

# SABIC SOLUTIONS FOR CONSUMER GOODS

Plastics play an important role in the manufacture of consumer goods as well as small and large home appliances, which have become ever-present in our daily lives. In view of a rising middle class in an increasingly urban population worldwide, manufacturers are continuously striving to create stronger, lighter and more durable products offering excellent aesthetics, greater functionality and higher performance along with sustainable energy and resource efficiency. Key driving needs of these industries are waste reduction, circularity, use of renewable feedstock, and enhanced consumer appeal.

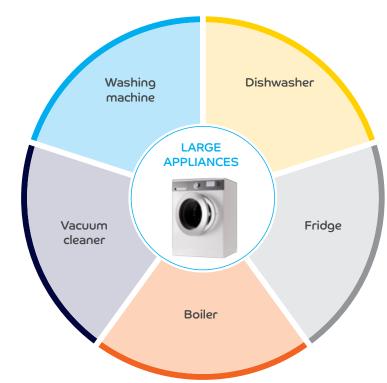
SABIC offers tailor-made solutions to meet these challenges; with a broad portfolio of engineering thermoplastics and polymer solutions- Polypropylene, Acrylonitrile Butadiene Styrene (ABS), Polybutylene Terephthalate (PBT), Polystyrene (PS), Polycarbonate (PC), Polyethylene Terephthalate (PET), Polyethylene (PE), High-Density Polyethylene (HDPE)-, that supports design for recyclability and offer compliance with safety regulations while providing enhanced aesthetic appeal. Our collaborations with value chain partners and brand owners for sustainable consumer goods,

and appliances align closely with SABIC's TRUCIRCLE™ portfolio and services to accelerate the journey towards circularity and reduce the climate impact of these products.

The Sports & Leisure industry is a big user of foamed products that provide the core of many applications, as well as for total end-product solutions. Polymeric foams play an important role to address many challenges faced by the industry, such as light weighting, cushioning, softness, impact resistance and durability.

#### LARGE APPLIANCES

- Washing machine
- Dishwasher
- Fridge
- Boiler
- Vacuum cleaner



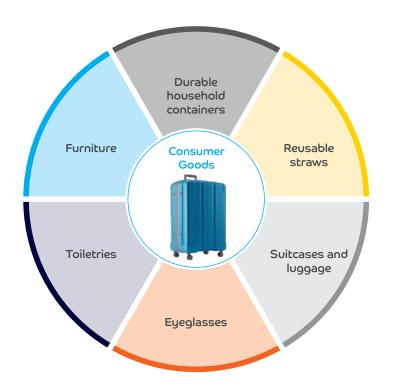
#### SMALL APPLIANCES

- Coffee machines
- Iron
- Rice cooker
- Blender
- Water kettle
- Microwave oven



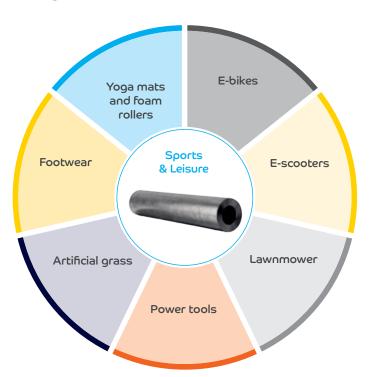
#### **CONSUMER GOODS**

- Durable household containers
- Reusable straws
- Suitcases and luggage
- Eyeglasses
- Toiletries
- Furniture



#### **SPORTS & LEISURE**

- E-bikes
- E-scooters
- Lawnmower
- Power tools
- Artificial grass
- Footwear
- Yoga mats and foam rollers



#### FOR CHILDREN

- Toys
- Baby bottles
- Childrens' car seat







### Laser Direct Structuring (LDS) Solution for Earphones

### LNP<sup>TM</sup> THERMOCOMP<sup>TM</sup> Compounds



- High flow for small parts with complicated structures
- Heat resistance required for high temperature assembly process
- Flame resistance with a good balance of mechanical properties
- Each part weighs <100 grams

#### **VALUE PROPOSITION**



- Dimensional stability
- Good aesthetics
- Flame retardant
- Heat resistance



### Sustainability Solution for Cosmetic Applications

### LNPTM ELCRINTM Compounds





- Better chemical resistance, compared to alternative options while maintaining drop/impact strength
- Formulation locked as required by such applications
- Each part weighs <100 grams



- FDA compliant
- Sustainability
- Chemical resistance
- Easy processing



### Children Car Seat

### SABIC® PP PHC27 Copolymer



### **SOLUTION SUMMARY**

- Ensures compliance with European safety standard
- Has good aesthetics and ease of processing
- SABIC material share of this application is 70%





- Safety compliance
- ECE-R129 (crash testing)
- Superior mechanical performance
- Easy processing and aesthetics
- 10% in weight reduction

### Tricycle

### SABIC® PP 37MK10R Impact Copolymer



### **SOLUTION SUMMARY**

- High impact performance, good stiffness, good process ability, low shrinkage
- Used as a soultion for tricycle which requred excellent physical properties and high safety standards
- SABIC material share of this application is 40%





- Good dimensional stability
- Good process-ability







### Housewares Storage Box

### SABIC® PP 5706P Polymer



- High stiffness, good flow ability, excellent glossinessm
- Suitable for housewares storage box
- SABIC material share of this application is 100%

#### **VALUE PROPOSITION**



- Excellent optical
- Good process-ability

### Mattress and Furniture

SABIC® POLYOL 0548 / 0656/ 0434/1127/1529, SABIC® TDI 0380 Polyurethane Foam



### **SOLUTION SUMMARY**

- Used in the production of bed mattresses and sofas
- Provides comfort and high elasticity
- SABIC material share of this application is 100%



- Easy processing
- Light weight
- Durability





CONSUMER CONSUMER

### Bathroom Shower Drain

### SABIC® PP Compound 55T1030B



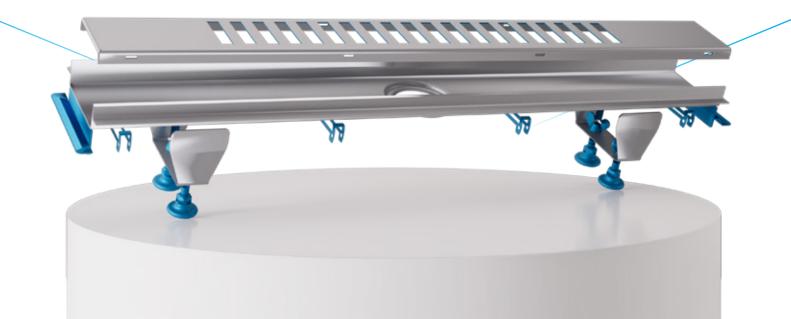
### **SOLUTION SUMMARY**

- One material solution
- Now used as reference for new customer projects
- SABIC material share of this application is 100%

### **VALUE PROPOSITION**



One material solution



### Toilet Flush System

### SABIC® PP 528K Polymer



### SOLUTION SUMMARY

- Good processability, high stiffness, clarity, good printability
- Suitable for toilet flush system
- SABIC material share of this application is 100%



- High stiffness Easy processing



### Earphone Housing

### NORYL™ Resins



### **SOLUTION SUMMARY**

- Good bonding strength with silicone and heat resistance for hardening of silicone
- Easy processing and strength for thin-wall parts
- High modulus for good sound effect
- Each part weighs <100 grams

#### **VALUE PROPOSITION**



- Chemical resistance
- Easy processing
- Mechanical strength
- Heat resistance

### Appliances

### CYCOLAC™ Resin MG47



### **SOLUTION SUMMARY**

- Designed for appliances applications like washing machines, refrigerators
- Excellent toughness properties
- Dimension stability and ease of machining
- First choice for appliances applications
- SABIC material share of this application is 20%





- Ese of Machining
- Excellent Toughness
   Properties
- Dimension Stability





### Arm Table for Schools

### SABIC® PS 330 Polystyrene



### **SOLUTION SUMMARY**

- Offers a suitable solution in school furniture by replacing the wood filling
- Impact strength, light weight, and scratch resistance
- SABIC material share of this application is 100%

#### **VALUE PROPOSITION**



- Good Mechanical Properties
- Surface Finish
- Sustainable solutions
- Dimension Stability

### Arm Table

### CYCOLAC™ Resin MG47F



### **SOLUTION SUMMARY**

- Ideal for creating sturdy and long-lasting arm tables
- Excellent impact resistance, rigidity, and dimensional stability
- SABIC material share of this application is 100%

#### **VALUE PROPOSITION**

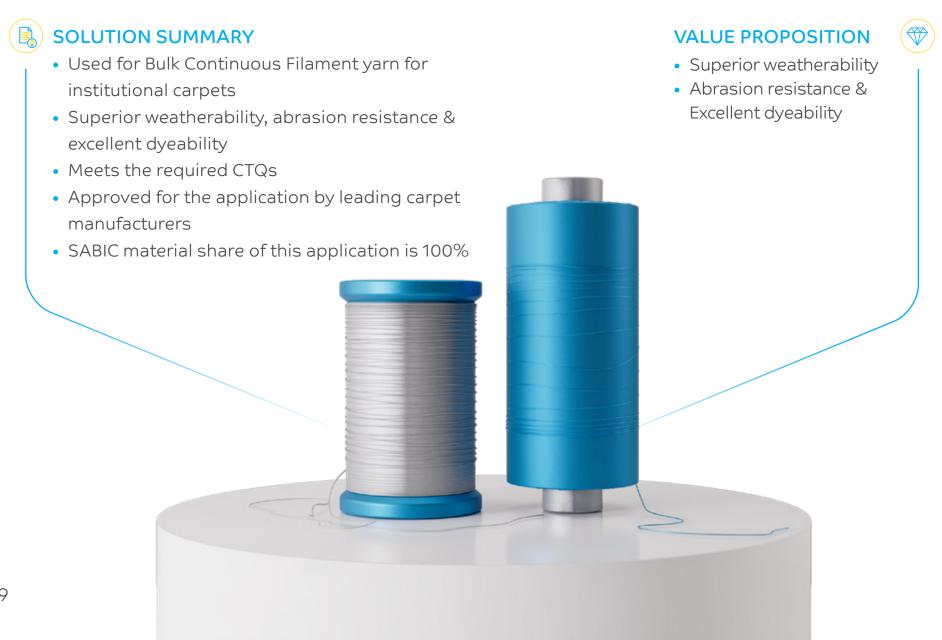


- Higher durability
- Good Mechanical Properties
- Sustainable solutions
- Dimension Stability



### Bulk Continuous Fiber (BCF) Yarn for Carpets

### SABIC® PA6 S27 Polyamide



### Crates and Molded Cases

### SABIC® HDPE M200050 Polymer



### **SOLUTION SUMMARY**

- Developed with narrow molecular weight distribution
- Suitable for injection molding applications
- Designed to give good flow properties, low warp age with good dimensional stability and high gloss
- SABIC material share of this application is 100%

#### **VALUE PROPOSITION**



 High rigidity & Good impact strength





### Housewares

### SABIC® HDPE M40053S Polymer



### **SOLUTION SUMMARY**

- UV stabilized grade with narrow molecular weight distribution
- Suitable for injection molding applications
- Provides good balance of stiffness and impact at low temperatures
- SABIC material share of this application is 100%

#### **VALUE PROPOSITION**



- Good Impact Resistance
- Good Flow ability & Low Warpage

## Household Container

### SABIC® HDPE M40055S Polymer



### SOLUTION SUMMARY

- Especially developed for injection molding applications
- Provides good balance of stiffness, impact at low temperatures
- UV stability for outdoors applications
- SABIC material share of this application is 100%

#### **VALUE PROPOSITION**



 Good Flow ability & Good ESCR





### Household Container

### SABIC® HDPE M40060/S Polymer



### **SOLUTION SUMMARY**

- Designed with narrow molecular weight distribution
- Suitable for injection molding applications
- Gives good rigidity, excellent toughness and low warp age
- Comes also with UV stabilized version
- SABIC material share of this application is 100%

#### **VALUE PROPOSITION**



- Good Impact Resistance
- Low Warpage

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### Foam Roll

### SABIC® LDPE HP2024JDF & HP2022NDF Polymers

### **SOLUTION SUMMARY**

- Meets customers' requirements for the foaming extrusion process and their applications
- SABIC material share of this application is 100%



- Good processiblity
- Excellent foamabilty
- High purity
- High Melt strength





### Egg Maker Capsule

### NORYL™ Resins



## Large Appliance Control Unit Enclosure

### NORYL™ Resins



- Good balance of heat and electrical performance
- Low warpage and dimensionally stable
- Meets stringent flammability ratings for thin-wall parts
- Each part weighs ~1 kg





- Dimensional stability
- Low warpage
- Easy processing





### Safety Helmet

### LNPTM ELCRESTM Resins



- Impact strength is a key consideration, passing customer's stringent tests in a broad temperature range
- Other requirements include weatherability for outdoor use and pre-colored
- Each part weighs ~300 grams

#### **VALUE PROPOSITION**



- Impact resistance
- Weatherability
- Easy processing
- Colourable



### Walkie Talkie Chassis and Housing

### LNP™ ELCRES™ Resins





- Can be welded against self and other materials
- Being a hand-held device, used in different environments, it has to be resistant to many chemicals







- Impact resistance
- Dimensional stability
- Easy processing







### Consumer Luggage

### SABIC® PP Compound 88MK40T



- Very high impact resistance performance
- Low odor to optimize venting process for luggage and suitcase applications
- SABIC material share of this application is 100%



**VALUE PROPOSITION** 

• Low odor to optimize

Weight saving

## Water Hose

### SABIC® SPVC 70S Polyvinyl Chloride



### **SOLUTION SUMMARY**

- Used in the production of pipes for water and gas distribution, automotive parts, inflatable boats and rafts, and vinyl records
- Strong, durable, and resistant material
- Can withstand high pressure, extreme temperatures, and harsh environments
- SABIC material share of this application is 60%



- Durability
- Lifetime
- Flexibility
- Mechanical strength



CONSUMER CONSUMER

### Baby Bottles

### SABIC® PP PCGR40 Random Polymer



### **SOLUTION SUMMARY**

- Used for developing a 'clean by manufacturing' baby bottle in different sizes
- No sterilization is needed before use
- High transparency
- Medically and food contact grade approved
- SABIC material share of this application is 100%

#### **VALUE PROPOSITION**



- Regulatory Compliance / Organoleptic properties
- Recyclability/ sustainability
- Easy Processing
- Stretch Blow Moulding (good stiffness and stretch)

### Housewares, Home Appliance

### SABIC® PP 511MK41T Polymer



### **SOLUTION SUMMARY**

- Good surface aesthetics with no visible white spots in color chip
- Lower shrinkage
- Suitable housewares and home appliances
- SABIC material share of this application is 100%

#### **VALUE PROPOSITION**



32

- aesthetics • No visible white spots
- Lower shrinkage gap
- Less warpage

in color chip







### Nano Molding Technology Solution for Smart Watch Middle Frame

### LNP<sup>TM</sup> THERMOCOMP<sup>TM</sup> Compounds



### **SOLUTION SUMMARY**

- Can be injected into metal surface which has been treated with a special chemical solution, replacing the traditional processes
- Material toughness with good chemical resistance are needed for wearables
- Each part weighs <100 grams

#### **VALUE PROPOSITION**



- Chemical resistance
- Impact resistance
- Dimensional stability
- Easy processing

### Sweeping Robot Duster Cloth Holder

#### LNPTM ELCRESTM Resins



### **SOLUTION SUMMARY**

- This tough material passed customer's drop tests
- Provides air-tightness for improved efficiency
- Excellent chemical resistance reduces risk of cracking during use
- Each part weighs <100 grams



- High stiffness
- Chemical resistance
- Easy processing





### Eye Robot Side Housing

### LNPTM ELCRESTM Resins



35

### **SOLUTION SUMMARY**

- Flame resistance required for this appliance part
- Transparent, allows infrared light transmission for functionality
- Good impact performance is required for prolonged part life
- Each part weighs ~100 grams

#### **VALUE PROPOSITION**



- ECO flame retardant
- Transparent
- Easy processing
- Impact resistance

### Hair Dryer Body

### ULTEM™ Resins



### SOLUTION SUMMARY

- Good heat resistance helps customer simplify inner electronic designs
- Appealing aesthetics and colorable, material passed customer's drop tests
- Flame resistance needed for this appliance part
- Each part weighs ~150 grams



- · ·
- Inherent flame retardant
- Dimensional stability
- Good mechanical properties



### Transparent Jugs

### SABIC®PMMA 60MS Acyrilic



### **SOLUTION SUMMARY**

- Special medium flow PMMA grade
- Suitable for injection molding
- Has exceptional transparency and gloss for thick items
- Ease of processing
- Suitable for homeware applications, such as jugs
- SABIC material share of this application is 100%

#### **VALUE PROPOSITION**



- Balanced Melt Strength & Viscosity
- High Light Transmission
- Better Weathering & UV
   Resistance
- Easy Processing

## Sustainability Solution for Diving Suit Valve

### LNP<sup>TM</sup> ELCRIN<sup>TM</sup> Compounds

#### **SOLUTION SUMMARY**

- Sustainability grade for carbon footprint reduction
- Able to replace existing material without costs of new tools and can be pre-colored
- Resistant to sea water and cleaning chemicals
- Each part weighs <100 grams

- Sustainability
- Chemical resistance
- Impact resistance
- Colorable





## Jewel Boxes, Watch Boxes, Gift Boxes, Containers

### SABIC® PS 125 Polystyrene



### **SOLUTION SUMMARY**

- Suitable for different injection molding applications, such as jewelry and gift boxes, tumblers, containers, etc.
- Medium flow and high clarity
- SABIC material share of this application is 100%



- Transparency
- Availability, Lower lead time
- Compliance with Food safety
- Excellent processability

