

Polypropylene

European brochure



PP

Polypropylene

Braskem:
expanding
horizons with
products and
services

Nomenclature

PP

HOMO = HOMOPOLYMER

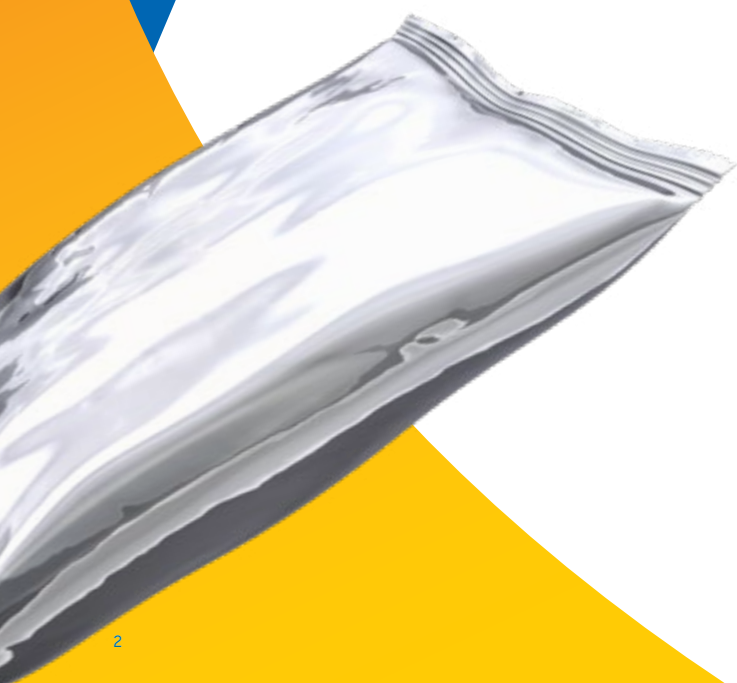
RACO = RANDOM COPOLYMER

ICP = IMPACT COPOLYMER

Braskem Netherlands B.V. or any of its affiliates assumes no liability on the suitability of the product as described in this document for any intended use in any application unless separately agreed in a contract. All warranties or merchantability or fitness for a particular purpose are expressly excluded.

Braskem Netherlands B.V. does not support the use of the product as described in this document in any Medical Device Regulation (2017/745). The use of this product into any medical applications regardless of classification or intended use, requires written approval from Braskem Netherlands B.V..

Braskem Netherlands B.V. assumes no obligation or liability for the information provide in this document.





Extrusion

Typical Properties	MFR (230 °C / 2.16 kg)	Density	Flexural Modulus	Tensile Stress	Tensile Strain	Charpy Notched Impact Strength		HDT Under 0.45 Mpa load, Unannealed	Haze 39.4 mil (1000 µm)	
						23 °C	-20°C			
Method	ISO 1133	ISO 1183	ISO 178	ISO 527-2	ISO 527-2	ISO 179-1/1eA		ISO 75-2/B	ASTM D1003	
Units	g/10 min	g/cm ³	MPa	MPa	%	kJ/m ²		°C	%	
ICP	Inspire® 118	0.3	0.9	1750	33	10	60	2.5	107	-
	Pipes, sheets, fittings, high stiffness									
	CSP030N	0.3	0.9	1300	27.5	9	70	-	89	-
	Films, sheets and pipes									
	Inspire® 114EU	0.5	0.9	1500	28.5	7.5	65	-	95	-
	Extruded consumer goods and durable goods									
	Inspire® 137	0.8	0.9	1000	24.5	11.5	40	-	74	-
Flexible packaging, speciality film, durable sheets										
C123-01N	1.2	0.9	1350	27	7	14	-	87	-	
Sheets, corrugated boards and profiles										
DC7056.05	3.5	0.9	1050	24	9	14	-	76	-	
Flexible packaging, speciality film										
CG70	7	0.9	1200	28	7	7.5	-	76	-	
Speciality film and injection molding										
HOMO	F008F	0.8	0.905	1310	36	10	8	-	85	-
	Pipes, Profiles, Straps, Sheets, bottles by extrusion blow molding									
	H357-09RSB	9.5	0.9	1400	33	10	4	-	84	-
	Flexible and rigid packaging									
DH362.01	9.5	0.9	1350	33	10	4	-	94	-	
Flexible and rigid packaging										
Prisma 6810	2	0.9	1310	30	-	-	-	-	-	
Sheets, rigid packaging, excellent transparency										
RACO	DR155.01	1.7	0.9	900	30	12	22	2.5	80	12
	Rigid packaging, high transparency, excellent organoleptic properties									
	Inspire® 6123EN	2.5	-	1400	-	-	4	-	100	-
High performance, high crystalline homopolymer with exceptional stiffness and good optical properties										
DR352.01	8	0.9	700	21.5	13	7	2.5	130	-	
Flexible packaging										

Obs.: Injection molded specimen according to ISO 294.



Injection Molding



Typical Properties	MFR (230 °C / 2.16 kg)	Density	Flexural Modulus	Tensile Stress	Tensile Strain	Charpy Notched Impact Strength			HDT Under 0.45 Mpa load, Unannealed	
						23 °C	0 °C	-20 °C		
ISO Method	ISO 1133	ISO 1183	ISO 178	ISO 527-2	ISO 527-2	ISO 179-1/1eA			ISO 75-2/B	
Units	g/10 min	g/cm ³	MPa	MPa	%	kJ/m ²			°C	
ICP	EP 445L	6	0.9	1600	30	6	7	-	3	100
	Caps for water, caps for carbonated soft drinks									
	CSP70H	7	0.9	1200	27	7	8	-	4	78
	Batteries, appliances and automotive									
	CG70	7	0.9	1200	28	7	7.5	-	4	76
	Rigid packaging, consumer goods, automotive, general compounding									
	CP 396XP	11	0.895	1000	19	6	60	-	10	66
	Rigid packaging, consumer goods, automotive, general compounding									
	C715-12NHP	12	0.9	1450	28	8	10	-	4.5	100
	Rigid packaging, consumer goods, automotive, general compounding									
	CP 284R	14	0.895	1050	22	5	52	-	6	106
	Houseware, Industrial pails and buckets									
	CG150V	14.5	0.9	1100	24	6	11	-	6	80
	Automotive, general compounding, low emission									
	TI2150C	15	0.9	1620	32	7	7.2	-	-	-
	Injection parts, compounding, excellent resistance to tiger stripes flow marks									
	C765-15NA	15	0.9	1200	26	10	12	-	6.5	90
	Rigid packaging, consumer goods, automotive, general compounding									
	CP 295D	20	0.895	800	17	6	60	-	8	70
	Compounds, High impact resistance parts									
C706-21NAHP	21	0.9	1450	27	8	8	5	4.5	100	
Thin wall packaging, consumer goods, other injection molding articles										
C7082-30NA	30	0.9	1300	25	5	8.5	-	5	98	
Thin wall consumer goods, thin wall rigid packaging										
C705-44NAHP	44	0.9	1450	28	5	7	-	4	100	
Thin wall consumer goods, thin wall rigid packaging										
CD500NA	55	0.9	1250	-	-	9	-	5	-	
Thin wall rigid packaging, freezer applications										
CG700NA	75	0.9	1350	25	5	6	4	3	104	
Thin wall consumer goods, thin wall rigid packaging										
CD700NAQ	70	0.9	1200	24	5	8	-	4	95	
Thin wall consumer goods, thin wall rigid packaging										
CP 191	80	0.895	930	20	5	15	-	5.7	67	
Compounds, packaging for usage in low temperatures										
C7069-100NA	100	0.9	1500	28	5	4	-	2.5	104	
Thin wall consumer goods, thin wall rigid packaging, very high flow resin										
TI2900C	115	0.9	1600	-	-	3.9	-	1	87	
Injection parts, compounding, excellent resistance to tiger stripes flow marks										

Obs.: Injection molded specimen according to ISO 294.



Injection Molding

Typical Properties		MFR (230 °C / 2.16 kg)	Density	Flexural Modulus	Tensile Stress	Tensile Strain	Charpy Notched Impact Strength			HDT Under 0.45 Mpa load, Unannealed	Haze 39.4 mil (1000 µm)
							23 °C	0 °C	-20 °C		
Method		ISO 1133	ISO 1183	ISO 178	ISO 527-2	ISO 527-2	ISO 179-1/1eA			ISO 75-2/B	ASTM D1003
Units		g/10 min	g/cm ³	MPa	MPa	%	kJ/m ²			°C	%
HOMO	FT120WV	12	0.905	1850	38	6	1.6	-	-	100	-
	Food packaging, cosmetic packaging, caps										
	HSP165G	16.5	0.9	1500	34	9	3.5	-	-	85	-
	Nonwovens, general compounding										
	FT200WV2	20	0.9	1900	35	7	3	-	-	100	-
	Caps and Closures, Overcaps, Cosmetic Packaging, Housewares										
	HSP250NA	25	0.9	1650	36	8	3	-	-	108	-
	Caps & Closures, Cosmetic packaging, Houseware, Appliances										
	F350HC	35	0.9	2100	41	5	2.5	-	-	-	-
	Compounding										
F520HC	52	0.9	1900	40	9	3	-	-	115	10	
Thin wall rigid packaging, transparent containers, high flow, excellent organoleptics.											
DH789.01	50	0.9	1700	37	8	2.5	-	-	102	-	
Thin wall rigid packaging, freezer applications											
H734-52RNA	52	0.9	1700	37	9	2.5	-	-	105	-	
Thin wall consumer goods, thin wall rigid packaging											
F1000HC2	110	0.9	2200	41	4.5	1.5	-	-	-	-	
Compounding											
RACO	DR7051.01	10	0.9	1200	28	12	6	2	-	85	8
	Rigid packaging, ISBM bottle with high transparency, cosmetic packaging, caps & closures, excellent organoleptic properties										
	DR7037.01	23	0.9	1200	29	12	6	2	-	88	8
	Rigid packaging, cosmetic packaging, caps & closures, general compounding										
	Inspire® 364	42	0.9	1050	27	12	5.5	1.5	-	80	8
	Thin wall consumer goods, thin wall rigid packaging, high flow, excellent organoleptics properties										
Inspire® 382	70	0.9	1050	27	13	5	1.5	-	85	9	
Thin wall consumer goods, thin wall rigid packaging, high flow, excellent organoleptics properties											
DR7032.06	100	0.9	1050	27	13	4.5	1.5	-	86	9	
Thin wall consumer goods, thin wall rigid packaging, high flow, excellent optical properties											

Obs.: Injection molded specimen according to ISO 294.



Film extrusion

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	N, 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							
ICP	CG70	7	1350	-/151	no	-	yes
	Excellent stiffness/toughness balance and good mechanical resistance at low temperatures - Lamination films						
	Inspire® 114EU	0.5	1500	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							

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

Obs.: Injection molded specimen according to ISO 294.

Blow Molding

Typical Properties		MFR (230 °C / 2.16 kg)	Density	Flexural Modulus	Tensile Stress	Tensile Strain	Charpy Notched Impact Strength			HDT Under 0.45 Mpa load, Unannealed	Haze 39.4 mil (1000 µm)
Method		ISO 1133	ISO 1183	ISO 178	ISO 527-2	ISO 527-2	23 °C	0 °C	-20 °C	ISO 75-2/B	ASTM D1003
Units		g/10 min	g/cm ³	MPa	MPa	%	kJ/m ²			°C	%
ICP	Inspire® 114EU	0.5	0.9	1500	28.5	7.5	65	-	4.5	95	-
	Rigid packaging, consumer goods, durable goods										
	Inspire® 137	0.8	0.9	1000	24.5	11.5	40	-	3	74	-
Flexible packaging, speciality film, durable sheets											
HOMO	C123-01N	1.2	0.9	1350	27	7	14	6.5	4.5	87	-
	Bottles with excellent impact resistance at low temperatures										
RACO	F008F	0.8	0.905	1310	36	10	8	-	-	85	-
	Pipes, Profiles, Straps, Sheets, bottles by extrusion blow molding										
RACO	DR155.01	1.7	0.9	900	30	12	22	2.5	-	80	12
	Rigid packaging, high transparency, excellent organoleptic properties										
RACO	DR7051.01	10	0.9	1200	28	12	6	2	-	85	8
	Rigid packaging, ISBM bottle with high transparency, cosmetic packaging, caps & closures, excellent organoleptic properties										



Fiber Extrusion



Typical Properties		MFR (230 °C / 2.16 kg)	Density	Flexural Modulus	Tensile Stress	Tensile Strain	Charpy Notched Impact Strength		HDT Under 0.45 Mpa load, Unannealed	Haze 39.4 mil (1000 µm)
							23 °C	-20°C		
Method		ISO 1133	ISO 1183	ISO 178	ISO 527-2	ISO 527-2	ISO 179-1/1eA		ISO 75-2/B	ASTM D1003
Units		g/10 min	g/cm ³	MPa	MPa	%	kJ/m ²		°C	%
HOMO	HSP165G	16.5	0.905	-	-	-	-	-	-	-
	Fiber extrusion, non-wovens produced by meltblown process									
	PF 260GQ	26	0.905	-	-	-	-	-	-	-
	Continuous filament for sewing thread, high-speed fiber spinning, high tenacity fibers, nonwoven Fibers, high performance spunbonded nonwovens for hygienic disposables and hospital products									
	CP360H	34	0.905	-	-	-	-	-	-	-
Low title and high-speed spinning multifilaments, nonwovens for furniture and decoration, high performance spunbonded nonwovens for hygienic disposables and hospital products										
	H 155	1250	0.905	-	-	-	-	-	-	-
Fiber extrusion, non-wovens produced by meltblown process										

Obs.: Injection molded specimen according to ISO 294.

Thermoforming



Typical Properties		MFR (230 °C / 2.16 kg)	Density	Flexural Modulus	Tensile Stress	Tensile Strain	Charpy Notched Impact Strength		HDT Under 0.45 Mpa load, Unannealed
							23 °C	-20°C	
ISO Method		ISO 1133	ISO 1183	ISO 178	ISO 527-2	ISO 527-2	ISO 179-1/1eA		ISO 75-2/B
Units		g/10 min	g/cm ³	MPa	MPa	%	kJ/m ²		°C
HOMO	Inspire® 215	2.1	0.9	1700	36	10	5	-	100
	Rigid packaging, transparent and excellent organoleptics								
	F030HC	3.3	0.905	2150	39	7	3	-	130
Rigid packaging, excellent stiffness									
ICP	Prisma 6810*	2	0.9	1310	30	-	-	-	-
	Sheets, rigid packaging, excellent transparency								
	DC7056.05	3.5	0.9	1050	24	9	14	4	76
Rigid packaging, sheet and thermoforming									
RACO	DR155.01	1.7	0.9	900	30	12	22	2.5	80
	Rigid packaging, high transparency, excellent organoleptic properties								
	Inspire® 6123EN	2.5	-	1400	-	-	4	-	100
High performance, high crystalline homopolymer with exceptional stiffness and good optical properties									

Obs.: Injection molded specimen according to ISO 294.



Compounding

Product			Melt Flow Rate (230 °C / 2.16 kg)	Flexural Modulus	Tensile Stress	Charpy Notched Impact Strength at 23 °C
ISO Method			ISO 1133	ISO 178	ISO 527-2	ISO 179-1/1 eA
Units			g/10 min	MPa	MPa	kJ/m ²
HOMO	Extrusion	F008F	0.8	1310	36	8
		Inspire® 215	2.1	1700	36	5
	High Stiffness	F030HC	3.3	2150	40	3.5
		F080HC	8	1900	37	3.5
		F350HC	35	2100	40	2.5
		F1000HC2	110	2200	41	1.5
	General	FT120WV	12	1655	39	4
		HSP165G	16.5	1500	34	3.5
		HSP250NA	25	1650	36	3
		H734-52RNA	52	1700	35	2.5

Product			Melt Flow Rate	Flexural Modulus	Charpy Notched Impact Strength	
ISO Method			ISO 1133	ISO 178	23 °C	-20 °C
Units			g/10 min	MPa	kJ/m ²	kJ/m ²
ICP	Extrusion	CSP030N	0.3	1300	70	6
		Inspire® 118	0.3	1750	60	2.5
		Inspire® 114EU	0.5	1500	65	4.5
	High Impact	CP396XPD	11	1000	60	10
		CP295D	20	800	60	8
		TI8300CD	30	1000	60	6.5
	High Stiffness	TI2150C	15	1620	7.2	2.9
		CG350N	35	1500	7.2	3.5
		TI2900C	110	1600	3.9	2.1
	High Meltflow	CD700NAQ	70	1200	8	3.5
		CG700NA	70	1350	6	3.5
		C7069-100NA	100	1400	4	2.5
	General	C715-12NHP	12	1450	10	4.5
		C706-21NAHP	21	1450	8	4.5
		C7082-30NA	30	1300	8.5	5
		C705-44NAHP	44	1450	7	4

Low Emission

Typical Properties		MFR (230 °C / 2.16 kg)	Flexural Modulus	Tensile Stress	Tensile Strain	Charpy Notched Impact Strength		HDT Under 0.45 Mpa load, Unannealed
ISO Method		ISO 1133	ISO 178	ISO 527-2	ISO 527-2	ISO 179-1/1eA		ISO 75-2/B
Units		g/10 min	MPa	MPa	%	kJ/m ²		°C
ICP	CG150V	14.5	1100	24	6	11	6	80
	CG440NV	44	1450	28	5	7	4	100

This is Medcol,

the Braskem solution that builds enduring, reliable bonds in the healthcare industry, co-creating unique customized solutions that care for people's lives.

Healthcare Polypropylene Portfolio



	PP HOMO	PP RANDOM			
	V1070	V4020	V4080	V4081	
Properties	Processing Method	Film/IM	Film/BFS/BM/IBM/ISBM/IM	Film/IBM/ISBM/IM	Film/IBM/ISBM/IM
	MFR [g/10 min]	70	2.0	8.0	8.0
	Flexus Modulus [MPa]	1,500	800	850	1,000
	Charpy Impact notched 23 °C	4.2	10.1	6.5	5.5
	Haze Film [%]	6.6	4.0	0.1	0.5
	Tm [°C]	162	141	143	147
	Regulatory	EP	✓	✓	✓
USP		✓	✓	✓	✓
ISO10993		✓	✓	✓	✓



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 **dependence 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

