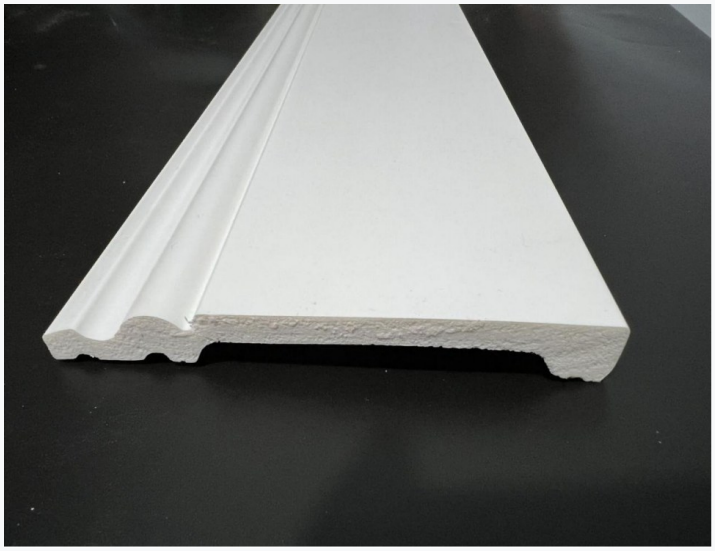
PS MOLDING

PS Molding composition analysis



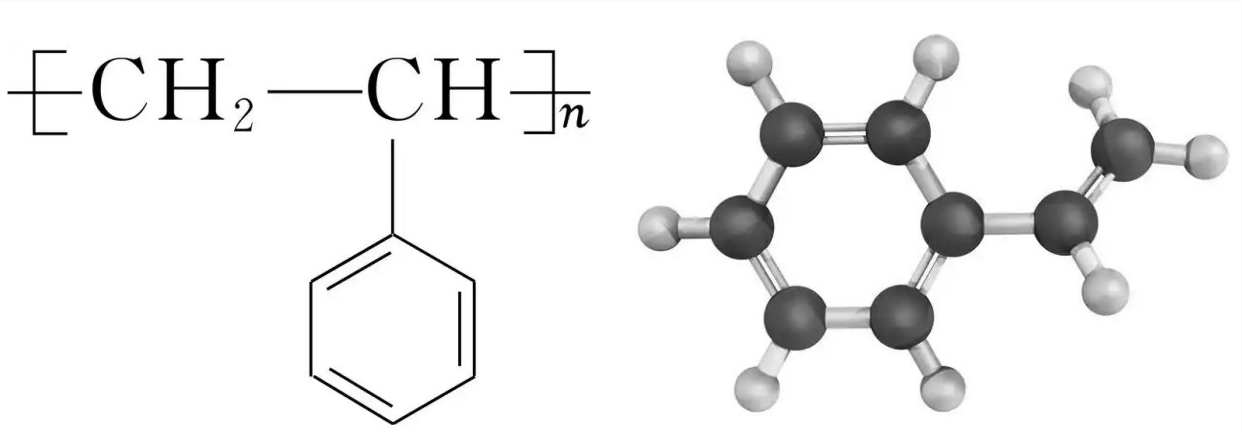
PS (polystyrene) Molding are a common building decoration material. The main components and additives are analyzed as follows: Main chemical components The main base material of PS Molding is polystyrene (chemical formula (C8H8)n), which is a thermoplastic.

Polystyrene is synthesized from styrene monomers via free radical addition polymerization and has the following properties:

1.Colorless and transparent (light transmittance second only to acrylic glass).

2.Excellent electrical insulation properties (especially good high-frequency insulation).

3.It has stable chemical properties and low water absorption and coefficient of thermal expansion.



Common additives

PS Molding typically contain a variety of functional additives to improve performance:

1.Foaming agents, such as pentane, are used in the production of expandable polystyrene (EPS) wall panels.

2.Flame retardants: improve the fire resistance of wall panels

3.Antistatic agents: such as methyl methacrylate (SH-105)

4.Weighting agent: Used to increase the bulk density of foam board.

5.Other functional additives: including plasticizers, stabilizers, etc.

Performance indicators

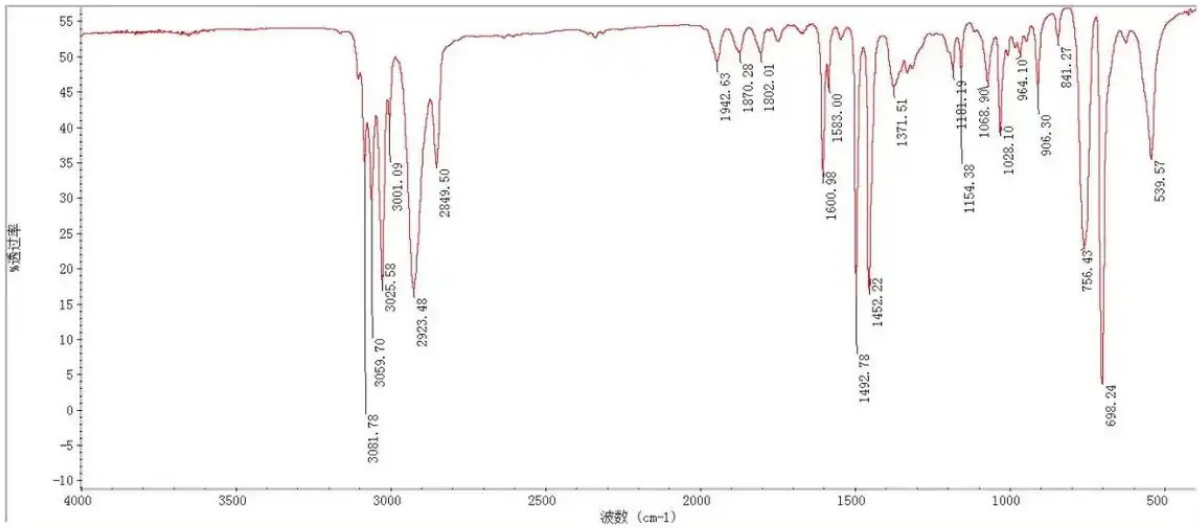
Water absorption rate: should be less than 2%.

Water vapor transmission rate: 1.2

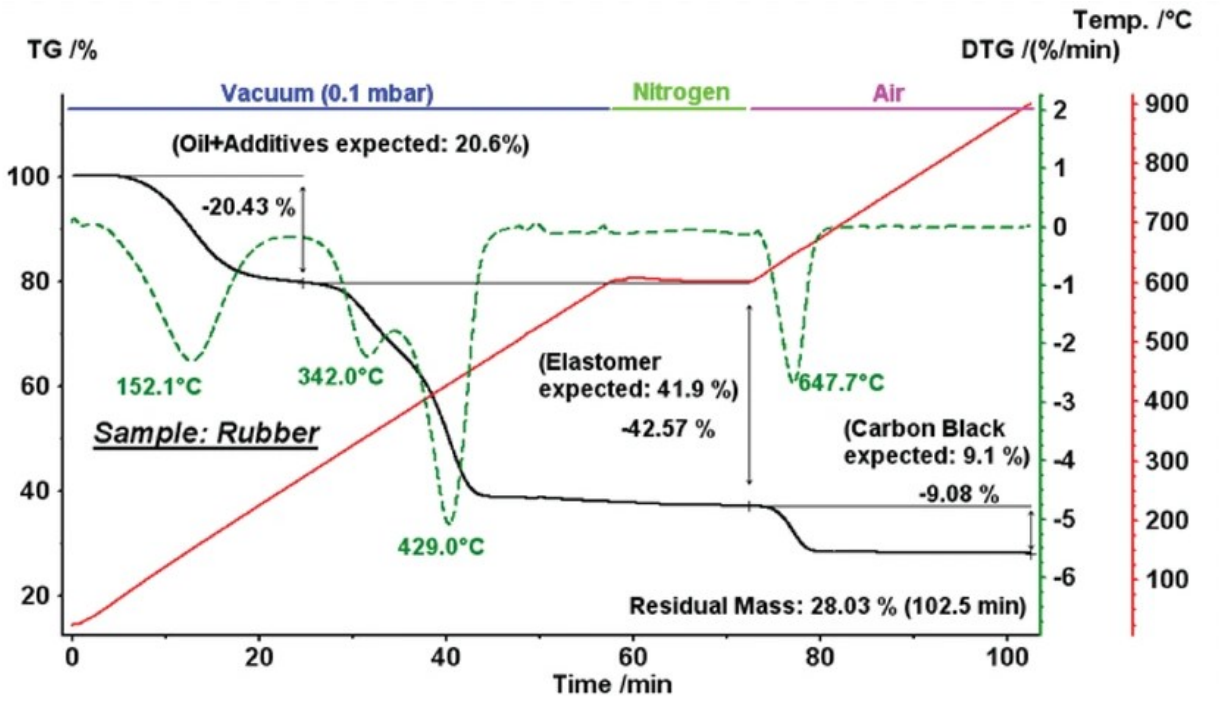
PS Molding have advantages such as light weight, heat insulation, fire resistance, sound insulation, convenient transportation, and low cost, and are widely used in the field of building decoration.

Analytical methods

Infrared spectroscopy analysis: Determining the molecular structure of materials through infrared spectra.



Thermogravimetric analysis (TGA): Determines the thermal stability and component decomposition temperature of materials


Temp. /°C
TG /%
DTG /(%/min)
Vacuum (0.1 mbar)
Nitrogen
Air
(Oil+Additives expected: 20.6%)
-20.43 %
152.1°C
342.0°C
429.0°C
(Elastomer
expected: 41.9 %)
-42.57 %
647.7°C
(Carbon Black
expected: 9.1 %)
-9.08 %
Sample: Rubber
Residual Mass: 28.03 % (102.5 min)
Time /min

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PS Molding Installation Guide

1. Wall Preparation

Concrete

Gypsum board

Plywood

✓ Clean, dry, flat wall surface

✓ Concrete / Gypsum board

✓ Plywood

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PS Molding Installation Guide

2. Apply Adhesive

– Construction adhesive / MS glue

– Apply zigzag or dot pattern on back of molding

– Add extra glue to edges

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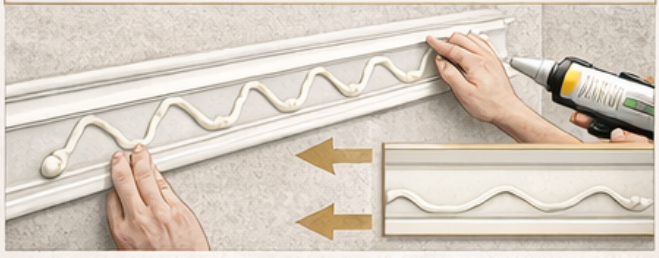
3. Fix Molding to Wall



– Press firmly to wall

– Use spirit level to make straight line

– Temporary tape or nail gun (optional)

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4. Corner & Joint Installation

– 45° cutting for corners

– Joint gap ≤ 1mm

– Use matching silicone or filler