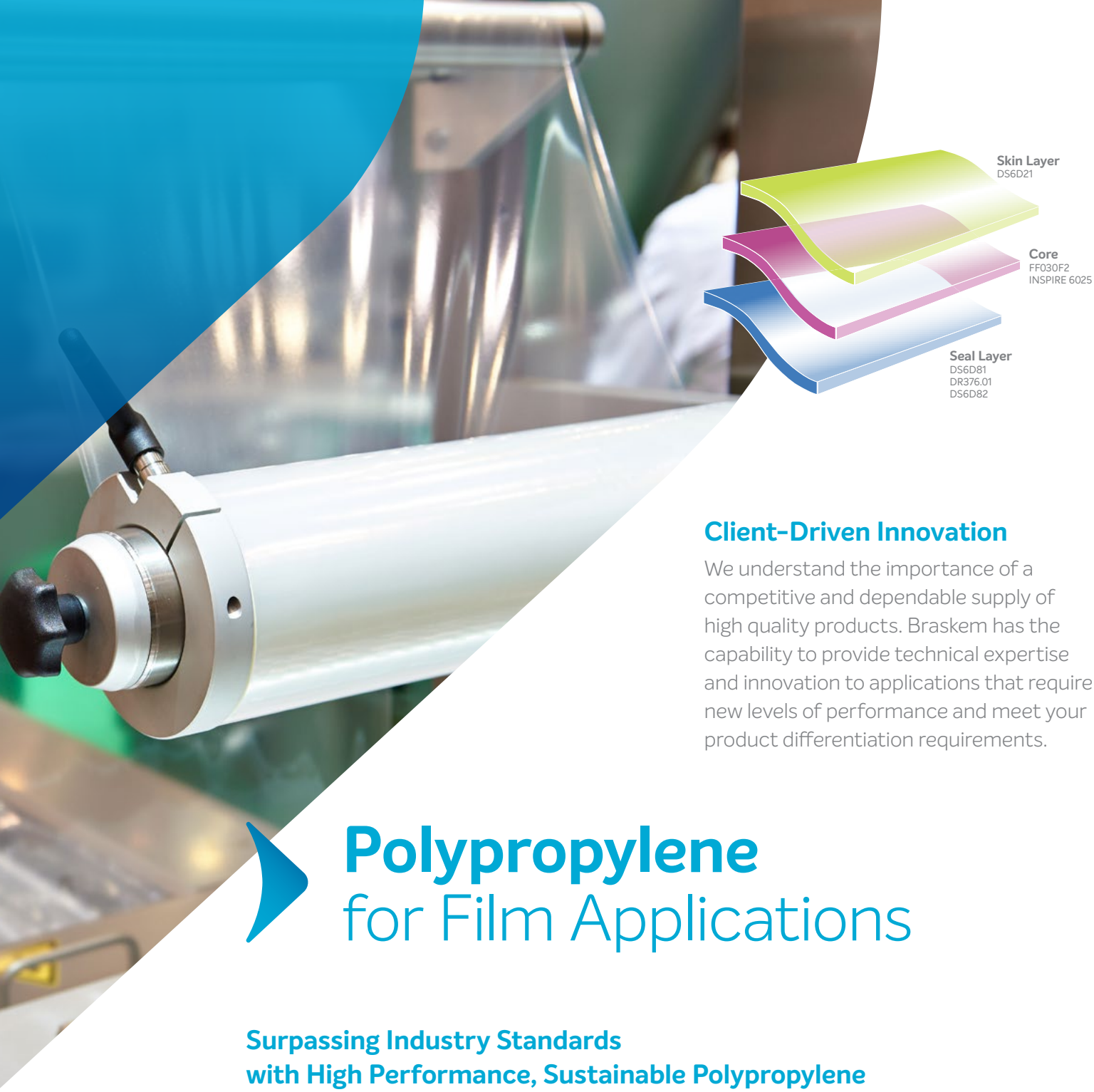
Polypropylene
for Film Applications

Braskem



Client-Driven Innovation

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

Polypropylene for Film Applications

Surpassing Industry Standards with High Performance, Sustainable Polypropylene

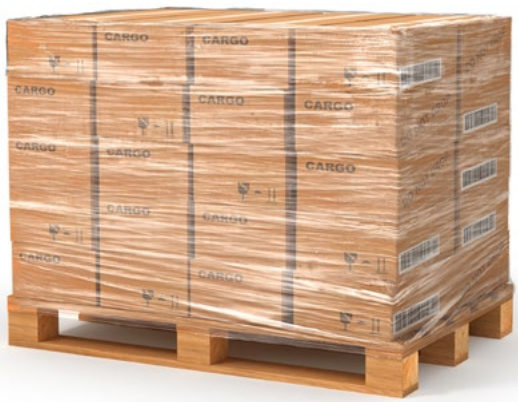
Braskem's broad polypropylene (PP) portfolio meets the needs of today's sophisticated film extrusion applications. Benefits from the proven performance that helps our clients add value to a wide range of innovative downstream solutions include:

- Film grades designed to be used in core, skin, and seal layers with excellent processability and superior balance of physical properties
- High clarity random copolymers with a range of melting temperatures for heat seal and skin layer applications
- High melt strength copolymers for blown film applications
- Specialty homopolymers with a broad processing window and high stiffness to allow for down gauging while maintaining impact performance
- Resins with full FDA food contact A–H approval are available

Accelerating Innovation and Speed to Market

Braskem's three technology integrated centers—located in Pittsburgh, Germany, and Brazil—have more than 300 specialized professionals working closely with clients on joint product and applications development. These state-of-the-art facilities feature:

- Pilot-scale equipment that replicates client production environments for true-to-life polymer testing
- Compounding, film, and sheet applications equipment that create innovative solutions for clients
- Catalyst labs that develop experimental polymers with enhanced physical properties
- On-site analytical labs that provide tools to understand performance requirements



Stretch Wrap
DR 376_01

Family	Grade	Melt Flow	Features & Benefits
HOMO	INSPIRE 6025	2.5	Broad processing window, high stiffness material enables down gauging
	INSPIRE 6025N	2.5	Broad processing window, high stiffness material enables down gauging, contains nucleating agent
	FF030F2	3.0	Designed for orientated film applications, provides excellent color and processing stability, superior optical and mechanical properties, broad processing window
	PG80Q	8.0	Designed for oriented film applications, provides excellent color and processing stability, superior haze, broad processing window
	D218_00	8.0	Provides excellent processing stability, superior optical and mechanical properties in blown and cast films, contains antiblock and nucleating agent
HECO	TI4003F	0.3	Designed for superior balance of stiffness and impact strength, excellent processability, high performance at low temperatures
	INSPIRE 114	0.5	Improved stiffness, heat resistance, puncture strength, and toughness over polyethylene films
	TI4015F	1.6	Designed for superior balance of stiffness and impact strength, excellent processability
	KN501	8.0	Designed for superior balance of stiffness and impact strength, excellent processability
RACO	6D20	1.9	Superior gloss and clarity, low taste and odor transfer
	DS6D81	5.0	Superior optical properties, designed for heat seal applications
	DR376_01	7.0	Excellent processability for cast film with exceptional edge flow and speed,designed for heat seal applications, outstanding catastrophic tear resistance
	DS6D82	7.0	Superior optical properties, designed for heat seal applications
	DS6D21	8.0	Particularly suited for cast film applications requiring high clarity and gloss, designed for metalizing and printing applications

Braskem America Innovation & Technology Capabilities

PITTSBURGH, PA

MONOLAYER CAST FILM

- 40 mm barrier single screw, 30:1 L/D
- 20 lbs/hr throughput
- 16" flex lip die
- 4–40 mil thickness
- 18" diameter cast roll
- Lamination & corona treat

COEXTRUSION CAST FILM

- 20 mm single screw, 25:1 L/D
- 5 lbs/hr throughput
- 12" flex lip die
- 0.5–20 mil thickness
- Feedblock – A/B/A
- 3 coat-hanger manifolds
- 1:10 layer thickness
- Edge trim

FILM CHARACTERIZATION

- Elmendorf Tear
- Coefficient of Friction
- Dart Drop Impact
- Tensile
- Haze/gloss
- Heat seal and seal strength

BOPP FILM

- Biaxial film stretching
- 7x7 simultaneous/sequential
- 23 mil max
- Temperatures up to 315 °C

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Every day, Braskem's 8,000 team members work to improve people's lives through sustainable solutions in chemistry and plastics and engage with partners throughout the value chain to advance the circular economy.

With 41 industrial units in Brazil, United States, Mexico and Germany, net revenue of R$58 billion (US$15.8 billion) and exports to around 100 countries, Braskem produces annually over 20 million tons of plastic resins and chemical products.

Braskem America is an indirect wholly owned subsidiary of Braskem S.A. headquartered in Philadelphia. The company is the leading producer of polypropylene in the United States, with six production plants located in Texas, Pennsylvania and West Virginia, an Innovation and Technology Center in Pittsburgh, and a new operation in Boston focused on leveraging groundbreaking developments in biotechnology and advanced materials. For more information, visit www.braskem.com/usa.

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