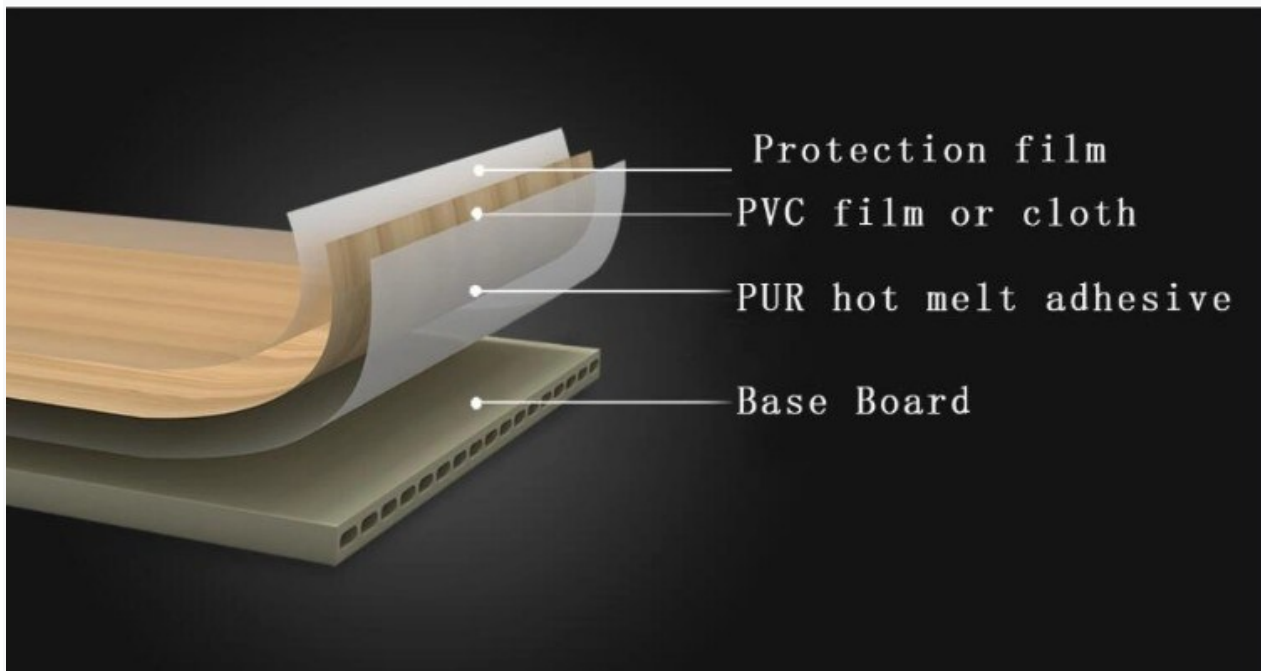


## WPC FILM PANEL

Interior WPC (Wood-Plastic Composite) Composition Analysis: WPC FILM PANEL is a new type of environmentally friendly material that perfectly combines wood and plastic, and is widely used in interior wall panels, and other decorative applications. The following is a detailed analysis of the composition:



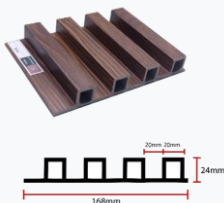
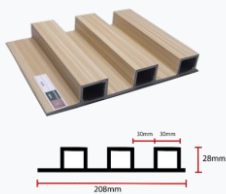
### 一、 Basic Components

The indoor WPC mainly consists of the following three parts:

1. Wood fiber materials: typically accounting for 30%-40%, including: wood flour (mainly poplar wood flour, particle size 80-200 mesh), bamboo flour, crop straw (such as rice husks, sugarcane bagasse), and other plant fibers.

2. Plastic matrix: accounting for 60%-70%, mainly including: Polyethylene (PE): derived from recycled plastic bags and agricultural films; Polypropylene (PP): used to enhance structural strength; Polyvinyl chloride (PVC): with excellent weather resistance, commonly used in outdoor applications; Other thermoplastics.

3. Functional additives: accounting for 3%-5%, including: interface modifiers (such as maleic anhydride grafted polymers), heat stabilizers (such as calcium-zinc composite stabilizers), UV-resistant components (such as nano-titanium dioxide), flame retardants (such as aluminum hydroxide), lubricants, and colorants.



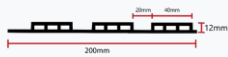
#### Products Ingredients & Processing (From 1st - 4th)

1st. Base Board

2nd. PUR hot melt adhesive

3rd. PVC film or cloth

4th. Protection film



## Products Ingredients & Processing

(From 1st - 4th)

1st. Base Board

2nd. PUR hot melt adhesive

3rd. PVC film or cloth

4th. Protection film

## 二、Typical ratio

The component ratios of WPC products vary depending on their intended use. The following are typical formulation ranges:

Ingredient type	Content range	illustrate
wood fiber	30%-40%	Particle size is controlled between 80-200 mesh to optimize interfacial bonding.
Plastic matrix	60%-70%	Mainly made of PE, PP or PVC
Functional additives	3%-5%	Including coupling agents, stabilizers, etc.

Specific examples: A patented formula: 36% plant fiber, 58% plastic, 0.5-1.5% plasticizer, 2% compatibilizer, 2-3% lubricant, 0.5-1.5% colorant. Common formulas: 30-40% wood fiber, 60-70% polymer matrix, 3-5% functional additives.

### 三、 Functions of Main Additives

1. Coupling agents: Improve wood-plastic interfacial compatibility and increase tensile strength by 15%-30%. Commonly used: maleic anhydride-grafted polymers (such as MAPE).
2. Heat stabilizers: Used for PVC-based materials to inhibit thermal degradation during processing. Commonly used: calcium-zinc composite stabilizers.
3. Foaming regulator: Controls the microporous structure, reducing density to 0.8-1.2 g/cm<sup>3</sup> while maintaining compressive strength. Commonly used: a combination of AC foaming agent and zinc oxide.



Low labor cost



Natural color



Low maintenance



No Formaldehyde



Wear resistant



Easy installation



Waterproof



Flame retardant

#### 四、Differences between different factories

Although WPC from different factories has a similar basic composition, there may be differences in specific components and proportions:

##### 1. Differences in base plastic:

High-end products: Use engineering plastics (PP/PVC) to enhance structural strength. Economy products: Primarily use recycled PE

##### 2. Source of Wood Fiber:

Premium Products: Use selected wood flour and bamboo flour

Ordinary Products: May use agricultural waste such as straw

##### 3. Additive system:



Indoor use only: Prioritizes environmental friendliness and surface texture.

Environmental performance

## 五、 Production process parameters

The manufacturing process of WPC also affects the performance of the final product:

1. Extrusion temperature: 160-190°C
2. Pressure: 15-25MPa
3. Moisture content control: <1.5%
4. Process flow: Raw material pretreatment → High-speed mixing → High-temperature extrusion → Die forming → Surface treatment

## 六、 Environmental Protection Characteristics

WPC, as an environmentally friendly material, has the following characteristics:

1. Made from recycled materials (waste plastics and agricultural/forestry waste), 100% recyclable.
2. Contains no formaldehyde or other harmful substances.
3. Low energy consumption during production. Indoor WPC is a complex but high-performance composite material.

## Installation Instruction

### Preparing Installation Tools

Safety goggles、Nail gun、Steel nail and so on



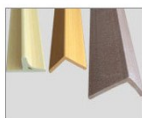
### Accessories

Required



Wood square or keel is installed ceiling or wall panels before the bottom, it is necessary to form a complete set of products.

Optional



Edge sealing strip is divided into Yin Angle line and Yang Angle line, which plays a beautiful role. It can be purchased according to the actual situation.

### 1 Used for wall



### 2 Used for ceiling

