

Introduction of WANHAN company& modified plastics product

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PART ONE

Company Introduction





01. Company Introduction

Wanhan New Material Technology



Specialized in the production and R&D of modified plastics.



Mainly products includes:

PA, PC, PC/ABS, ABS, PBT, PP,
special engineering plastics.



02.Product management standards

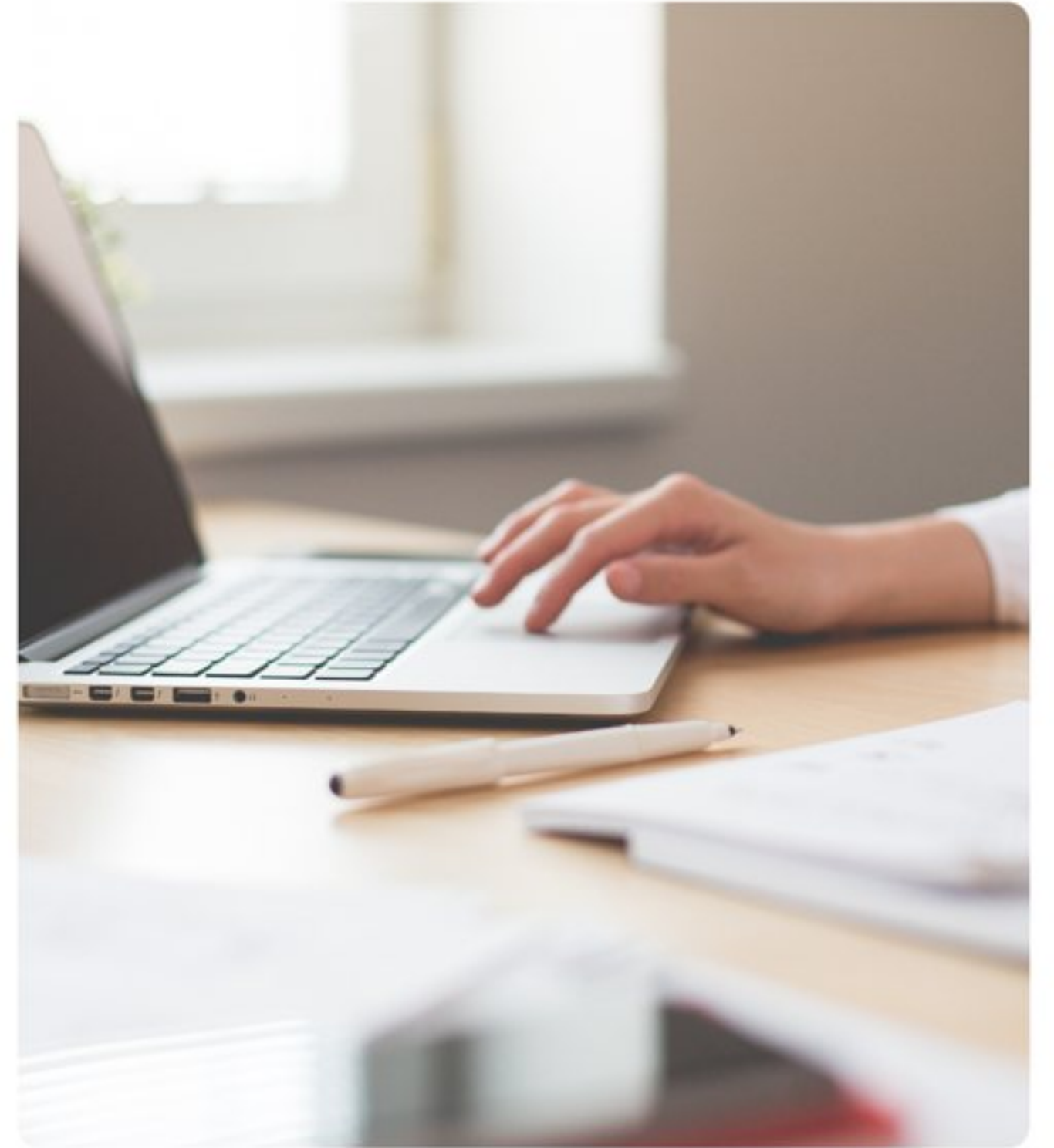
We offer high-quality and high-performance modified plastic products, along with diversified customization services. And we have multiple patents and honors.

ISO9001

ISO14001

IATF16949

ISO45001



03. Video of Wanhan plastic



PART TWO

Product Introduction





01. PA6



PA6

High strength
Easy processing
Easy dyeing
Cost-effective
Mainly used for car interior/exterior parts, fibers, and light-duty components.



01. PA66



PA66

High heat-resistant
High rigidity
Precision
Wear-resisting
Mainly used for engine compartment parts, precision connectors, and heavy-duty drive components.

01. PA6 vs PA66 Nylon — Performance & Applications

Comparing material properties and typical applications across key industries

PA6 · Nylon 6

Melting point $\approx 220^{\circ}\text{C}$ · Good toughness / impact · Slightly higher moisture absorption · Easy processing & dyeing · Low cost

PA66 · Nylon 66

Melting point $\approx 260^{\circ}\text{C}$ · Higher strength / rigidity · Heat & abrasion resistant, dimensionally stable · Higher cost

Automotive

Interior / Exterior & Engine Bay

PA6

Instrument panel frame, door trim, seat adjusters, radiator end tanks, fan blades, headlamp housings

PA66

Intake manifolds, cylinder head covers, oil pans, thermostat housings, timing chain guides, turbocharger inlet pipes

Electronics & Electrical

Housings / Precision Parts

PA6

Coil bobbins, circuit breaker housings, switches & sockets, relay bases, cable ties

PA66

Precision connectors, terminals & plug-in connectors, motor insulation frames, automotive wire harness connectors

Mechanical Transmission

Gears / Pumps & Valves

PA6

Light-duty gears, bearing cages, pulleys & rollers, wear-resistant liners, conveyor idlers

PA66

Heavy-duty gears, worm gears & cams, valve seats, pump housings & impellers, gearbox housings, bolts & nuts

Power Tools

Housings / Transmission

PA6

Housings, handles, air duct parts (low-to-medium torque models)

PA66

Gearboxes, output / transmission gears, high-torque housings (premium models)

Fibers & Textiles

Apparel / Industrial Yarns

PA6

Stockings & underwear, sportswear, fishing nets & ropes, sewing threads, carpets

PA66

Tire cord, airbag fabric, seat belt webbing, conveyor belts, fire hoses

Consumer & Outdoor

Daily Goods / Sports

PA6

Luggage wheels, zippers & buttons, toothbrush handles, skateboard wheels, fishing rod guides

PA66

Climbing harnesses & slings, snow boot buckles, carabiners, tent pegs, racket strings

02. PC

The 'King' of transparent engineering plastics

- Transparency
- Impact resistance
- High temperature resistance

PC Polycarbonate

— Application Scenarios —



Building Panels

Polycarbonate sheets · Greenhouses
Sound barriers



Lighting & Optics

LED lamp covers · Headlamp lenses
Eyeglass lenses



Electronics & Appliances

3C housings · Chargers
Appliance housings



Automotive

Dashboards · Headlamps
Bumpers



Safety Protection

Safety helmets · Goggles
Riot shields



Consumer & Medical

Water bottles · Luggage
Medical devices

03. ABS



Gloss surface



Easy molding



Cost-effective

Application Senarios:

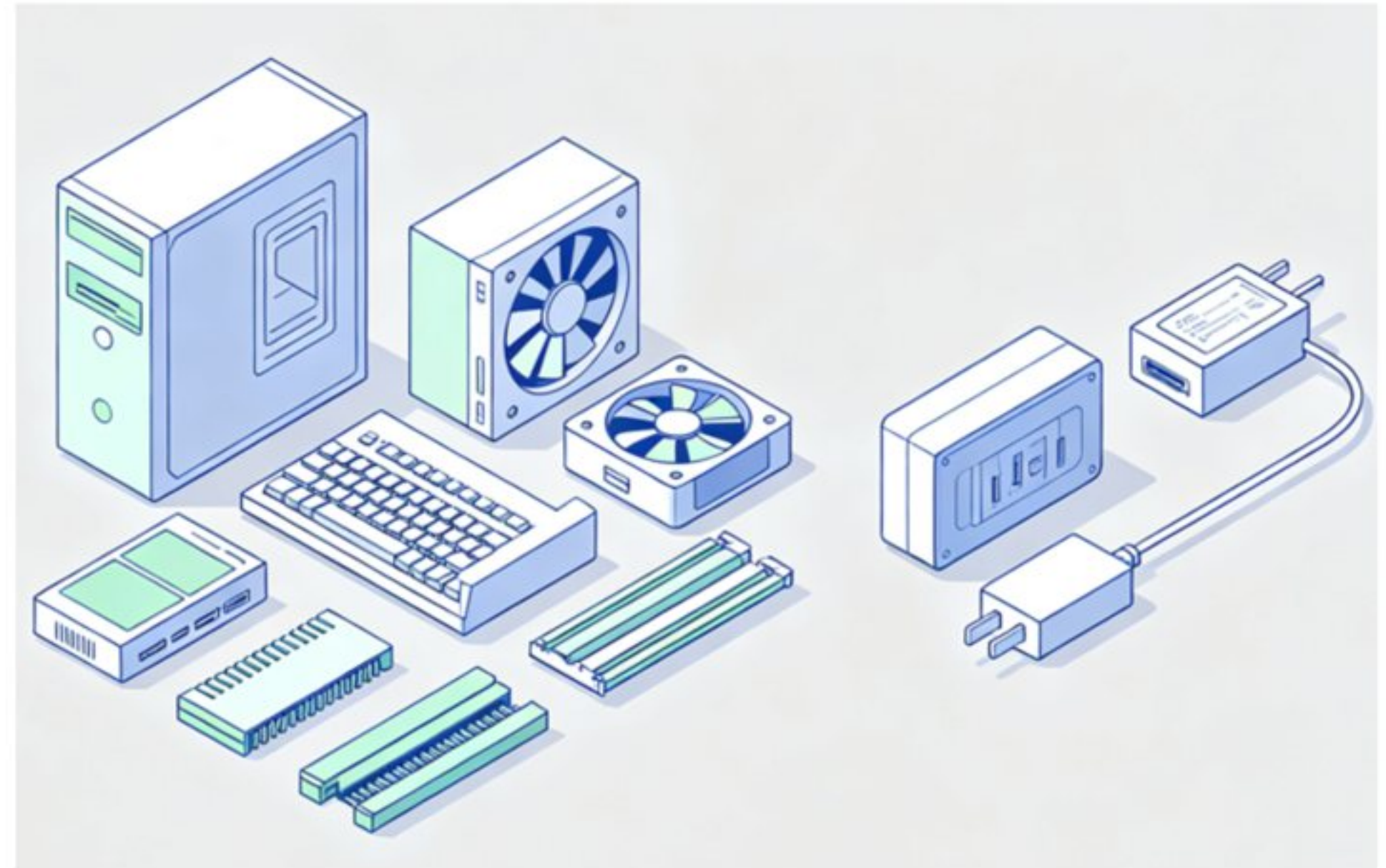
- **Electronics & appliance housings** (TVs, refrigerators, AC units, washers)
- **Toys** (LEGO bricks, toy cars, models, remote controls)
- 3D printing, toolboxes, helmets, drainage pipes, vacuum-formed sheets, and more.

④ 04. PC/ABS "Blended Alloy"

It combines ABS's processability & cost-effectiveness with PC's heat resistance, impact strength & rigidity, striking a balanced middle ground.



—**The Volume King**
the most widely used
material for automotive
& electronic housings



④ 04. PC/ABS "Blended Alloy"



Applications:

- Automotive interiors
- 3C electronics, portable charger, power bank case
- Appliance panels/housings
- Hair dryers · Luggage · Helmets · Medical device housings, etc.



Quick Guide: How to Tell the Three Materials Apart

**Affordable, easy to process,
heat-resistant, impact resistant**

→ PC/ABS

**Transparent · High impact resistance
High heat resistance**

→ PC

**Cost-effective · Glossy surface
No demanding high performance**

→ ABS



05. PP

Packaging

Food storage containers, returnable crates, BOPP film

Automotive

Bumpers · Dashboards · Door panels · Battery cases

Home Appliances

Washing machine tubs · AC housings & fan blades · Rice cookers · Vacuum cleaners

Medical/Daily Goods/Fibers

Syringes, infusion bottles, petri dishes, etc.

Lightweight ·

Chemical-resistant ·

Flex-fatigue resistant ·

Heat-resistant ·

Food-safe ·

Cost-effective



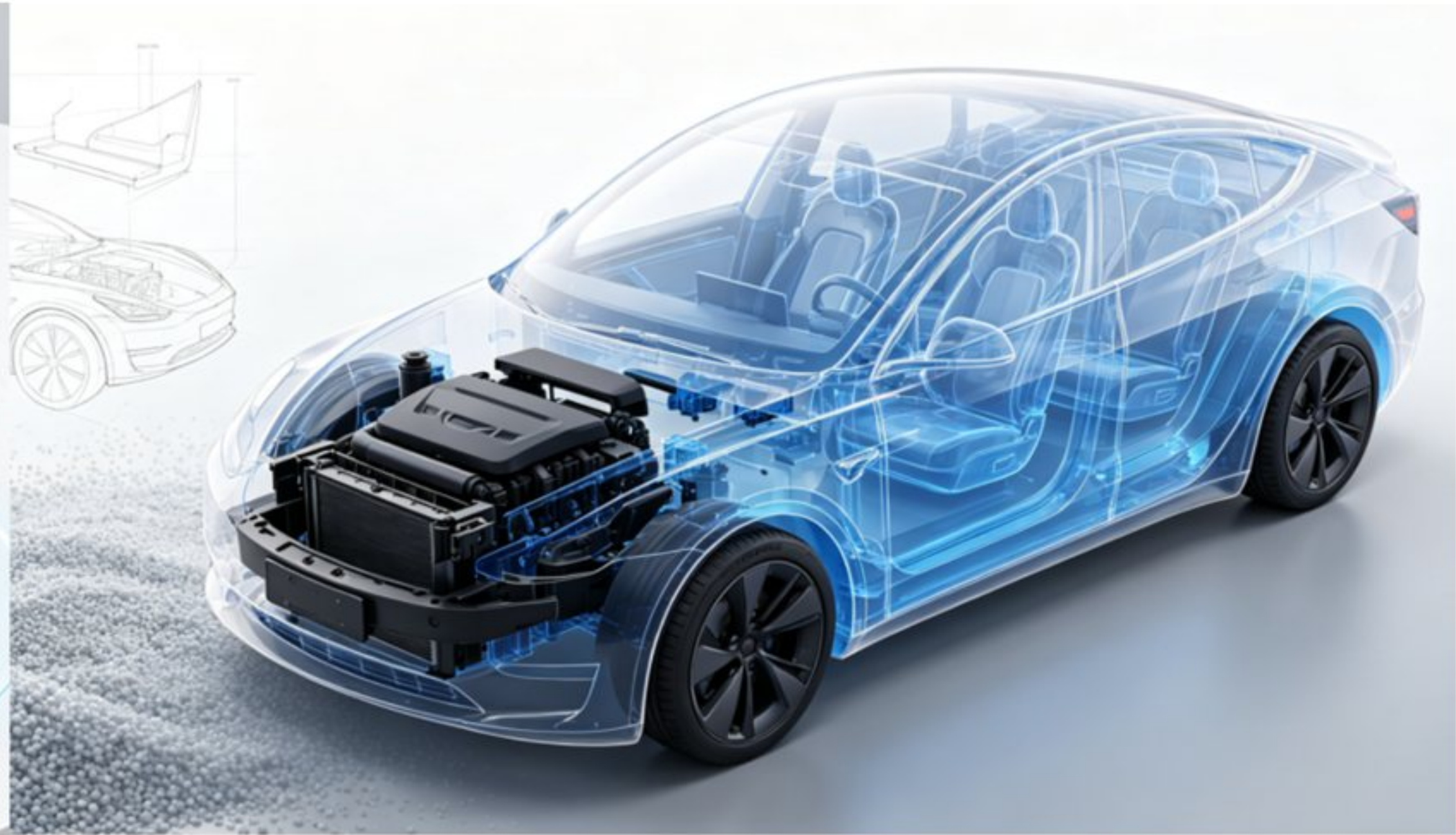


06. PA11 & PA12

- Low specific gravity ·
- Lubrication and wear resistance ·
- Oil and chemical resistance ·
- Low temperature resistance



06. PA11 & PA12



Application

- Pipe materials
- Automotive lightweight components
- Sports equipment
- Medical equipment

07. PBT & PET



Modified PBT&PET has excellent machanical properties, resistance to high and low temperature.



High temperature resistance



High strength



Good eletrical properties



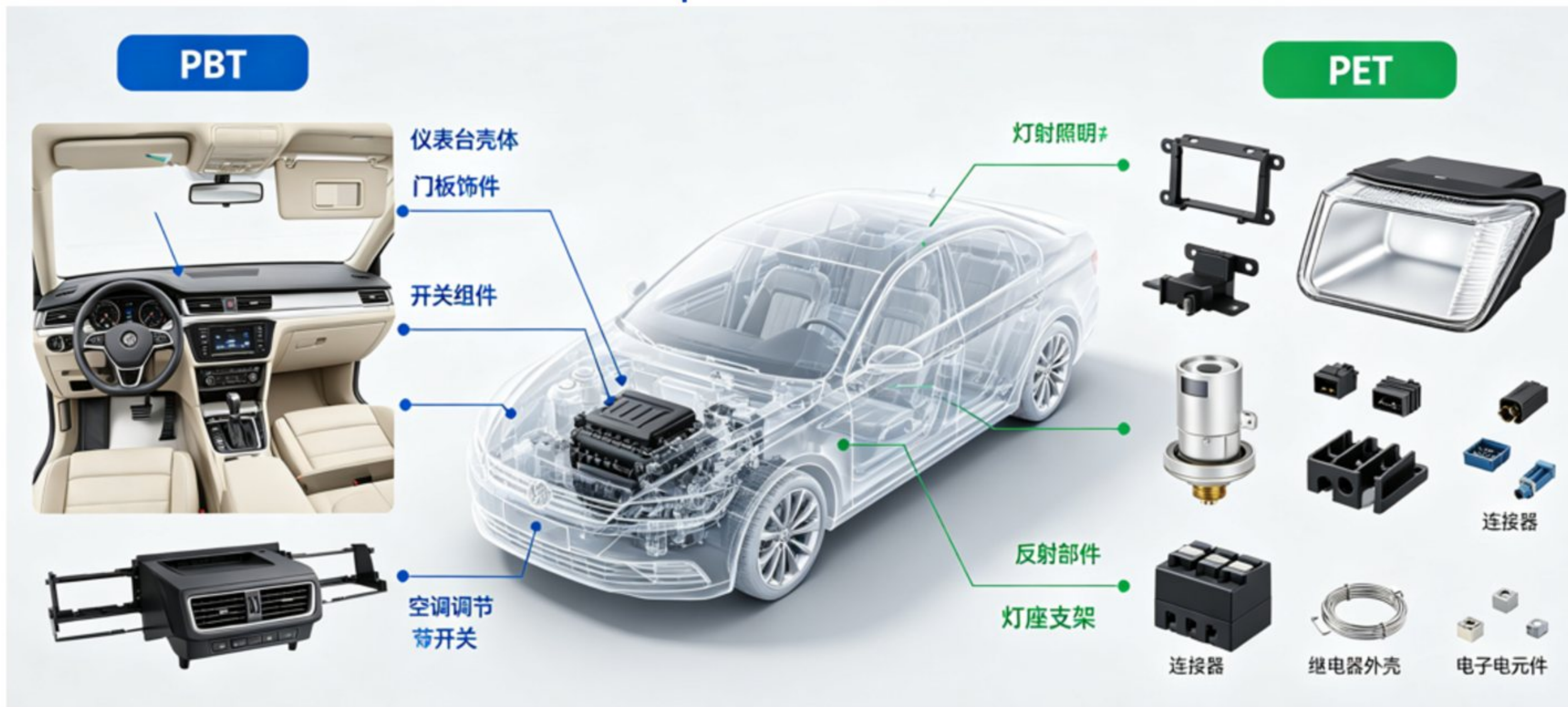
High gloss

07. PBT & PET



Application

- Electronic appliance and component
- Electrical skeleton
- Lightning devices
- Auto parts



07. Showroom video



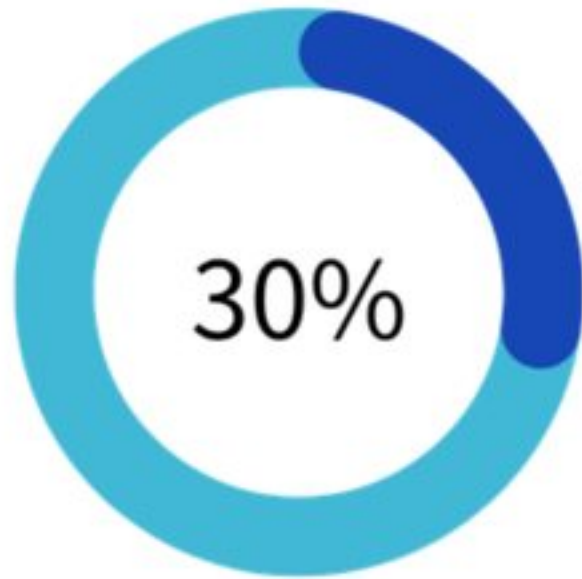
**AUTOMOTIVE & MACHINERY COMPONENTS
HIGH-STRENGTH PA6 GF INJECTION MOLDING**

PART THREE

Basic Modification Technology

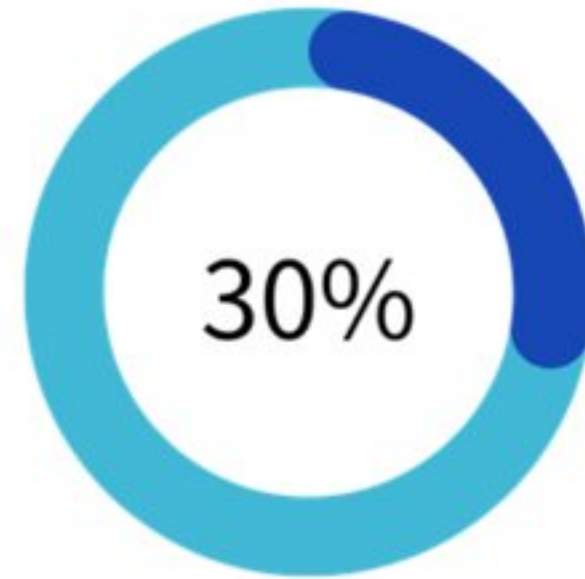


01. Glass Fibre Reinforced



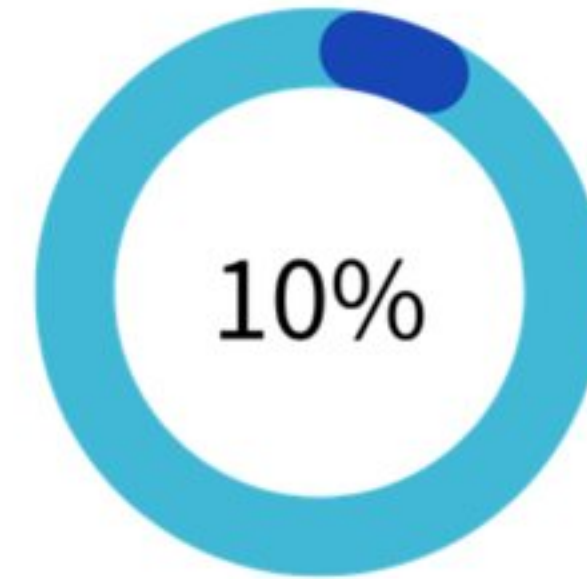
PA6+30% Glass Fabre

- Higher hardness
- Increased tensile strength
- Raised flexural modulus



PBT+30% Glass Fabre

- Higher heat resistance
- Greatly increased **HDT**



PC+10% Glass Fabre

- Improved dimensional stability
- Lower shrinkage
- Less deformation

HDT - Heat Deflection Temperature



02. FR - Flame Retardant Modification



International flame retardant standard — **UL94 V-0** (self-extinguishing after flame removal, no dripping).

Flame-Retardant Plastic Grades:
FR PC, FR ABS,
FR PA, FR PBT

Key Parameters Customers Care About:

UL94 · GWFI · CTI
(flame retardant rating · glow wire index · tracking index)

Typical Applications of FR Plastics:
Electronics & Electrical ·
Auto Parts ·
Energy Storage ·
Transformers ·
Power Banks ·
Conductive Products



03. Other modification technology

A

Toughening

Impact Modification: adding toughening agents to improve toughness

B

Filling

Mixing mineral fillers (talc, CaCO_3 , mica) into plastics to improve shrinkage, hardness, and strength.

C

Blending

Blending in one or more other resins or minerals to improve the base properties.

D

Nanocomposites

Using nanotechnology to synthesize or combine plastics at the nanoscale, obtaining new properties.

F

Thermoplastic Elastomer (TPE)

Rubber-like elasticity at room temperature, yet plastic moldability when heated.

PART FOUR

Business Workflow



1 Customer inquiry

2 Confirm requirements
customer requirements modified
products needed, quantity,
and required certifications

3 Recommend product solution & send TDS

4 Send samples



5 Customer testing



6 Quotation

FOB / CIF, price including tax or
excluding tax

7 Place order & sign contract

8 Production & quality inspection

9 Shipment - customs declaration & cargo booking

10 Payment & after-sales service

Business Process

TDS - TECHNICAL DATA SHEET

Thanks for watching

Fenella Zhong

