

Polypropylene solutions for flexible applications

Co-creating the future for films

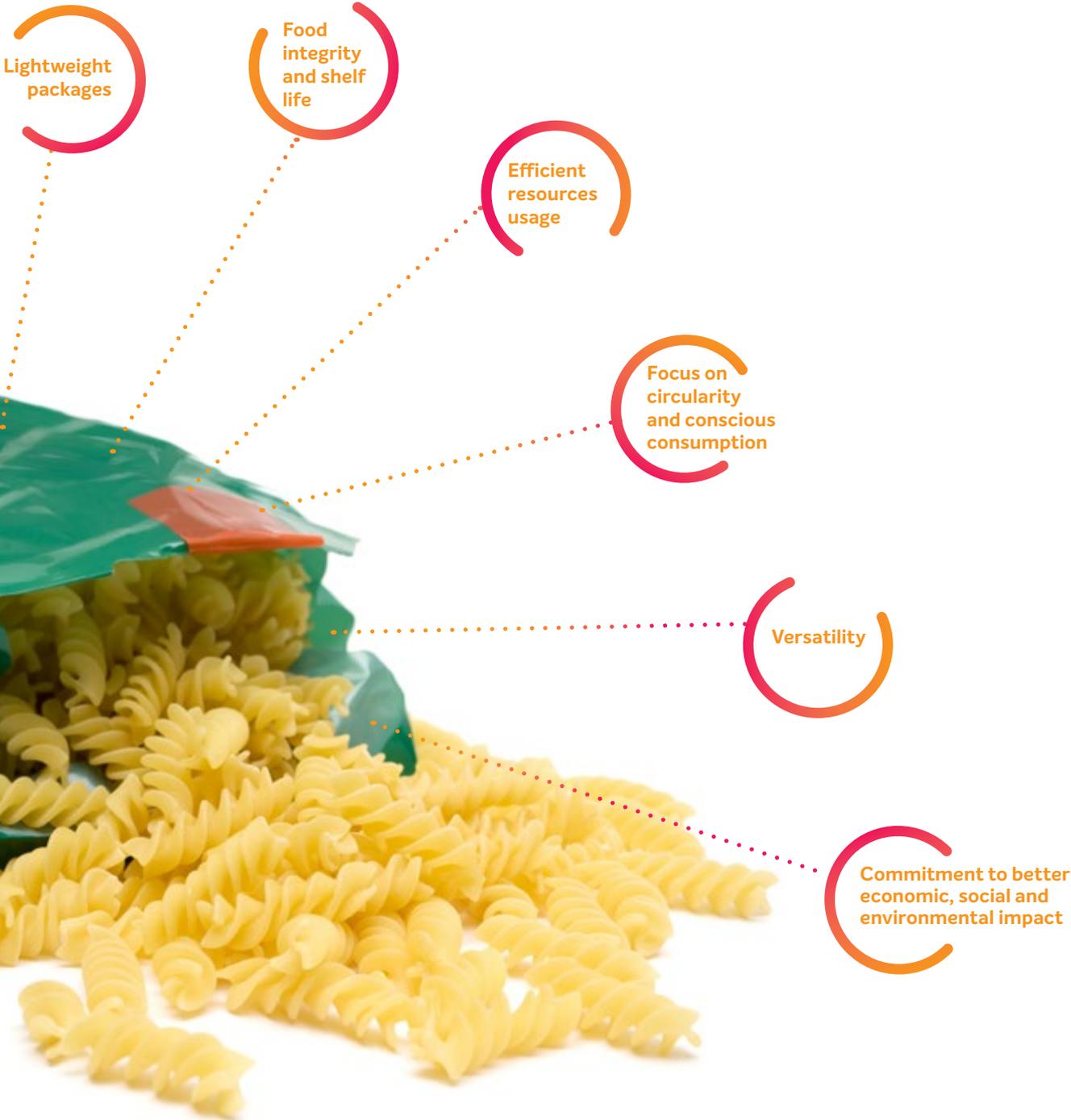


Flexible packaging and its benefits



With the purpose of making people's lives better and taking into consideration the main challenges of the modern world, Braskem is highly committed on creating innovative and sustainable solutions through chemicals and plastics.

It is our belief that the flexible applications contribute positively to an easier and more sustainable daily life by providing:





We are developing the next generation of performance polypropylene that exploit recent advances in catalyst and process technology, combined with polymer science and engineering innovation.

Accelerating innovation and speed to market

Multiple technologically integrated centers in the United States, Brazil and Germany employ more than 300 specialized professionals who collaborate with clients on joint product and applications development.

These state-of-the-art facilities feature:

- Pilot-scale equipment that replicates customer production environments for more true-to-life polymer testing.
- Blown and Cast Film equipments that create innovative solutions to meet customer needs
- Catalyst labs for developing experimental polymers with enhanced physical properties.
- On-site analytical labs that provide tools to understand performance requirement.

Client-driven innovative focus

We understand the importance of a competitive and dependable supply of high quality products. Applications often require new levels of performance. Braskem has the capability to provide technical expertise and innovation that meets your product differentiation requirements.

Reliable, responsive service and supply

We are focused on being responsive to the needs of our global clients with service levels and supply security unmatched by the competition. At the heart of this responsiveness is geographic diversity that provides reliable sourcing, with production facilities in North America, Germany, and Brazil.



Next generation of polypropylene polymers for high level of performance



Flexibles: Blown film, Cast film, BOPP film

Typical Properties		Melt Flow Rate (230°C/2.16kg)	Flexural Modulus	Melting/Vicat Temperature	Controlled Rheology	Additives **	CaSt	
Units		g/10min	MPa	°C				
HOMO	H357-09RSB	9.5	1400	163/155	yes	S,AB	yes	
	High stiffness and heat resistance, sterilisable - Food packaging, stationary films and general packaging.							
	DH362.01	9.5	1400	163/154	yes	S	yes	
		High stiffness and heat resistance, sterilisable - Food packaging, stationary films and general packaging.						
RACO	HSP165G	16.5	1500	164/155	yes	AGF	yes	
	High stiffness and heat resistance, sterilisable and easy flow - Food packaging, stationary films and general packaging.							
	DR155.01	1.8	900	142/125	no	-	yes	
		Superior optical properties, low level of gels and softness - Multilayer structures, sealant and lamination films.						
ICP	DR352.01	8.0	700	139/130	yes	-	yes	
	Excellent optical properties and high toughness and sealing properties - Food packaging, lamination films, textile packaging and stretch films.							
	DR7051.01	10.0	1200	150/133	no	AS	yes	
		Excellent optical properties and high toughness and sealing properties - Food packaging, lamination films, textile packaging and stretch films.						
Specialty	Inspire® 137	0.8	1000	163/146	no	-	no	
	Excellent stiffness/toughness balance, melt strength and very low level of gels - Stand up pouch film, multilayer structures, siliconised, technical and lamination films.							
	DC7056.05	3.5	1050	166/158	no	-	yes	
		Booster for mechanical properties, low level of gels, retortable - Lamination films, stretch films, stand up pouch films.						
Specialty	CG70	7	1350	-/151	no	-	yes	
	Excellent stiffness/toughness balance and good mechanical resistance at low temperatures - Lamination films.							
	Inspire® 114EU	0.5	1400	167/155	no	-	yes	
		Outstanding melt strength, high stiffness and impact resistance - Foamed films, labels and tags.						
Specialty	F030HC	3.3	2150	-/158	no	-	no	
	Very high stiffness, downgauging - High stiff raffia, twist and label film.							
	F080HC	8.0	1900	-/155	no	-	no	
		Very high stiffness and superior heat resistance, sterilisable - Food packaging, twist films, stationary films.						

* Import; ** AS: Antistatic; S: Slip; AB: Anti-block; AGF: Anti-gas-fading.

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Nomenclature HOMO = HOMOPOLYMER RACO = RANDOM COPOLYMER ICP = IMPACT COPOLYMER

Boosting blown film solutions with **polypropylene specialties**

Braskem's polypropylene designed for blown film application allow producers to enhance their current film formulations. This evolution aims to provide a greater balance of processability and performance, which adds versatility and flexibility. Benefits from the proven performance that helps our clients add value to a wide range of innovative downstream solutions include:

- Improved melt strength enabling down gauging
- Low gel level to guarantee superior film quality
- Balanced stiffness and impact properties
- Outstanding optical properties for the different application needs
- Resins suitable for food contact applications downstream formulation development

Broad portfolio for **cast film applications**

Designed Homopolymers, Random and Heterophasic Copolymer grades that meet today's sophisticated cast film extrusion needs. Our products provide additional features for innovative designs:

- Good processing
- Excellent mechanical and optical properties
- High flexibility

Sustainable solutions for you

Braskem offers a huge variety of sustainable products for compounds. Our portfolio ranges from grades made of bio-based material to recycled material. The material is certified and we offer a service to provide you with a life cycle analysis.

Our commercial team will support you in finding the right sustainable material for your needs.



BIO-BASED RAW MATERIAL

- HDPE, LDPE, LLDPE and EVA
- Blow molding, injection molding & extrusion
- Can be in **contact with food***
- Measurable **bio-based content**
- **Captures CO₂** from the environment
- Tackling **climate change**



MASS BALANCE CERTIFIED BIO-ATTRIBUTED

- PP
- Blow molding, injection molding & extrusion
- Can be in **contact with food***
- **ISCC** mass balance certified bio-based
- Contributes to reduce **dependance on fossil feedstock**
- **Reduced carbon footprint**



FOSTERING THE TRANSITION TO A CIRCULAR ECONOMY



RECYCLED RESINS

- rHDPE, rLDPE, rPP
- Blow molding, injection molding & extrusion
- Made from **post-consumer recycled plastic**

MASS BALANCE CERTIFIED RECYCLED

- PE, HPP, RPP and ICP
- Blow molding, injection molding & extrusion
- Can be in **contact with food***
- **ISCC** mass balance certified recycled

LOW CARBON SOLUTIONS

- rHDPE, rPP
- Blow molding, injection molding & extrusion
- Measurable **bio-based content**

Braskem can offer all PP products with an ISCC PLUS certificate.

*These applications are merely exemplary. The possibility of using this product for a specific purpose may vary according to the jurisdiction and should be analyzed by the interested party. Braskem does not warrant the suitability of the product for the intended use when combined with other substances. Please check the RIS or contact Braskem for specific regulatory information.

Europe

Rotterdam, Netherlands

Headquarters
Start-up year: 2017

Schkopau, Leipzig Area

Capacity: 360 kT/yr
Technology: Spheripol
Start-up year: 1998

Wesseling, Cologne Area

Capacity: 265 kT/yr
Technology: Unipol
Start-up year: 1991



Innovation & Technology Centre
Start-up year: 2016

Braskem in numbers



Warehouses
Europe

Antwerp | **Belgium**
Murcia | **Spain**
Bologna | **Italy**
Rotterdam | **The Netherlands**

297

Team Members



2 Industrial Units:
Wesseling and
Schkopau (Germany)

PRODUCTION
CAPACITY OF

625 KT/Y

of **PP**



Global presence

With a global vision of the future, oriented toward people and sustainability, Braskem is engaged in contributing to the value chain in order to strengthen the Circular Economy. Its more than 8.000 team members are dedicated to improving people's lives through sustainable solutions in chemicals and plastics. With its corporate DNA rooted in innovation, Braskem offers a comprehensive portfolio of plastic resins and chemical products for diverse industries, such as food packaging, construction, manufacturing, automotive, agribusiness, health and hygiene, and more. Braskem is globally headquartered in Brazil and EMEA head office is based in Rotterdam – NL. In total, there are more than 40 industrial units in Brazil, the United States, Mexico, and Germany, exporting its products to clients in over 80 countries.

 **8,353**
Team Members

PRODUCTION OF OVER **20** MM TONS/YEAR
of thermoplastic resins & other chemicals products



40 industrial units:
29 plants in Brazil
5 plants in the United States
2 plants in Germany
4 plants in Mexico



