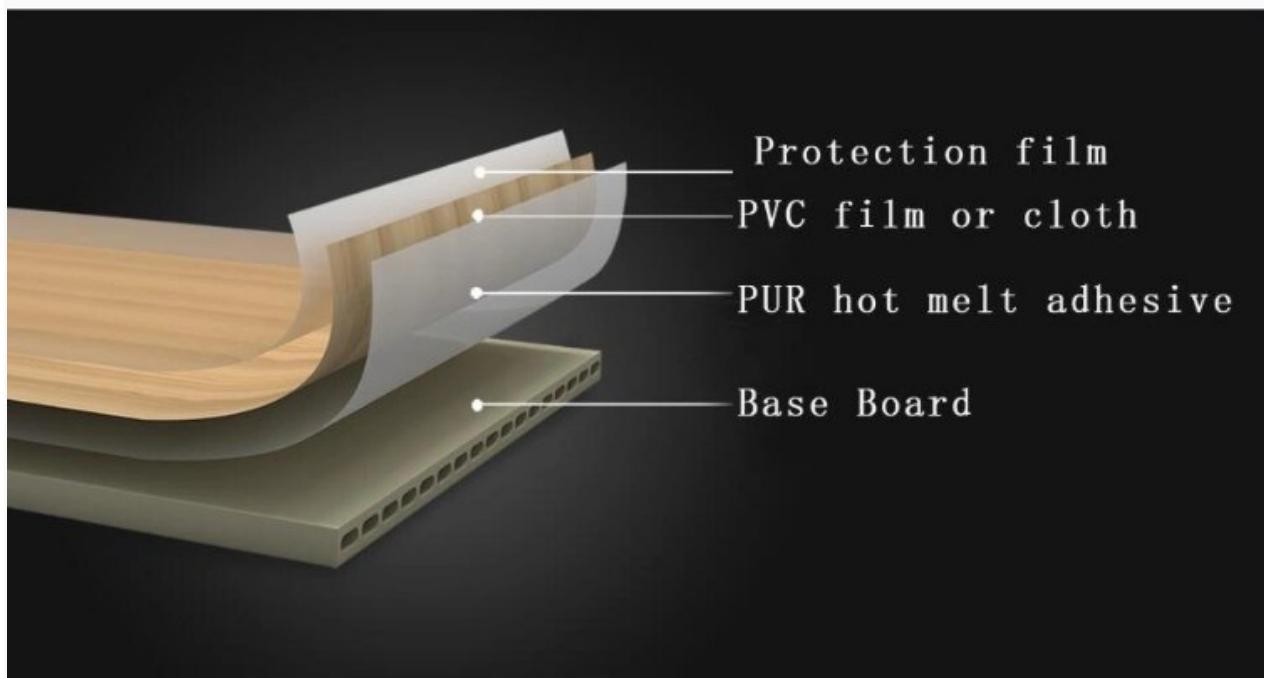


WPC FILM PANEL

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:



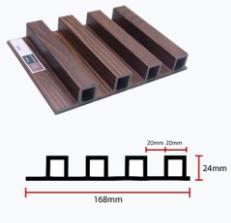
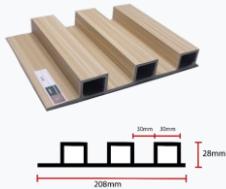
一、 Basic Components

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



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(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/cm³ 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



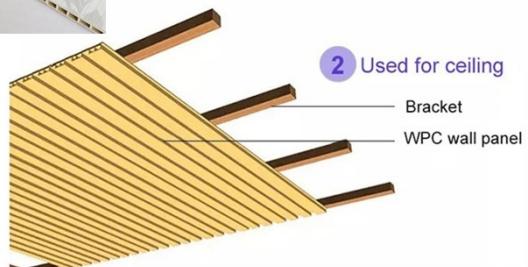
Edge sealing strip is divided into Yin Angle line and Yang Angle line, which plays a beautiful role. It can be purchased according to the actual situation.

1 Used for wall



Interior wall
Bracket (timber, metal tube)
WPC wall panel

2 Used for ceiling



Bracket
WPC wall panel