Sumika Polymer Compounds

Sumitomo Chemical Group

Short glass fibre reinforced polypropylene solutions for interiors and exteriors aesthetics applications

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Sumika Polymer Compounds Europe

Presentation Outline

- Sumika at a glance
- Challenges of part assembly in automotive
- Sumika : Solution for aesthetics parts
- Sumika : Succes story for interiors and exteriors applications
- Conclusions

SPCNA/SPCEU

Sumika Polymer Compounds
Sumitomo Chemical Group

100% subsidiary of Sumitomo Chemical

Compounding Facilities
+220 000 MT of PP Compounding capacity

- Production site
- Sales Office
- Mechanical recycling facilities

Sumika Polymer Compounds extensive range

THERMOFIL
High performance short glass reinforced PP

THERMOFIL*HP*
Enhanced performance short glass fibre reinforced PP

THERMOFIL CIRCLE
Mechanical recycled polypropylene compounds

THERMOFIL*FR*
Halogen-free flame retardant engineered compound

THERMOFIL*NP*
Natural Fibre filled PP for lightweight applications

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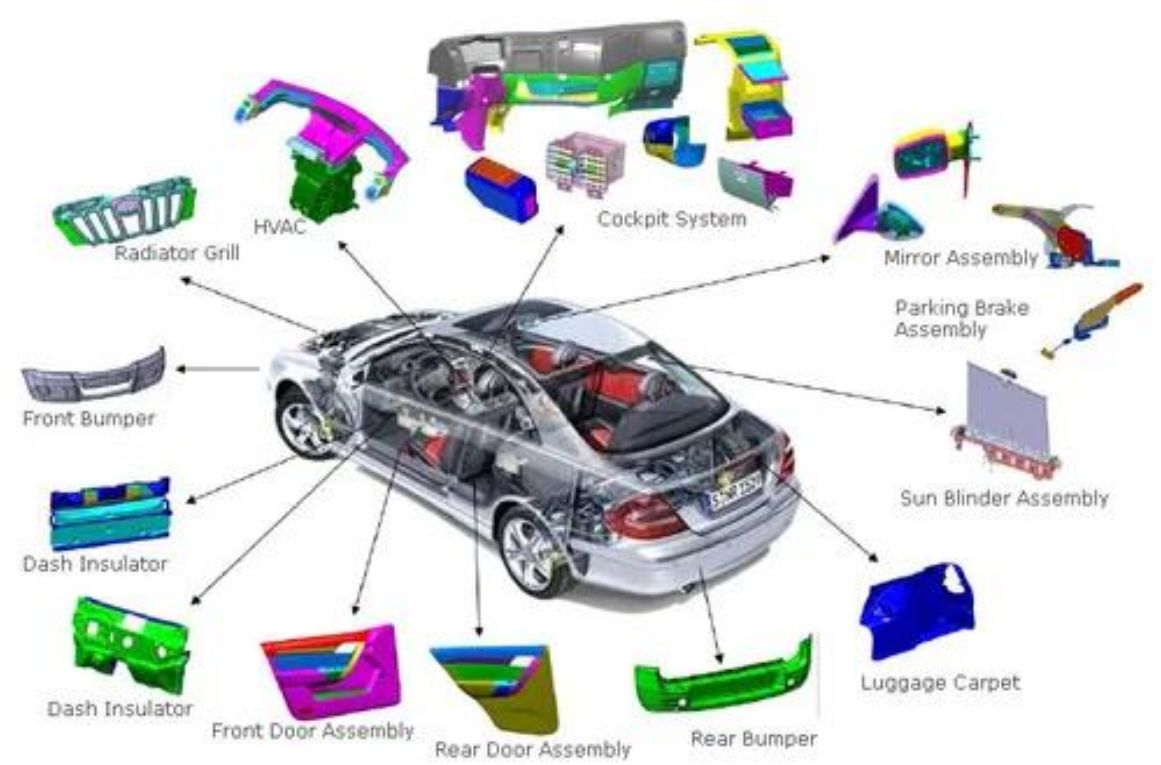
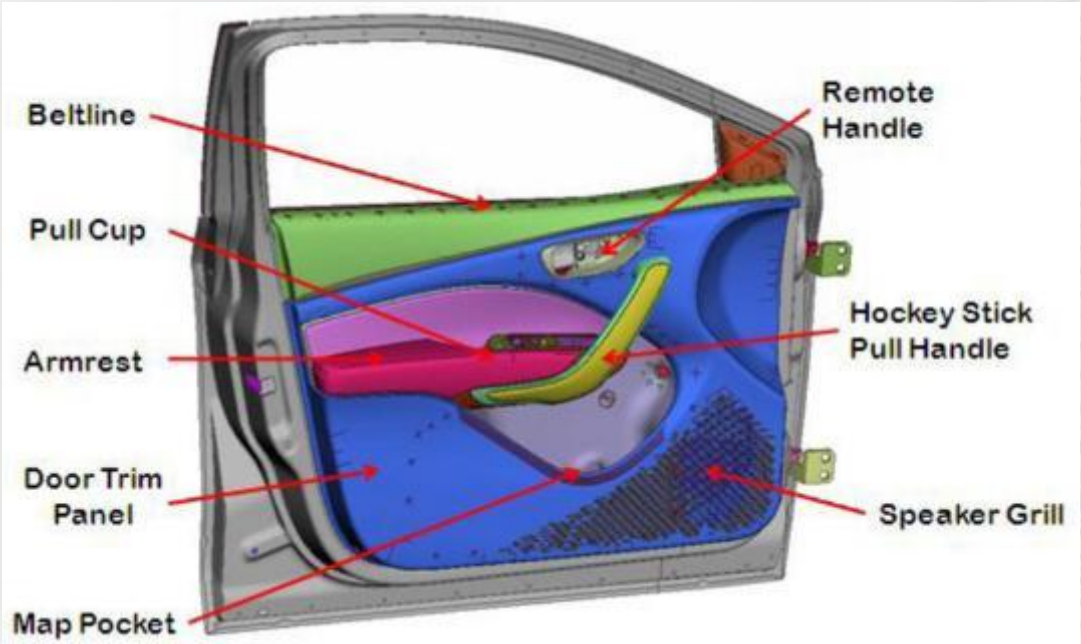
Part assembly: is it an issue ?

Huge diversity of plastics parts used in a car



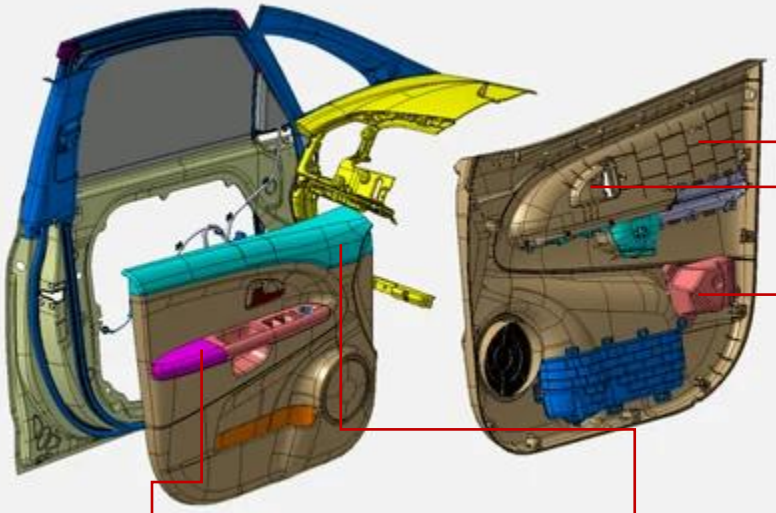


Complex part are made with a lot of assembly operations +with different polymer = increase the cost

$$$

Aesthetics parts: take an examples

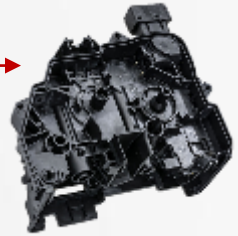
Aesthetics part are made in different polymer



PP/PE unfilled

PA6-GF

PP-GF for reinforcement



PC/ABS

PP/PE Talc filled

PC/ABS PP-GF

PC/ABS

Diversity of polymer used = complexity

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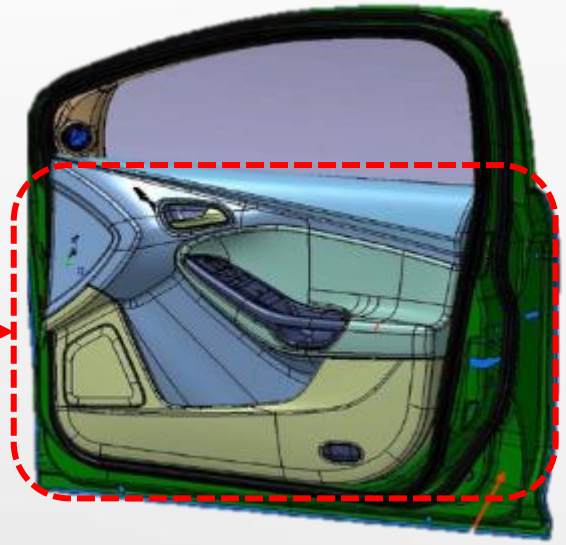
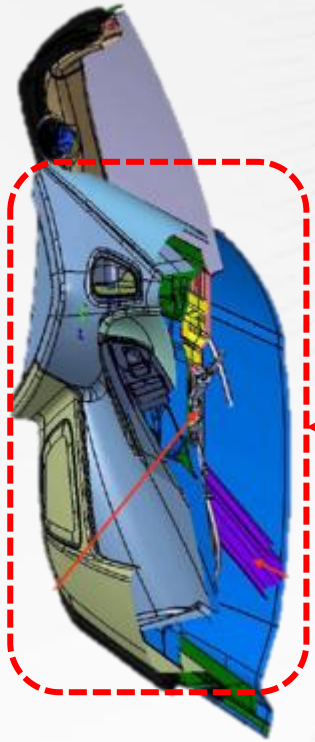
Anatomy of door system



For aesthetics parts, most of material used are **PP/PE; PP mineral filled, PC/ABS, PA,….**

Door trim complexity leads to dismantling challenges, which in turn affect recyclability

Minimizing parts through functional integration.



For mechanicals parts most of material used are **PP glass fibre reinforced** or **PA glass fibre reinforced**

Sumika proposal

AESTHETICS PARTS:

- PP/PE
- PP-MD
- PA6
- PC/ABS

MECHANICALS PARTS:

- PP reinforced
- PA reinforced

AESTHETICS AND MECHANICAL PARTS:

Less mounting or assembly required

ALL in ONE

Sumika proposal

Aesthetics Challenges

- Surface finish
- Textured
- UV resistance
- Color matching
- Smell; VOC
- Weatherability
- Scratch & abrasion resistance

+

Furthers challenges

- Keep mechanicals behaviour
- Compatibility with additional finishes (coating, foiling, etc…)
- Smooth processing (no flow marks)
- Low to no warpage
- Sustainability
- Cost effective
- Easy dismantling

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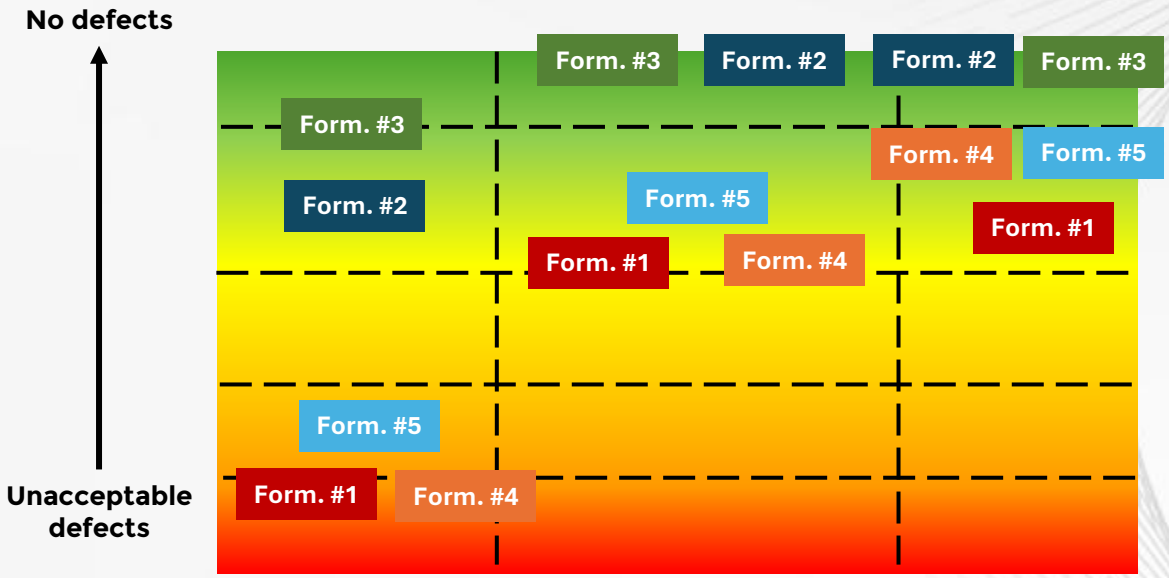
Sumika proposal for interiors

Visual aspect (3 grains)

2+ years of development

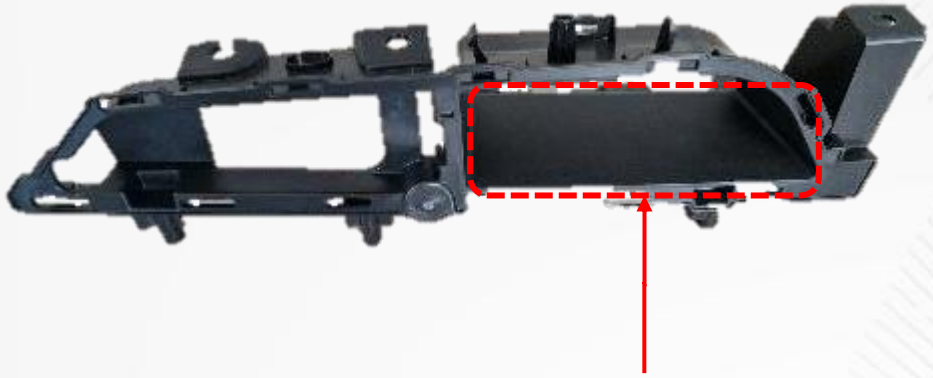
Structural and inner lifgate achieving in PP-GF40 (THERMOFIL*HP*® F811X9X)



Sumika proposal for interiors

Structural and inner lifgate achieving in PP-GF40 (THERMOFIL *HP*® F811X9X)

Structural door stoup in PP-GF30 (THERMOFIL *HP*® F610X7X) Low odour; UV and color

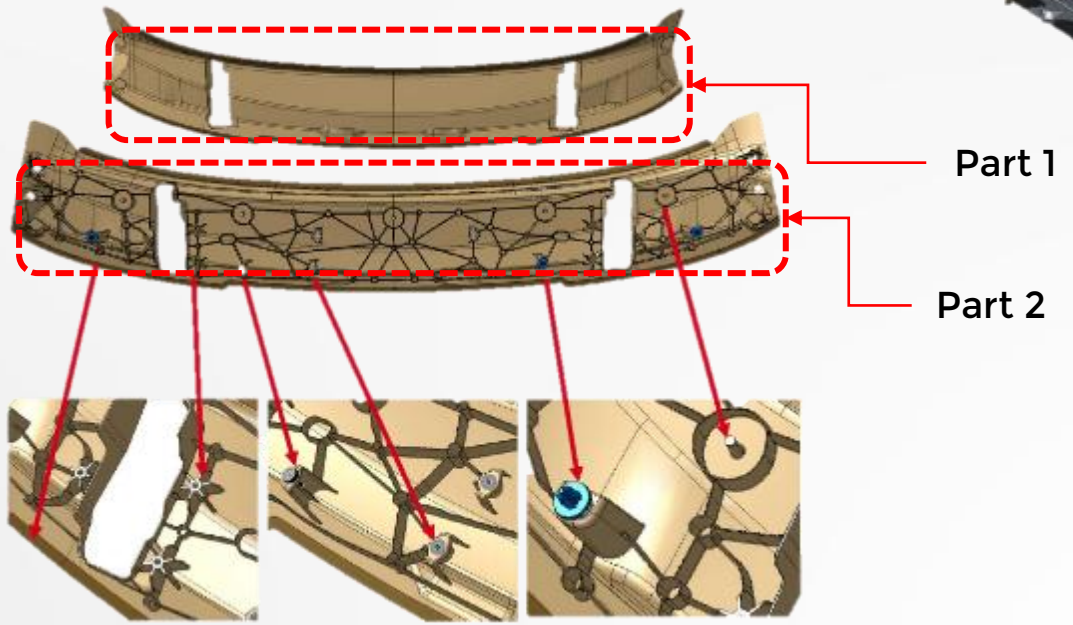


Sumika proposal for exteriors

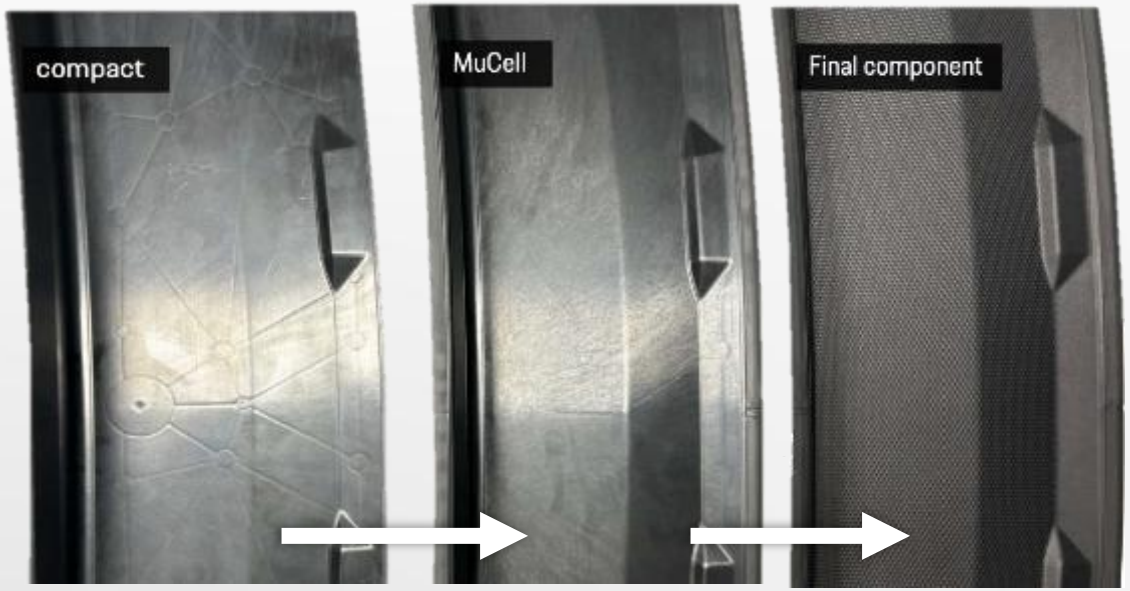
Concept of active rear spoiler for lightweighting, aesthetics ans structural

Aesthetics Challenges

- Surface finish
- Textured
- UV resistance
- Color matching
- Weatherability
- **Easy assembly**
- **Eco conception (mono material)**
- **Easy mounting**



Sumika proposal for exteriors



Aesthetics and lightweighting need

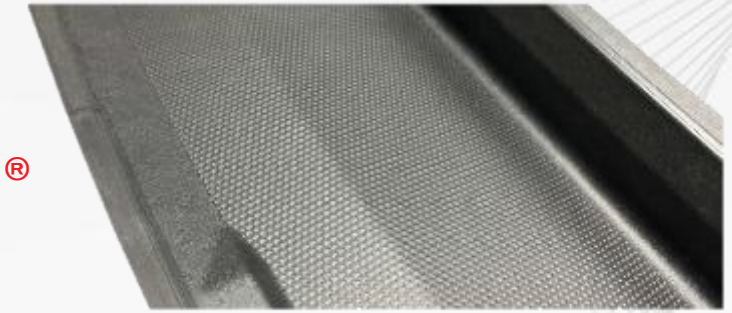
Finishing (textured) requested

3+ years of development

Structural and aesthetical rear spoiler with textured achieved in PP-GF30+PP-GF35
UV and color match

THERMOFIL®

THERMOFIL *HP*®



Sumika proposal for exteriors

Diversity of parts in a front fascia (bumper; front grill, etc…)

THERMOFIL®

PP-GF30 UV + colored + aesthetics
developed and approved
Improved recyclability

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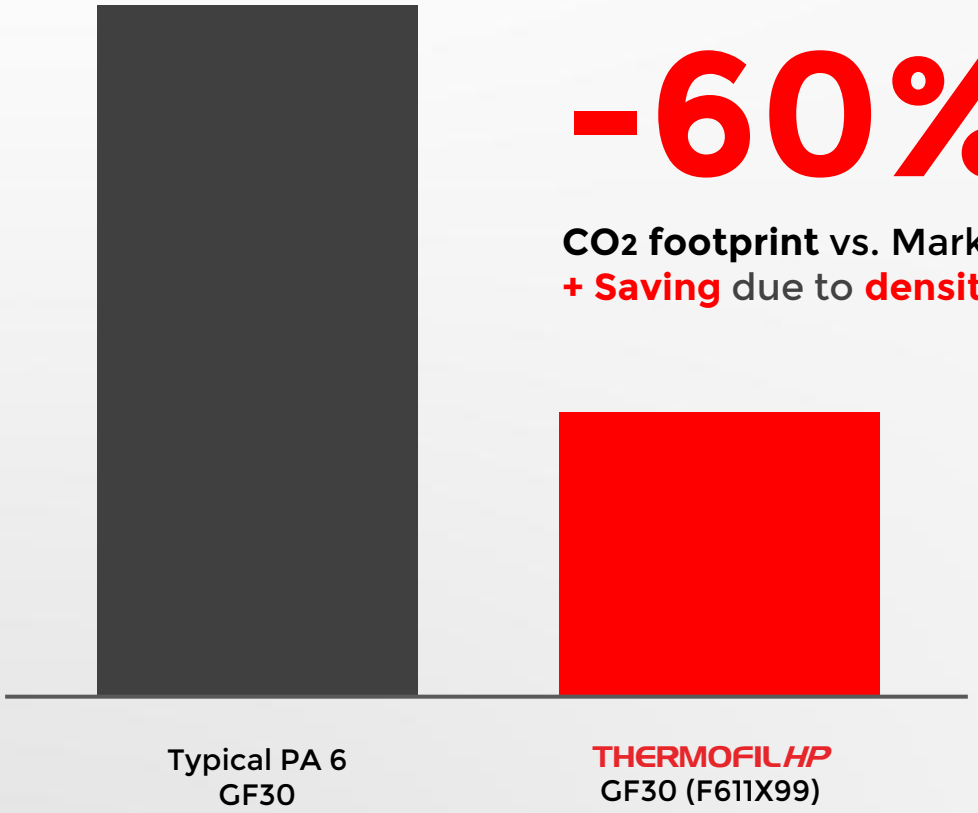
Summary : THERMOFIL CO_2 footprint



-60%

CO_2 footprint vs. Market PA 6 GF30
+ Saving due to **density difference**

PA, PBT & LGFPP substitution

Lightweighting
Up to
20% saving

CO_2 Reduction
Up to
70% vs. PA

Global availability

**SPC internal calculation according to the ISO14040 standard.

*Based on data provided by suppliers

Summary : THERMOFIL *HP*® and THERMOFIL®

Sumika Polymer Compounds

Sumitomo Chemical Group

Thank you for your attention

Curious to **learn more ?**

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