

## Automotive Plastic Panel Solutions

Lightweight Thermoplastic Materials for Interior,  
Structural and Exterior Applications



### **POLYREFLEX HI-TECH CO., LTD.**

Office Address: Phase 3 Cuidiwan, No.2 Junmin Rd, Zhanjiang,  
Guangdong, China P.C: 524044

Tel: +86 759 3320922

Mobile: +86 13828266785

Email: [sale@polyreflex.com](mailto:sale@polyreflex.com)

Website: [www.polyreflex.com](http://www.polyreflex.com)

*Innovative Materials · Lightweight Design · Sustainable Mobility*

**POLYREFLEX HI-TECH CO., LTD.**

# POLYREFLEX

## COMPANY PROFILE

Polyreflex is a professional manufacturer specializing in automotive thermoplastic panels, with modern production bases and a fully integrated manufacturing system. Equipped with advanced extrusion lines, precision processing equipment, and an in-house testing laboratory, the company operates under the IATF 16949 quality management system to ensure consistent product quality from raw materials to finished products.

Polyreflex supplies a wide range of materials including PP honeycomb panels, PP bubble boards, PHC, GMT, ABS, TPO, PE and PP sheets. With further processing capabilities, these materials are widely used in automotive interior, exterior, and structural components such as trunk floors, seat back panels, interior panels, underbody shields, and mud flaps. With multiple production bases in China and Vietnam, Polyreflex provides reliable solutions to global automotive customers.

We look forward to building long-term partnerships with customers worldwide.

## BRAND INSPIRATION

- Strong collaboration with clients, suppliers, and partners drives continuous innovation in thermoplastic solutions.
- Lightweight and high-performance solutions enable next-generation auto applications.
- Polyreflex: Empowering mobility through engineered thermoplastics.



## SERVED BRANDS



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# INTERIOR PANEL

For Automotive Wall, Ceiling & Floor Applications

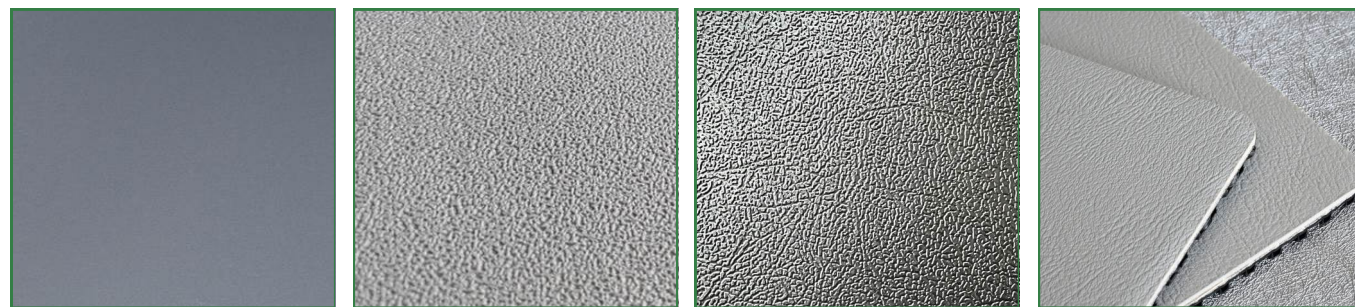
## Application Overview



- **Lightweight Structure**
- **Good Formability**
- **Sound Insulation**

Interior wall, ceiling, and floor panels are widely used across passenger vehicles, commercial vehicles, buses, RVs, and specialty vehicles to form interior structures, partitions, and surface coverings. These components require materials that combine lightweight performance, good rigidity, and ease of processing. Polyreflex PP bubble board and PP honeycomb panel offer an ideal solution with its stable structure and versatility. It can be laminated or textured for enhanced appearance while providing sound insulation and moisture resistance, making it suitable for diverse interior applications.

## Surface Options



Fine Matte

Orange Peel Texture

Leather Texture

Leather Laminated

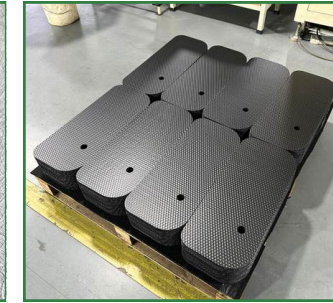
## Processing Methods



Die Cutting



Sewing and Hemming



Punching



Edge Sealing

## Typical Specifications

Material	Thickness	Weight	Surface
PP Bubble Board	3 - 6 mm	500 - 1500 g/sm	Textured / Laminated
PP Honeycomb Panel	3 - 10 mm	800 - 4000 g/sm	Textured / Laminated

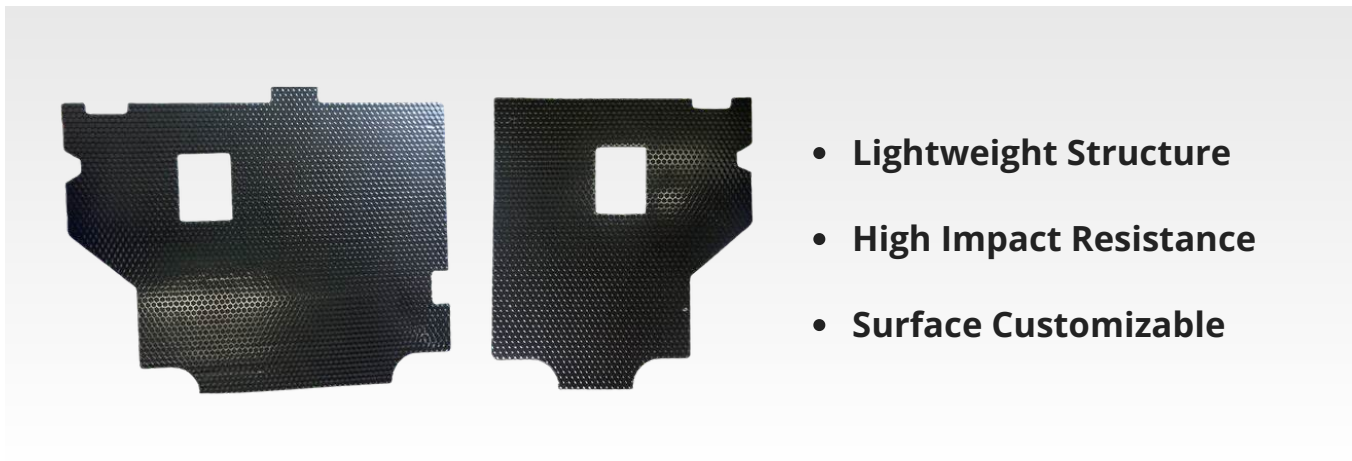
## In-Vehicle Applications



# SEAT BACK PANEL

*Lightweight & customizable panel for automotive seat back structures*

## Application Overview



The seat back panel is mounted on the rear side of automotive seats, providing structural support while enhancing interior appearance. It must combine lightweight performance with impact resistance and surface quality for visible areas. Polyreflex PP bubble board offers a balance of rigidity and low weight, and can be laminated with PU foam and then covered with fabric or leather to meet different design and comfort requirements, making it a reliable solution for modern automotive seat back systems.

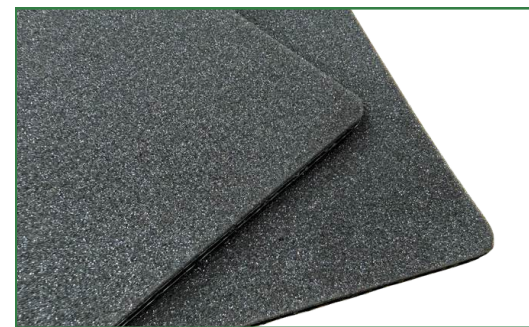
## Vehicle Applications



## Recommended Material Options



- **PP Bubble Board**
  - Lightweight and cost-effective solution for basic structural support



- **PU Foam Laminated PP Bubble Board**
  - Enhanced cushioning and comfort with improved surface feel



- **PP Honeycomb Panel**
  - High stiffness and load-bearing capacity for reinforced structures

## Extended Applications



Pet Stroller Support Board



Paragliding Back Support Panel

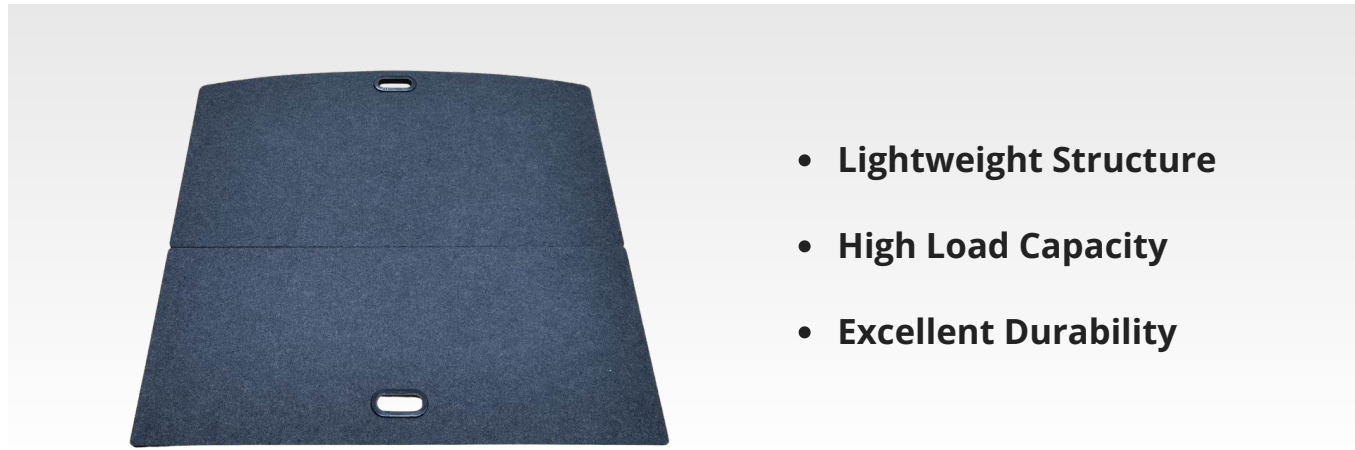


Delivery Box Support Panel

# TRUNK FLOOR PANEL

*Lightweight Structural Panel for Automotive Cargo Area*

## Application Overview



- **Lightweight Structure**
- **High Load Capacity**
- **Excellent Durability**

The trunk floor panel forms the base of the vehicle cargo area, supporting luggage while protecting the spare tire compartment and lower body structure. It requires a combination of stiffness, durability, and low weight for long-term use. Polyreflex offers PP bubble board and fiberglass reinforced paper honeycomb panel (PHC) to meet different performance and cost requirements, providing reliable solutions for modern automotive trunk floor systems.

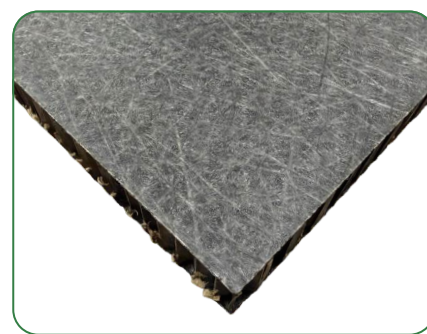
## Recommended Material Options



Fabric Laminated PP Bubble Board



Plain PP Bubble Board



PHC Trunk Panel

## Typical Specifications

Material	Thickness	Weight	Surface
PP Bubble Board	3 - 6 mm	800 - 2000 g/sm	Plain / Fabric laminated
PHC Trunk Panel	8 - 30 mm	1800 - 3500 g/sm	Fabric / leather laminated

## Vehicle Applications

- Nissan - Sylphy



- BYD - Han



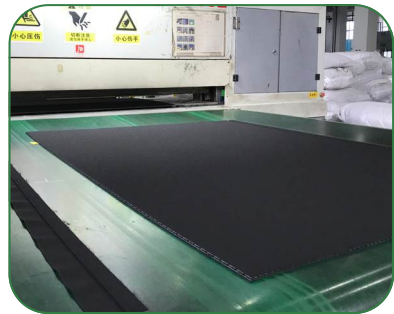
- Changan - CS15





## Manufacturing Procedure

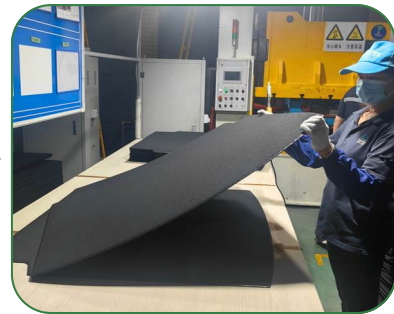
### • PP BUBBLE BOARD



Board Production



Heat Press Forming



Edge Trimming

### • PHC TRUNK PANEL



PHC Preparation



Adhesive Spraying



Heat Press Forming



Surface Material (Fabric or Leather) Preparation

OR



Lamination/Wrapping

### Post-Processing & Final Assembly



Strap Installation

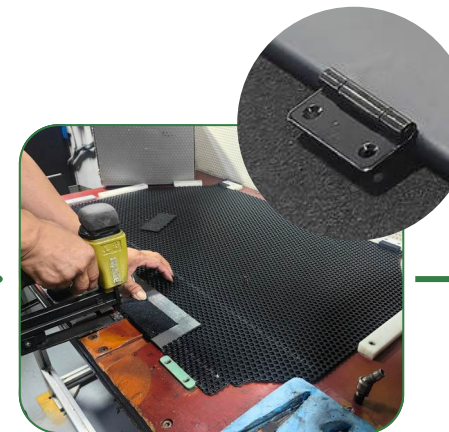
OR



Handle Installation



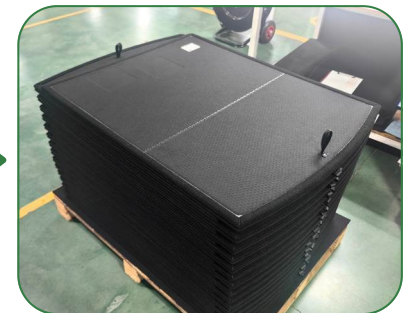
EVA Foam Lamination



Velcro/Hinge Fastening



Labeling

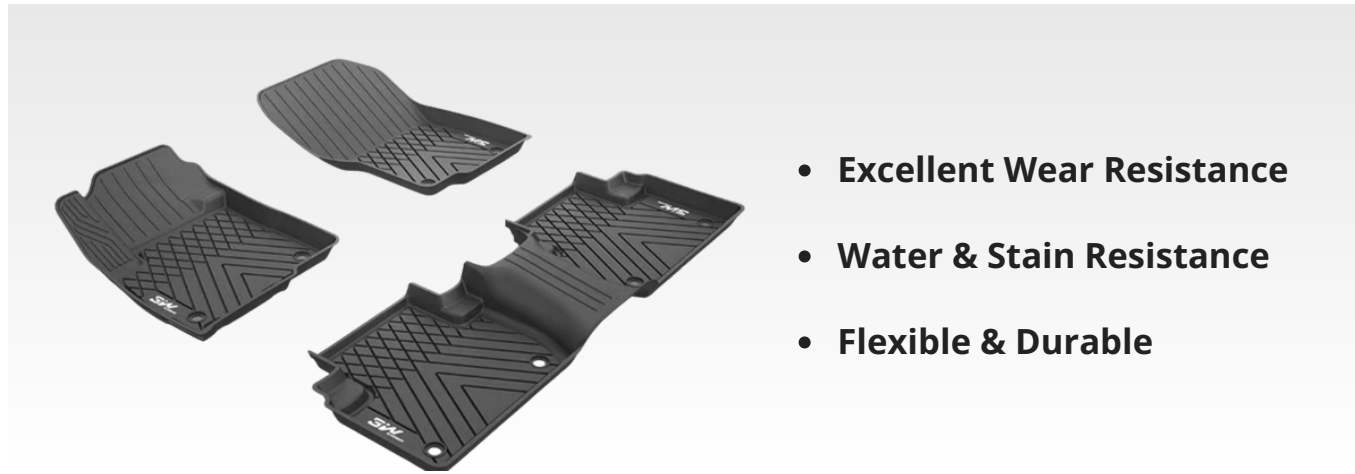


Finished Product

# CAR MAT & TRUNK MAT BOARD

Durable, Waterproof & Perfect-Fit Solutions for Automotive Floors and Trunks

## Application Overview



Car mat and trunk mat boards are used as base or surface layers in vehicle floor protection systems. They must provide excellent wear resistance, water resistance, and easy cleaning while maintaining flexibility and durability. Polyreflex TPO/TPE sheet offers a reliable solution with strong surface performance and consistent quality. With various surface textures available, it meets both functional and aesthetic requirements in automotive interior uses.

## Texture Options



## Manufacturing Procedure



TPO Sheet Production

Vacuum Forming

CNC Cutting

## Typical Specifications

Material	Thickness	Surface	Color
TPO/TPE Sheet	1 - 4 mm	Smooth / Textured	Black/Grey/Brown/Customized

## In-Vehicle Applications



# EXTERIOR BODY PANEL

*Durable Exterior Solutions with High-Quality Surface Finish*

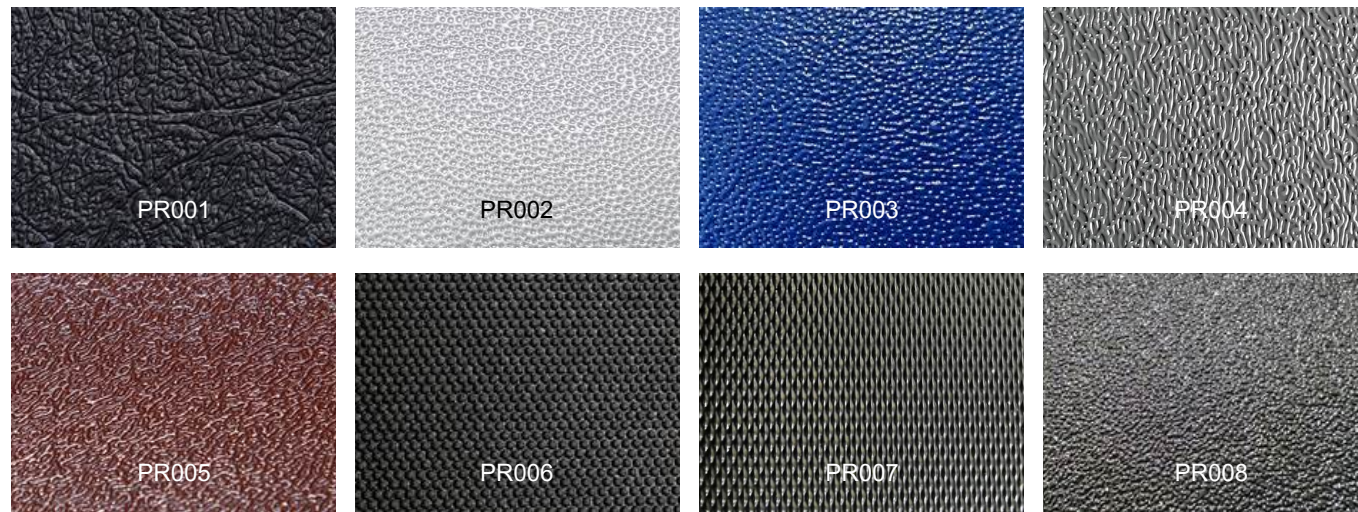
## Application Overview



- **Excellent Surface Finish**
- **Superior Weather Resistance**
- **High Impact Strength**

Exterior body panels are used for vehicle outer surfaces, providing protection while defining the overall appearance. These components require excellent surface quality, weather resistance, and impact strength to withstand outdoor conditions. Polyreflex offers paint-free ABS sheet and ABS composite sheets (ABS+PC/PMMA/TPU/PVC), delivering a balance of durability, aesthetics, and long-term performance for automotive exterior applications.

## Texture Options



## Processing Methods



ABS Sheet Production



Vacuum Forming

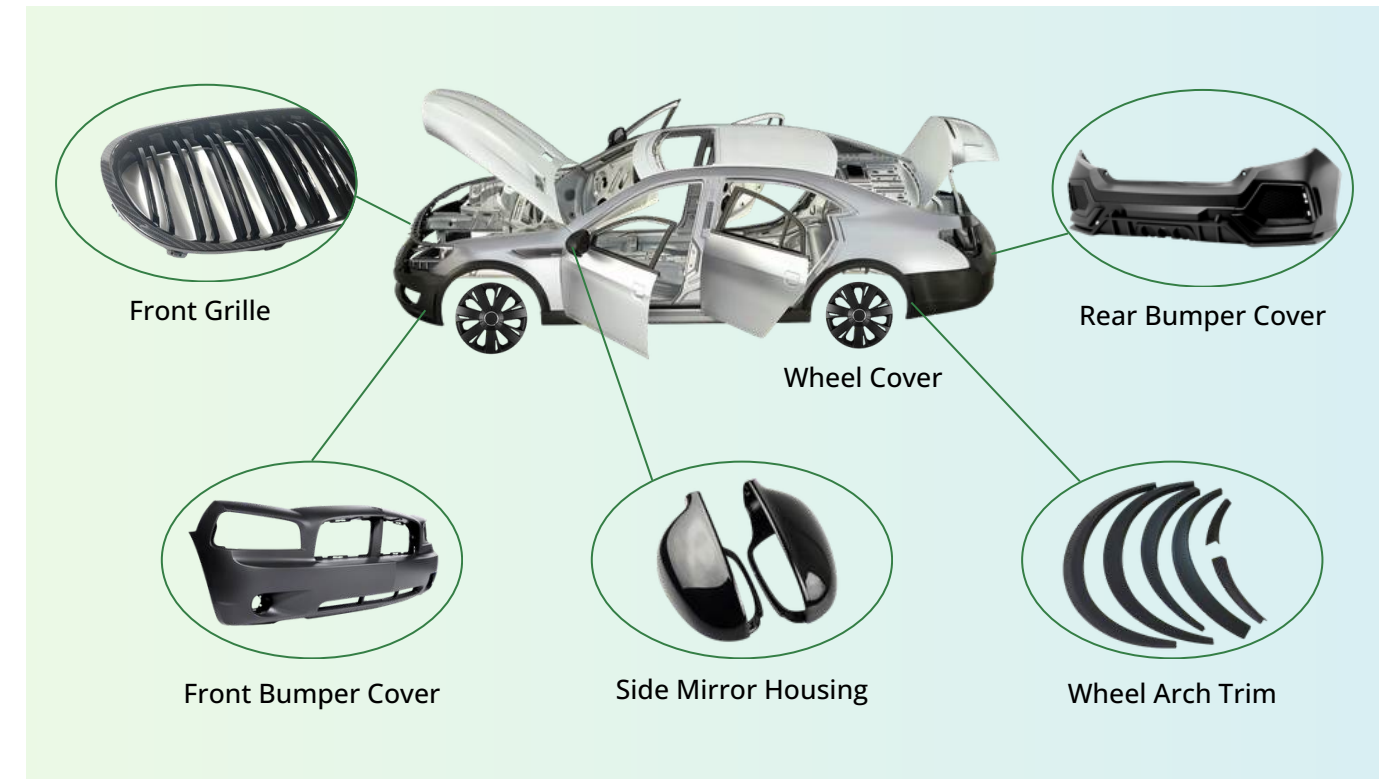


CNC Cutting

## Typical Specifications

Material	Thickness	Surface	Color
ABS/ +PC/PMMA	1 - 10 mm	Glossy / Matte / Textured	Black / White / Customized
ABS/ +TPU/PVC	3 - 5 mm	Textured	White / Grey / Customized
TPO Sheet	2 - 6 mm	Matte / Textured	Black / Customized

## In-Vehicle Applications



# MUD FLAP PANEL

*Durable and flexible protection against mud, debris, and harsh conditions*

## Application Overview



- **Excellent Wear Resistance**
- **Water & Stain Resistance**
- **Flexible & Durable**

Mud flap panels are installed behind vehicle wheels to protect the body from mud, water, and flying debris. They must withstand repeated impact, bending, and harsh environmental exposure. Polyreflex mud flap sheet material offers excellent flexibility and impact resistance, preventing cracking under stress. With strong weather and chemical resistance, it ensures long-lasting performance in demanding automotive exterior applications.

## Product Details



## Typical Vehicle Applications

### SUV / Off-road Vehicles

- Resistant to mud, gravel, and harsh off-road conditions
- Flexible material reduces cracking on uneven terrain
- Maintains performance under frequent impact and deformation



### Heavy-duty Trucks

- Withstands continuous exposure to debris and road impact
- Excellent durability for long-distance and high-load operation
- Strong resistance to water, chemicals, and extreme environments

### Pickup Trucks

- Provides reliable protection in mixed urban and off-road use
- Good balance of flexibility and structural strength
- Suitable for frequent loading, unloading, and daily driving



# UNDERBODY SHIELD

Impact-Resistant Solution for Vehicle Underbody Protection

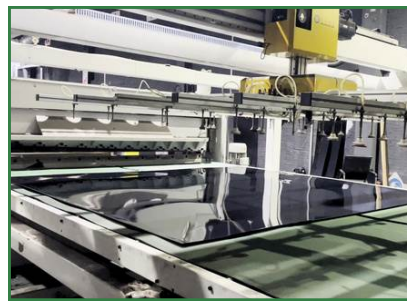
## Application Overview



- High Impact Resistance
- Chemical Resistance
- Long-Term Durability

Underbody shields are installed beneath the vehicle to protect critical components from road debris, stone impact, water, and mud. These parts must withstand harsh environments while maintaining durability and structural integrity. Polyreflex HDPE sheets and GMT boards provide excellent impact resistance and chemical stability, making them a reliable material choice for long-term underbody protection.

## Manufacturing Procedure



HDPE Sheet Production

OR



GMT Board Production



Finished Product Cutting

## Typical Specifications

Material	Thickness	Surface	Color
HDPE Sheet	3 - 6 mm	Smooth	Black
GMT Board	2 - 10 mm	Fabric/PP Film	Black / Beige / Customized

## In-Vehicle Applications

- BEV (Battery Electric Vehicle)



Front E-Drive



Battery Pack



Rear E-Drive

- HEV (Hybrid Electric Vehicle)



Engine



Wiring Harness



Battery Pack



Fuel Lines



Fuel Tank

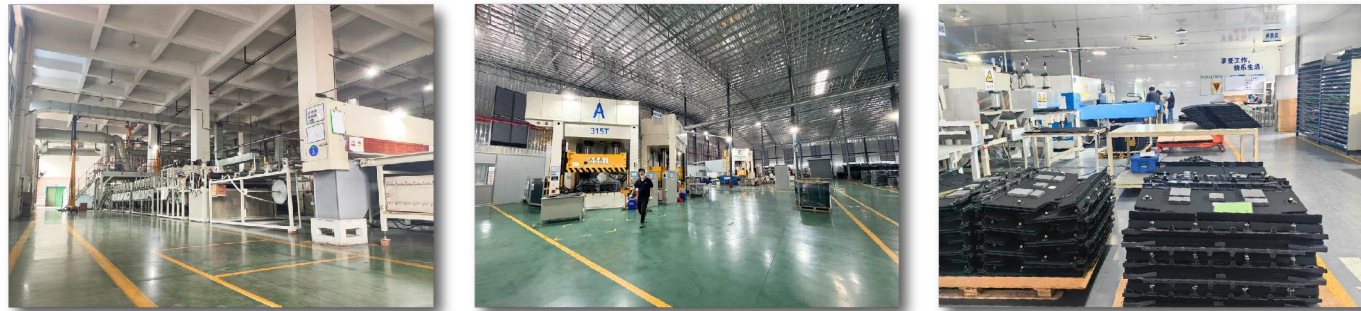
# MANUFACTURING CAPABILITY

*Advanced production and quality control for consistent product performance*

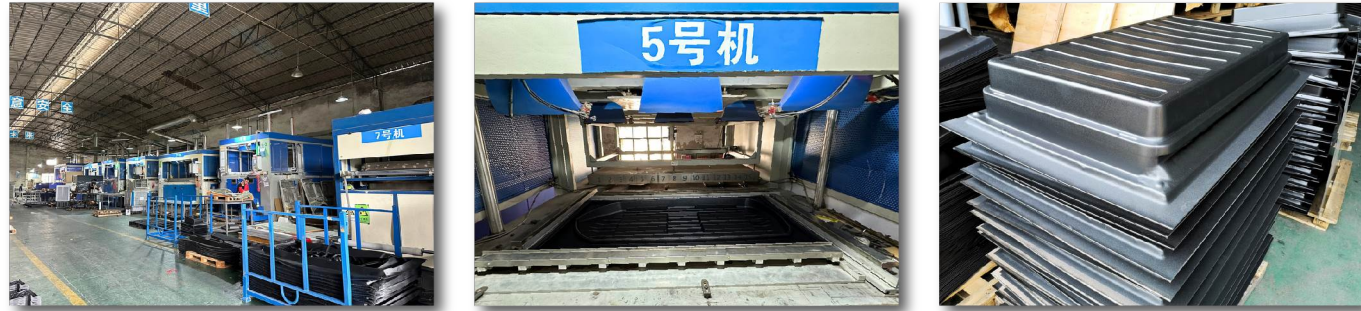
## Production Facility

Polyreflex operates dedicated production lines for both lightweight and solid thermoplastic panels, ensuring stable output and flexible customization.

- **PP Bubble, PP Honeycomb Board & PHC Panel**



- **Solid Thermoplastic Sheet**



## In-Process Quality Control

Quality is monitored throughout the production process to ensure consistent performance and appearance.



## Testing & Laboratory Capability

Polyreflex is equipped with an in-house laboratory to evaluate material properties and ensure product consistency for different applications.

### Testing Capabilities

- Mechanical performance testing
- Thermal resistance evaluation
- Flammability testing
- Color consistency and appearance inspection
- Material viscosity and processing behavior analysis
- Wear and abrasion resistance testing



Testing items can be adjusted to meet customer requirements and standards.

# PACKING & LOADING SOLUTIONS

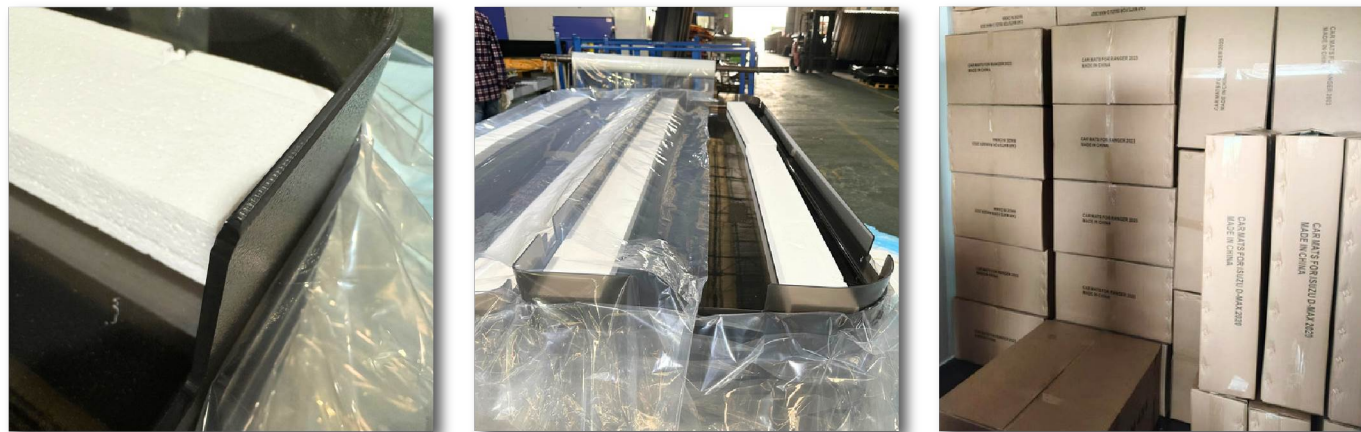
*Safe and efficient packaging to ensure product protection during transportation*

## Packing

- Hollow Sheets & Finished Products



- Solid Sheets & Finished Products



Protective packaging ensures product integrity during handling and transportation. Customized solutions are available to meet different product and shipping requirements.

## Loading

Optimized container loading maximizes space utilization and reduces shipping costs. Secure loading methods minimize the risk of damage during transit.

- Hollow Sheets & Finished Products



- Solid Sheets & Finished Products

