

COPT NEW MATERIAL

Capacity **60,000T** Production Line**18**

Founded in **2014**

HQ Location: Ningbo, Zhejiang Province, China



Engineering Plastics

High Gloss Molding-in-color Materials

PC/ABS
PC/ABS+ GF
PA6+GF、PA66+GF
PP+TD、PP+GF

PMMA
PMMA/ASA
ASA
PC/ASA

Colors: Piano Black, Glossy White, Multicolor, Metallic
Properties: High Heat Resistance, High Weather Resistance,
High Scratch Resistance

60% Copt' s Revenue

Elastomer

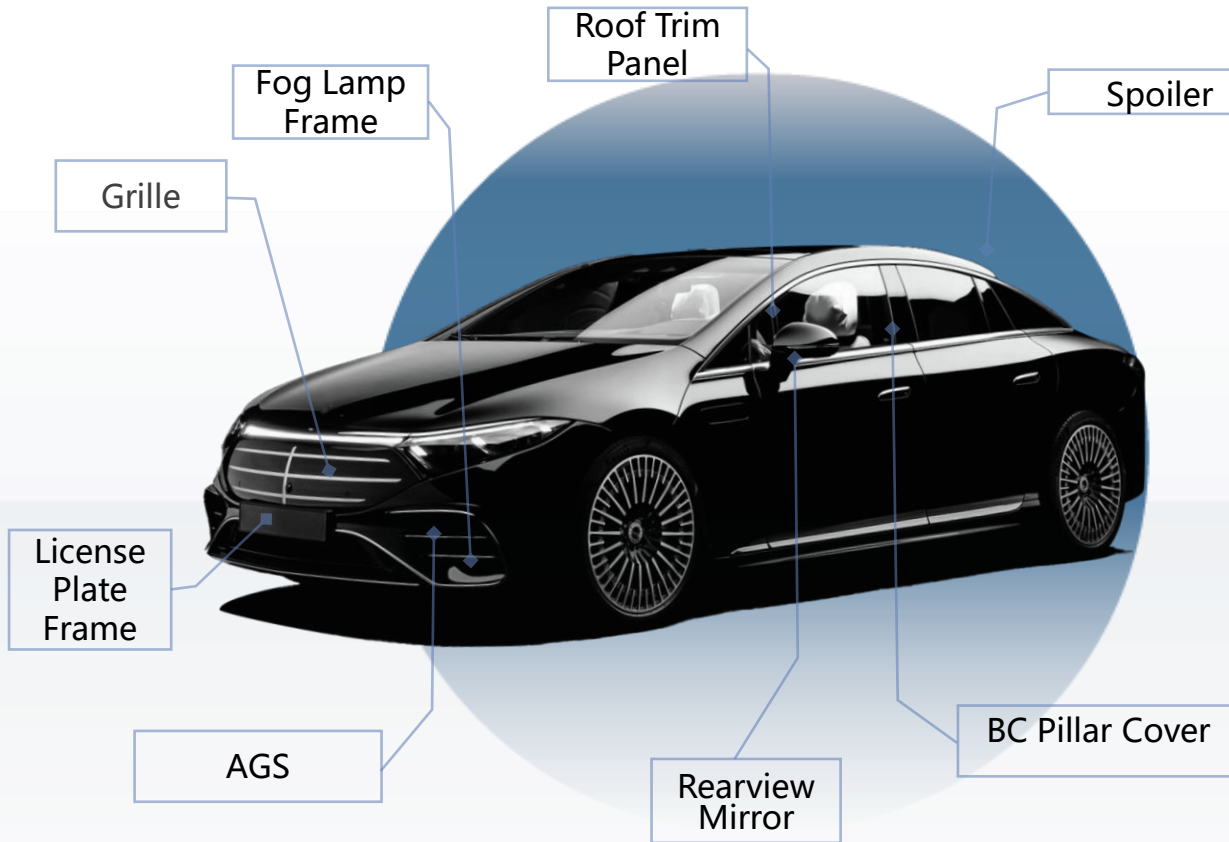
TPU、TPEE

TPV, TPS, Cohesion TPE,

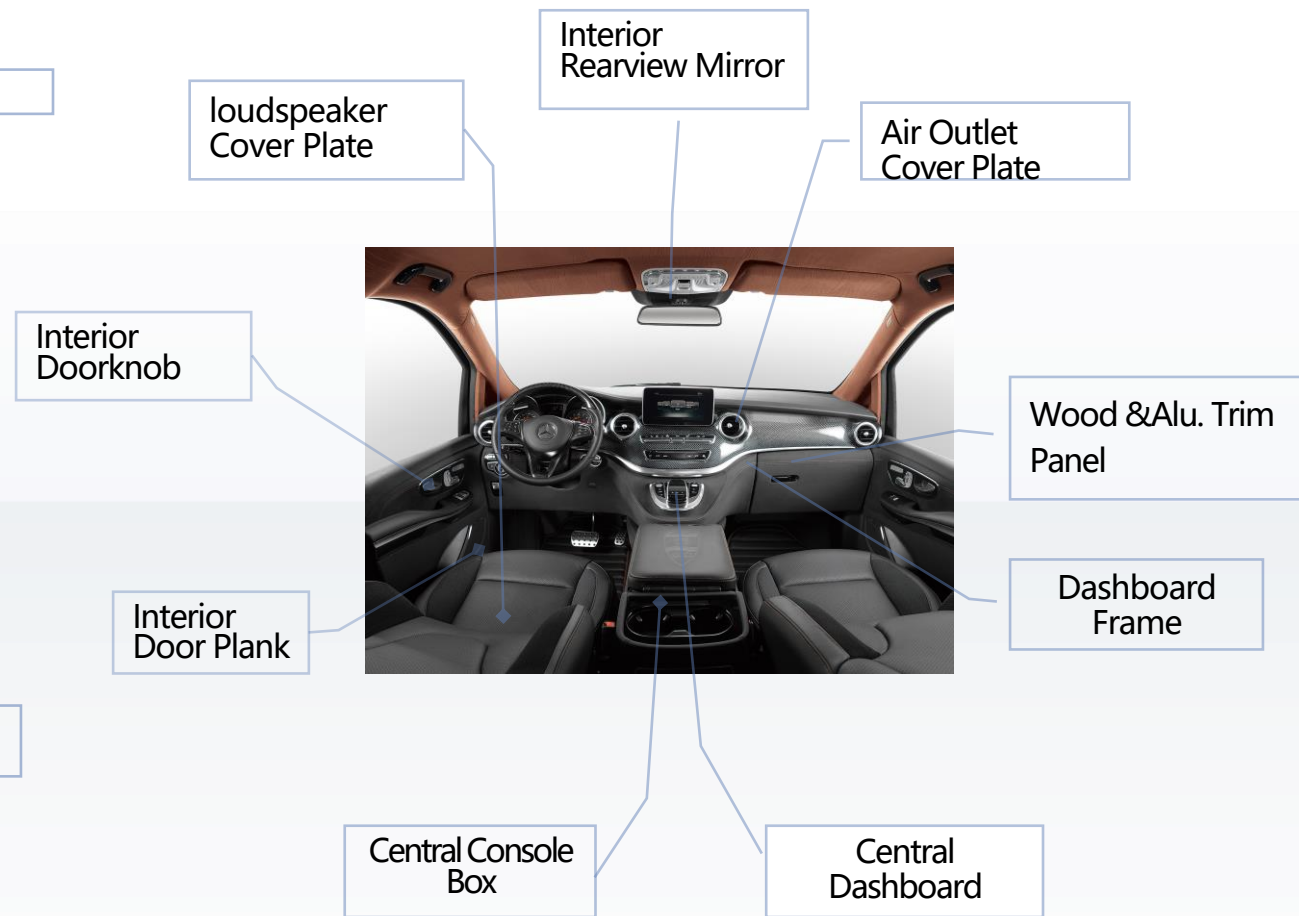
25% Copt' s Revenue



Applications of Engineering Plastics

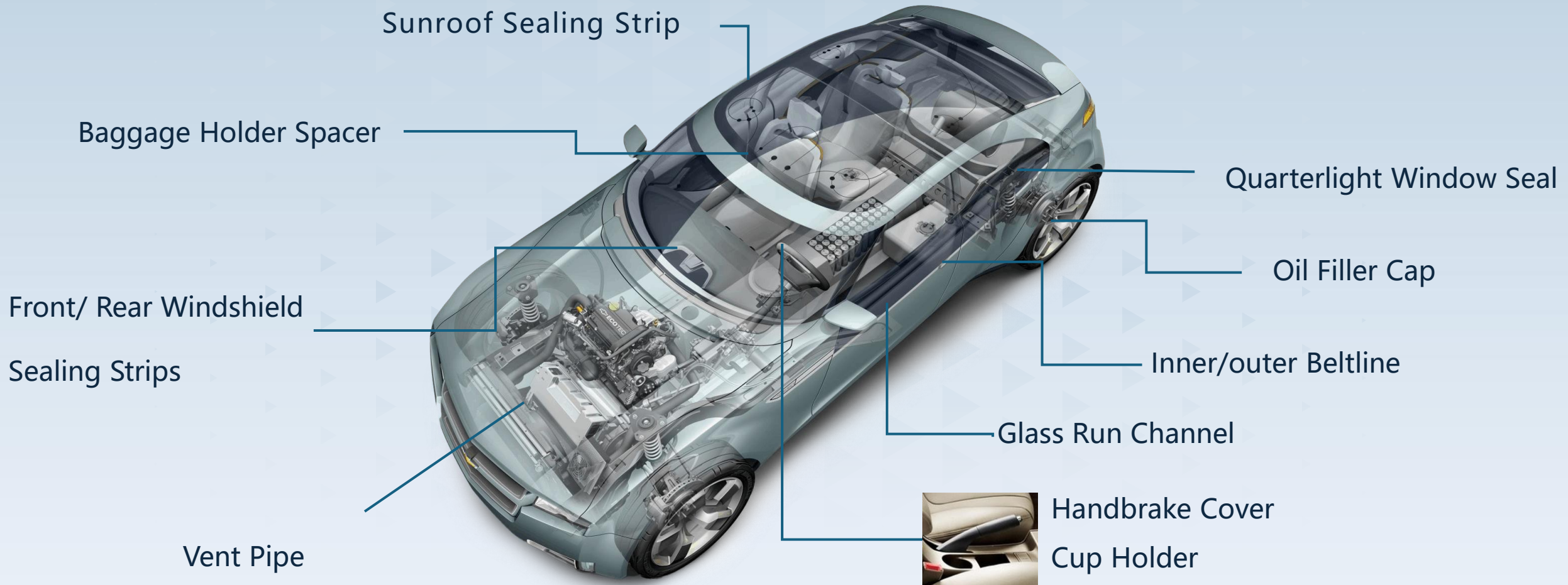


EXTERIOR

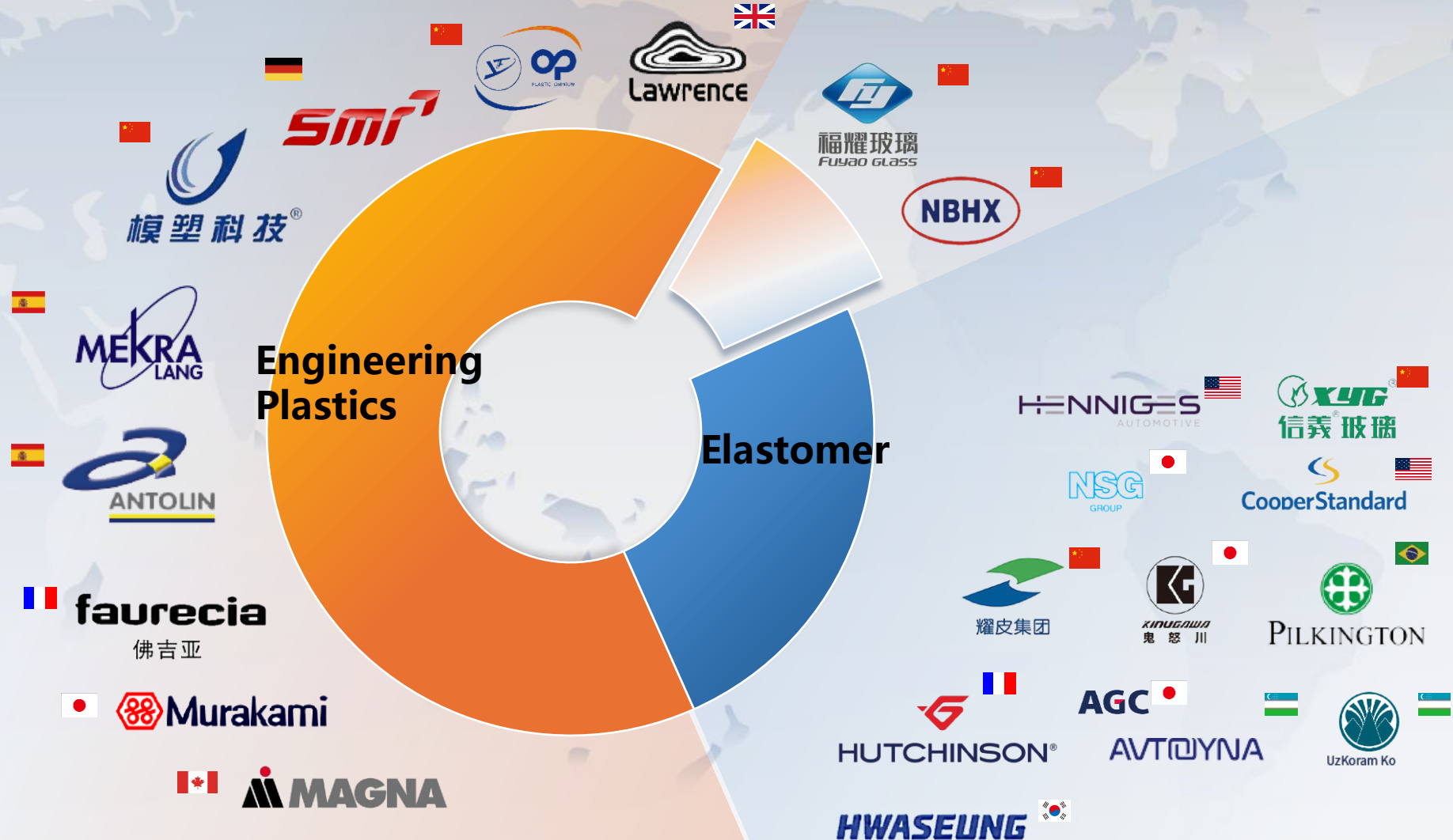


INTERIOR

Applications of Elastomer



Extensive Customer Base





Comprehensive OEM Certifications

COPT has entered **90%** of the mainstream OEMs

Europe



Under Certification

China



Chinese OEM with Global Presence



Chinese Leading BEV OEM

Korea



Japan



USA



Global Development and Expansion Plan



Europe

Warehouse:
Mosonmagyaróvár, Hungary
Graniczna, Poland

Sales Representative- Q1 2025
Production Line- TBD

Ningbo China

Production Plant: 60K MT Capacity
Sales/ RA&D/ Warehouse

NA

Production Plant: 10k MT Capacity
Achieve by 2026
Sales Representative: Detroit
Warehouse: Detroit

Thailand Bangkok

Production Plant: 8k MT Capacity
Sales/ Warehouse

8

Warehouse

Ningbo/ Bangkok/ Kuala Lumpur
Detroit/ Austin/ Mexico/
San Paulo/ Mosonmagyarovar/
Graniczna

3

Production

Ningbo China
Bangkok Thailand
NA: Under Development

4

Sales

Ningbo China
Bangkok Thailand
NA: Detroit
Europe: Under Development

3

Logistics

NIPPON EXPRESS
SCHENKER
CEVA LOGISTICE

Intelligent Production Central Monitoring System & Intelligent Logistics

The system integrates automatic mixing, conveying, and twin-screw extrusion using Siemens S7-1500 controllers and HMI for high stability and efficiency. With intelligent self-diagnostics, it ensures reliable production. The MES system optimizes production planning, quality, and equipment monitoring for streamlined operations.

The intelligent logistics system improves delivery efficiency, ensuring consistent output and product quality.





Environmental Management System

Occupational Health & Safety Management System Certifications

Quality Assurance

Certification

IATF16949



ISO 17025 Lab
Certification

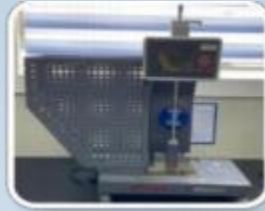
Laboratory - Detection Capability



Hardness Tester



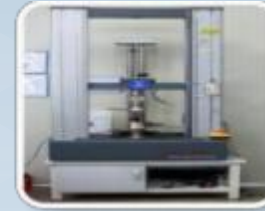
Density Meter



Shock Testing Machine



Melt Flow Indexer



Universal Tensile
Testing Machine



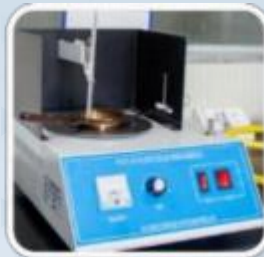
Vica Test Machine



Heat Aging
Test Chamber



Mooney Viscosity
& Relaxation Tester



Flash Point Tester



Colorimeter



Colorimeter



Standard light Booth



Humidity Chamber



Automatic
Abrasion Meter



TGA



DSC



Infrared
Spectrometer



Capillary
Rheometer



Torque
Rheometer



Melting Point
Apparatus



About to
Purchase
Xenon lamp
aging box

COPT NEW MATERIAL

High Gloss Paint-free Material for Exterior

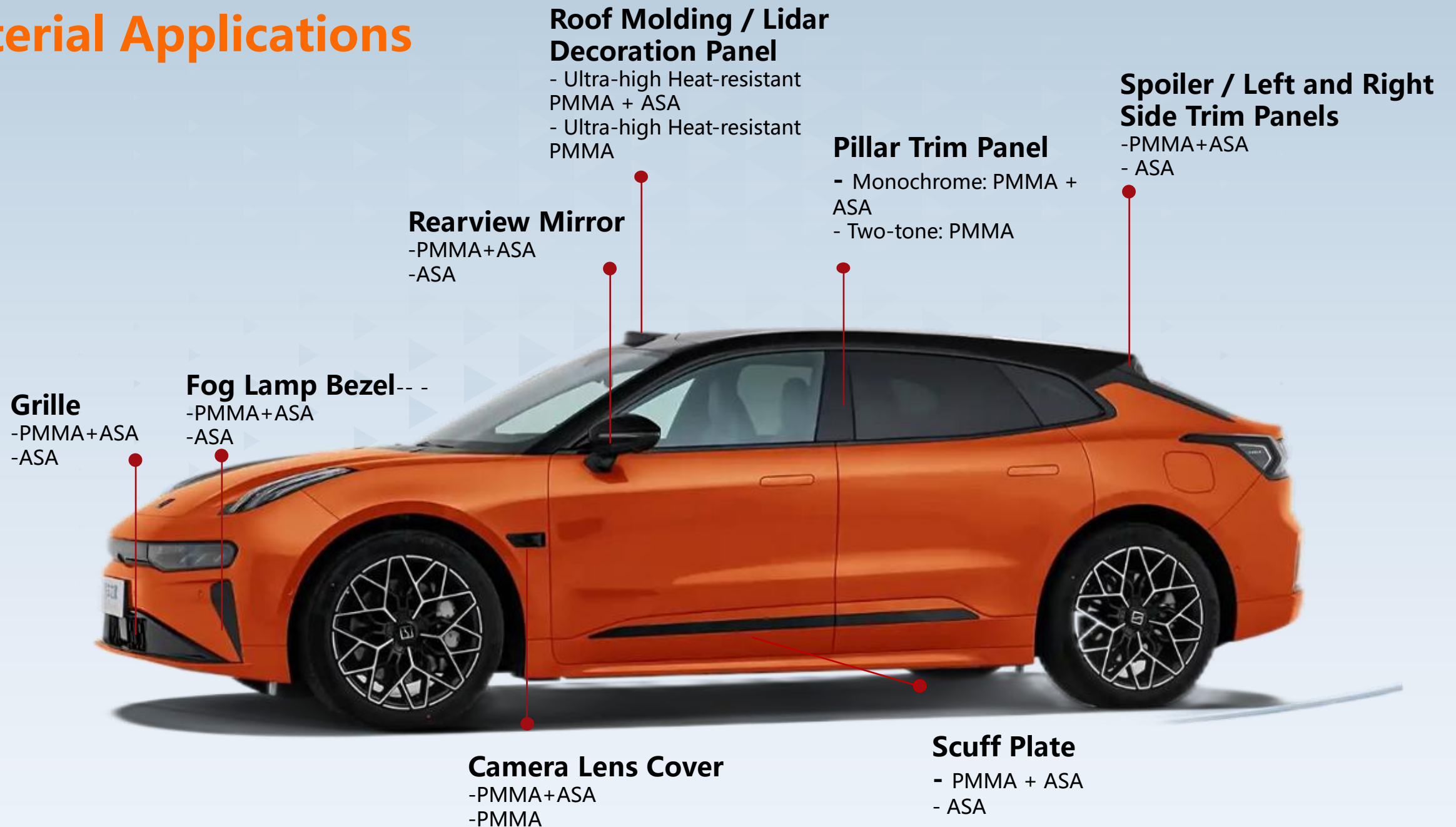
PMMA+ASA

PMMA

ASA

PC+ASA

High Gloss Paint-free Material Applications



Breakthroughs and Value of Paint-free Material **PMMA+ASA** for Exterior

- Appearance: Piano Black and High Gloss
- Excellent Weather Resistance
- Outstanding Chemical Resistance
- Excellent Scratch Resistance and Repairability

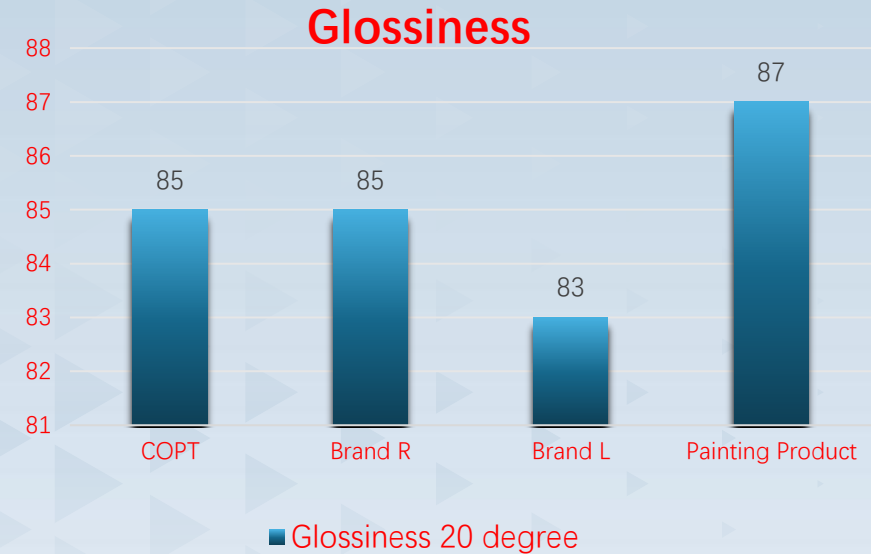
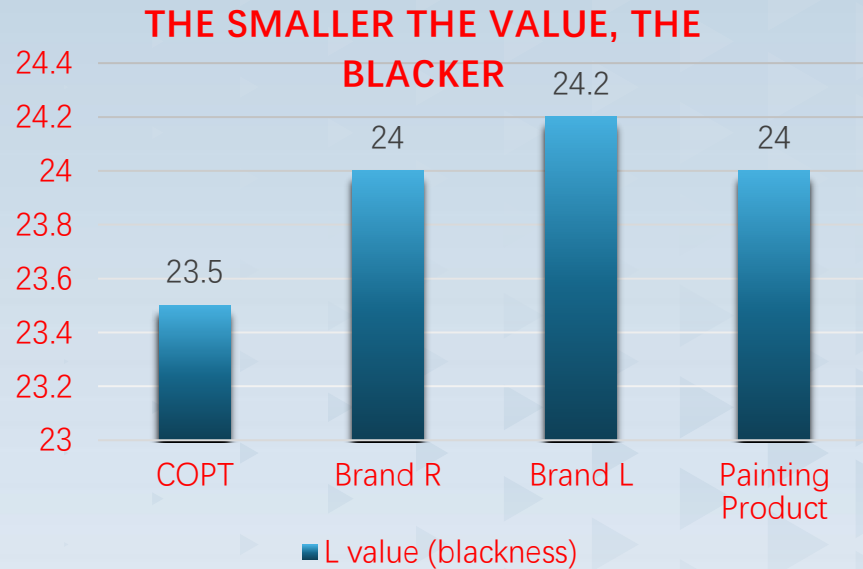
High Gloss Paint-free Material Product Series

Material Type	Grade	Properties	Applications	
PMMA+ASA	HA-82B	Standard heat resistance, high impact	Grille, fog light cover, exterior rearview mirror	Star products Significant Technological Advantage
	HKA-40B	High heat resistance, high impact resistance	Grille, fog light cover, exterior rearview mirror	
	HA-84B	High heat resistance, standard impact resistance	Pillar trim, spoiler	
	HKA-90B	Higher heat resistance, standard impact resistance	Pillar trim, spoiler	
PMMA	HK-81B	Piano black, better ethanol resistance	Pillar trim, taillight bezel	Mature Product High Cost-Effectiveness
	HK-81B-H	Higher heat resistance, piano black	Pillar trim, taillight bezel	
ASA	HA-02B	Standard heat resistance, high impact resistance	Grille, fog light cover	

Our Technical Specifications

Item	Test Method	PMMA+ASA				PMMA		ASA
		HA-82B	HKA-40B	HA-84B	HKA-90B	HK-81B	HK-81B-H	HA-02B
Density g/cm ³	ISO 1183	1.148	1.15	1.16	1.16	1.17	1.19	1.08
Tensile Strength MPa	ISO 527	51	51	51	58	75	88	49
Flexural Strength MPa	ISO 178	78	75	78	75	110	113	74
Flexural Modulus MPa	ISO 178	2200	2300	2300	2500	3100	3100	2400
Charpy impact strength KJ/m ²	ISO 179	8.9 (Unnotche d 60)	8 (Unnotche d 56)	5 (Unnotche d 35)	4.5 (Unnotche d 32)	1.5 (Unnotched 20)	1.5 (Unnotched 18)	12
Vicat (B50) , °C	ISO 306	95	100	99	105	105	117	100
1.8MPaHDT (Annealed) , °C	ISO 75	93	97	97	101	102	112	97

COPT High Gloss Series Application- **Piano Black and Higher Glossiness**



Blackness (L value):

It can achieve the piano black painting effect and is in a leading position in the industry.

Gloss:

It can be comparable to painting, with a 20° gloss $\geq$ 80GU.

Orange peel:

It will not produce the orange peel texture that is prone to occur in painting.

COPT High Gloss Series Application- Excellent Weather Resistance

OEM	Test Standard	Test Conditions	COPT PMMA+ASA	Competitor PMMA+ASA	Spray Painting
Mercedes-Benz	MBN 10505	Florida Mode 1600 hours	pass	/	/
Mercedes-Benz	MBN 10506	Kalahari Mode 1500 hours	pass	/	/
GM	SAE J2527	4500KJ/m ²	pass	3500KJ/m ²	OK
VW	PV3929/PV3930	3200h	pass	/	OK
Link&Co Geely	Q/JL J160004	2000h	pass	OK	OK

- Passed accelerated light aging tests through the Florida mode (hot and humid, 1600h) and the Kalahari mode (dry heat, 1500h) of **Mercedes-Benz**.
- The first manufacturer to pass the **GM** SAE J2527 standard 4500KJ/m² light resistance test.
- Meets the Florida SAE J1976 standard for 3 years of sun exposure, equivalent to 10 years of normal use without fading in automotive applications.

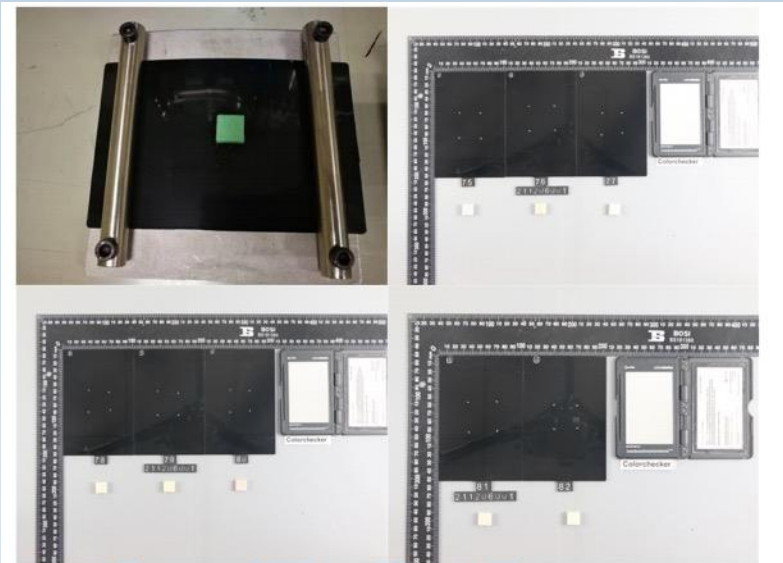


Florida Exposure Site



Florida Sun Exposure Test Diagram

COPT High Gloss Series Application- Outstanding Chemical Resistance



CTI 华测检测

Report No.: A2220168

No.	Sample Name
1	HA-82B

SGS

Report Declaration:
In the territory of the People's Republic of China, this report shall only be used for client development, etc., and just for client's reference.

Manufacture Declaration or Comments:
None

Summary of Result(s):

No.	Test Item	Test Method
1.	Resistance to chemicals and service products	DBL 5416 section 8.1 and in Annex As per MBN 412:1985 Test client's requirement

Note: Pass: Meet the requirement
Fail: Does not meet the requirement
N/A: Not apply to the judgment

Report No.: U2205002-RN0690
Issue Date: 2022-06-09

1. Work Performed
The test samples were conditioned for a minimum of 24 hours at 23 ± 2 °C, 50 ± 5% RH prior to testing.

2. Sample Picture

3. Test Results

Perform the following tests in accordance with **DBL 5416-2017** and the following laboratory procedures:

No.	Test Name	Test Standard	Evaluation	Page
1	Resistance Behavior	DBL 5416-2017, A.2.16	OK	3

- Passed the full set of **14 chemical resistance tests** by three testing institutions (SGS, CTI, UST) according to the **Mercedes-Benz DBL 5416:2017 standard**;
- Passed the **environmental stress cracking resistance** test according to the **Mercedes-Benz DBL 5416:2017**;
- Passed the **stringent internal stress test** (90% alcohol / 23°C / 30 minutes) according to the **Volkswagen TL 52671 standard**;
- Passed the **fluid resistance performance test** according to the **Ford FLTM BI 168 - 01 - 2021 standard**.

➤ COPT High Gloss Series Application- **Excellent Scratch Resistance**



Test Items	Cross - Scratch	Pencil Hardness	Five - Finger Scratch	Simulated Car Wash	Abrasion Resistance
Main OEM	Volkswagen, GM, Geely, Hongqi	Honda, Hongqi	Changan, Chery	Honda, Toyota, Nissan	Ford
COPT Results	Pass	HB - F	Pass	Pass	Pass

- The pencil hardness reaches HB - F.
 - It passes the cross - scratch test represented by Volkswagen, GM, Geely, Hongqi, etc., and can meet $DL \leq 0.5$.
 - It passes the simulated car wash test represented by Japanese - brand cars such as Honda, Toyota, and Nissan.
 - It passes the abrasion resistance test represented by Ford.
- Our materials meet all five scratch resistance standards, covering the needs of over 95% OEM.

COPT High Gloss Series Application- **Repairability**



Scratch grinding



Use sandpaper for grinding



Pneumatic grinding



Polishing



Surface polished to high gloss finish

Surface polished to high gloss finish

Scratch marks can be restored to new condition through grinding and polishing

Defects and Avoidance Methods of Paint-free Materials

- Dehumidifying and drying should be used.
- The materials should be fully dried and the moisture content of the materials needs to be controlled below 0.05%.

Blistering

- Reduce the material's heat - retention time.
- Reduce the material's powder.

- Make exhaust inserts.
- Improve the fluidity of the materials.
- Increase the temperature at the welding area.

- Prevent material contamination.
- Reduce the material's heat - retention.
- Increase ventilation.

pockmarks

weld line

sliver marks

Whitening & fogging

- The mold temperature is insufficient. Increase the mold temperature.

Prone to flow marks

- Reduce the injection speed.
- Increase the mold temperature.
- Reduce the injection temperature.

scratch

- Stick a protective film immediately after production is completed.

shrinkage mark

- The thickness of the rib design should not be too thick.
- Increase the holding pressure to ensure the product is fully filled.

COPT Provides Systematic Solutions



**We are more than a material supplier;
we provide comprehensive system solutions**

- Jointly develop high-gloss black products with GM China Pan Asia Technical Automotive Center (PATAC).
- Fully participate in the development of multi-color high-gloss paint-free products for Geely SMART models.
- Reach a strategic cooperation with mold manufacturers to jointly serve global customers.

Applications of COPT

High-gloss Paint-free Materials

- Rearview Mirror
- B/C Pillar
- Other Exterior Parts

Extensive Material Certification

- The PMMA+ASA material, certified by **17 OEMs** and applied in over **77** mass-produced models for exterior rear-view mirrors, B/C-pillar cover plates, grilles, fog-lamp cover plates and spoilers.



- The PMMA material, with **9 OEM** certifications and over **30** mass-produced models usage, mainly for B/C-pillar cover plates and tail-fin trim strips.



- The ASA material, having **8 OEM** certifications and used in more than **33** mass-produced models, especially for grilles and fog lamp cover plates.



COPT High Gloss Series Application- Rearview Mirror



17 major automotive OEMs are applying COPT'S materials

Over **50** different car models

15% of the market share in China's passenger car segment.



OEM	Mercedez-Benz	Volvo	GM	Ford	Nissan	Great Wall	Changan
Model Name	E class GLC EV CLA EV	EX30 XC40 V446K	Chevrolet Cruze/Buick Envision//Chevrolet Equinox	Ford Escort/Bronco/ Edge	Nissan Altima	Haval H6/Wey C01/Haval Dargo/X Dog	Changan Shenlan/ OushangX5/ CS75 PLUS/Chery A07

OEM	Geely	SAIC	Hongqi	DFM	Seres	Xiaomi
Model Name	Atlas Pro/ Preface/Smart Series/Lynk & Co Series	IM LS6	Hongqi H6	Dongfeng S50	AITO M5/M7/M9	SU7

Partial Model List

Typical Examples of Rearview Mirrors

OEM: Mercedes- Benz

Model: E-Class

Material Type :PMMA-ASA

HA-82B I1050

Applications: base cover, lower case, mirror housing



OEM: VOLVO

Model: XC30

Material Type: PMMA+ASA

HA-82B I1001BT

ASA

HA-02B H1024

Applications: mirror housing, lower housing



OEM: Nissan

Model: Altima

Material Type :PMMA-ASA

HA-82B I1011

Applications: base cover, mirror housing



OEM: GM

Model: Buick Envision

Material Type: ASA

HA-02B H1026

Applications: lower housing



COPT High Gloss Series Application- **BC Pillar**



OEM: Mercedes- Benz
Model: GLC
Material Type :PMMA
HK-81B
Applications: C pillar



OEM: Honda
Model: Accord
Material Type :PMMA
HK-81B
Applications: B pillar



OEM: BYD
Model: Han
Material Type :PMMA
HK-81B I1003
Applications: C pillar



Other Classic Exterior Decoration Application Cases - Grille

OEM: VW SKODA

Model: Kodiaq

Material Type : ASA

HA-02B H1033

Applications: Front Grille



OEM: General Motors Chevrolet

Model: Monza

Material Type: ASA

HA-02B H2026

Applications: Front Grille



OEM: Geely

Model: Boyue L

Material Type: ASA

HA-02B H1063

Applications: Grille



OEM: Zeekr

Model: MIX

Material Type: PMMA + ASA

HA-82B I1063

Applications: Low Grille



Other Classic Exterior Decoration Application Cases - Spoiler

OEM: Toyota
Model: Sienna
Material Type: PMMA
HK-81B
Applications: Side Flap Cover



OEM: SAIC-GM
Model: 358 New GL8
Material Type: PMMA + ASA
HA-82B-T
Applications: Rear Spoiler



OEM: Hongqi
Model: C255/HS5
Material Type: PMMA + ASA
HA-82B
Applications: Rear Spoiler



OEM: Geely
Model: FX11
Material Type: PC + ASA
HCA-62B
Applications: Rear Spoiler



Other Classic Exterior Decoration Application Cases

OEM: Geely
Model: Lynk & Co Z20
Material Type: PMMA+ ASA
Applications : Scuff Plate



OEM: General Motors Chevrolet
Model: Monza
Material Type: PMMA+ ASA
Applications: Fog Light Bezel



The background of the slide features a light gray world map centered on the Atlantic Ocean, showing the continents of North and South America. In the upper left corner, there is a decorative pattern of blue triangles of varying sizes arranged in a grid-like fashion.

Paint-free Replacements for Painted Parts

What value are we creating?

1. Simplify the process, shorten production time, and reduce costs by at least 30%
2. Reduce investment in factory and workshop space
3. Improve overall yield rate to above 95%
4. Integrate product structure to enhance value
5. Environmental protection and emission reduction

Simplify Process/ Shorten Production Cycle

Spray Painting Process



Paint-free material

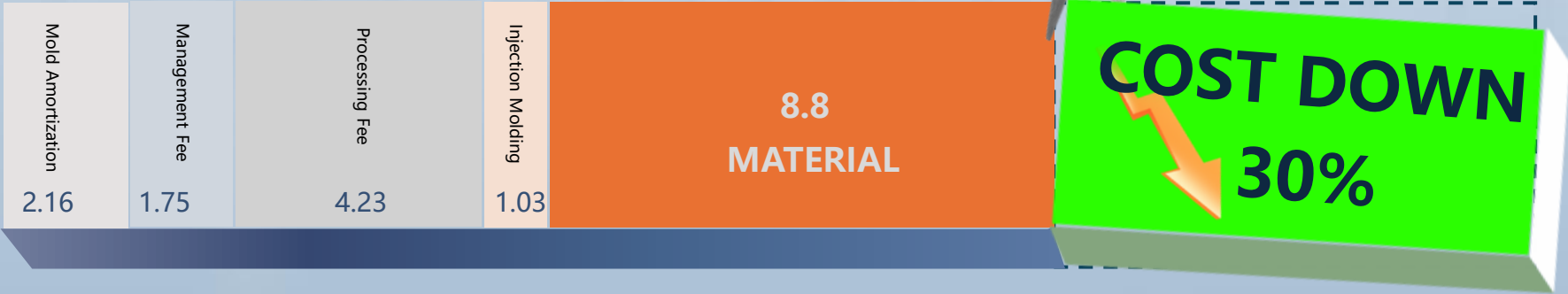
One-shot Molding

VAVE Case

Customer Case: Comparison of Costs in Manufacturing a Rearview Mirror



COPT PMMA+ASA HIGH GLOSS MIC PRODUCT **TOTAL COST: 17.98 RMB**



TRADITIONAL ABS PAINTED PRODUCT **TOTAL COST: 26.05 RMB**



Reduce Investment, Increase Pass Rate

Paint - free

- General injection molding workshop
- Average pass rate: over 95%
- Scratches can be easily polished and repaired
- No post – process

Spraying

- Additional new dust - free spraying workshop is required
- Average pass rate: 85%
- Scratches are not easily polished and repaired
- Post - process baking, power – consuming



dust - free spraying workshop

Integrated Product Structure Design

Replace spraying processes, achieve integrated structure design, improve production efficiency, and reduce costs.

Mature applied products:

B/C - pillar, two - shot injection molding process, PMMA/ABS materials.

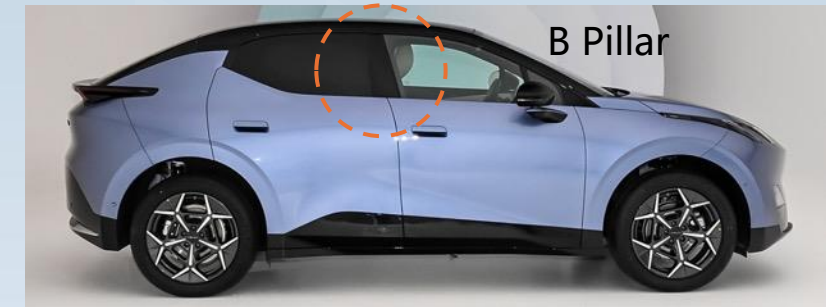
Innovative launched products:

B/C - pillar, three - shot injection molding process, PMMA/ABS/TPS materials, already applied in models such as Lynk & Co Z20 , using COPT materials.

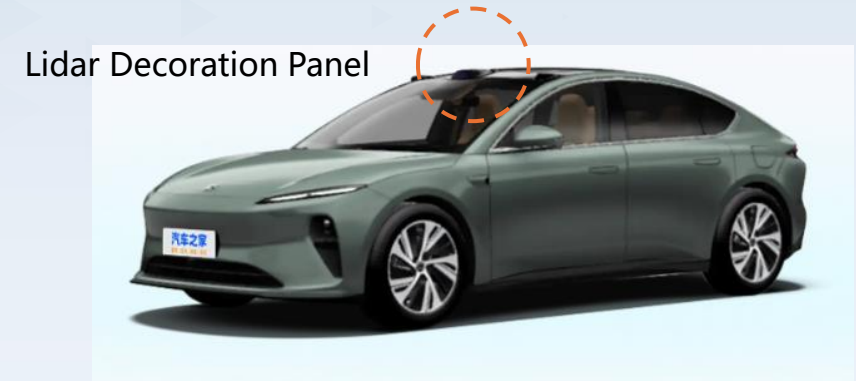
Forward - looking planned products:

Laser radar cover. The current mature process is a double - layer plate bonding structure, with the inner plate and TPS rubber strips bonded, and the outer layer needs spraying.

COPT plans to adopt PMMA/ABS - GF15/TPS three - shot injection molding process, with the outer layer using ultra - heat - resistant PMMA to replace spraying, achieving one - step molding and reducing spraying.



Lynk & Co Z20
three - shot injection molding



Eco-friendly



The European Targets for Carbon Emission Reduction:

2030 Target:

Reduce greenhouse gas emissions by at least 55% based on 1990 levels.

2050 Target:

Achieve carbon neutrality, meaning zero net greenhouse gas emissions.

Carbon neutrality goals of major automobile OEMs:



Mercedes-Benz: By 2039



Volkswagen Group: By 2050.



BMW Group: To reduce the carbon emissions at least 40% compared to 2019 by 2030.



General Motors: To achieve carbon neutrality for global products and operations by 2040.



Ford Motor: By 2050.



Toyota Motor: To reduce the CO₂ emissions of new vehicles by 90% (compared to 2010) by 2050

Eco-friendly



The Impact of Spraying on the Environment:

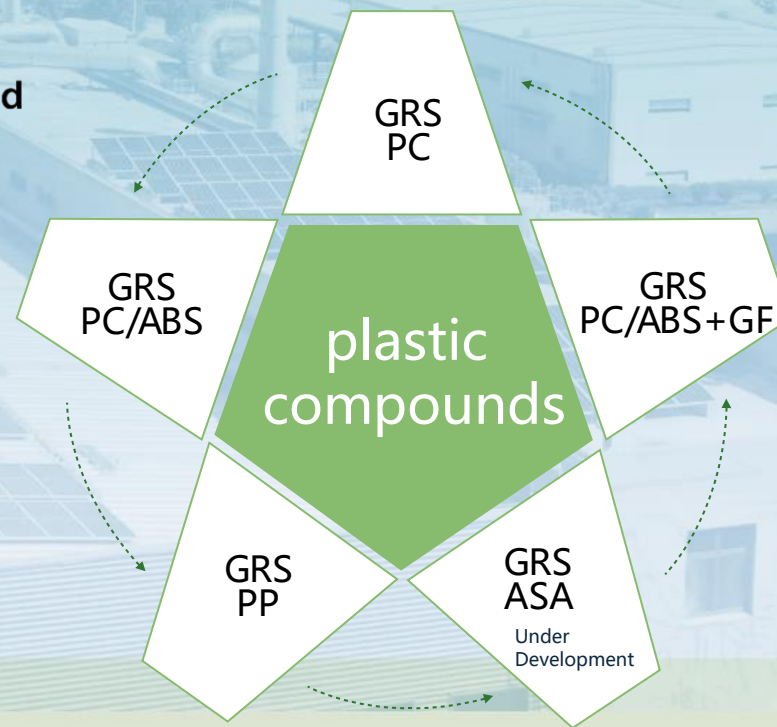
- ❑ Not conducive to low - carbon
- ❑ Emission of volatile organic compounds, leading to excessive VOCs
- ❑ Water pollution
- ❑ Endangering human health

- Recycling and reuse to reduce carbon
- Carbon Reduction through paint - free Materials:
Avoid VOC emissions generated by spraying
- Reduce energy consumption
- Reduce raw material waste

Low Carbon Eco Friendly-GRS



- Raw Material Standard/Verification
- Transaction Certificate
- Supplier Agreement Declaration Form



Recycling Factory



Compounding Factory



Parts Factory



Automotive OEM

Full Transaction Control

The TC certificate is issued upon providing the order invoice, contract, and delivery note. Downstream customers pay based on the TC certificate.

Future technological applications and development

Innovation in High-Gloss Paint-Free Materials

Use of bio-based materials to reduce emissions.

Environmentally friendly & low-carbon

Suitable for roof decoration parts

Ultra- High heat resistance

Vibrant colors

Ideal for body-color matching

Biomimetic textures

Metal-like finishes, paint textures, and flow patterns

Anti-fingerprint & anti-touch marks

Enhanced durability and aesthetics

Anti-glare

Coating-free spraying that prevents light pollution

Using scientific methods to co-create ordinary materials into
COmpound **P**lastics with special properties through innovative **T**echniques.



Thanks for Watching

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