Driven to provide new levels of performance and innovation

Polypropylene for Automotive & Compounding



Published in November 2024

Innovation is the tool that drives us in the pursuit of our long-term commitments with sustainable development



Our purpose is to improve people's lives by creating sustainable solutions through chemicals and plastics.

In line with the **UN 2030 sustainable development goals**, Braskem took on long-term goals with people and the planet in 2020. Working in three priority and four complementary dimensions, we are looking to achieve these goals through innovation.



Eliminating plastic waste



Mitigating Climate Change



Social Responsibility & Human Rights

An ecosystem developed to represent Braskem's products, technologies and initiatives that help drive the circular economy.





A portfolio of products made from sugarcane that captures CO₂ from cradleto-gate, helping mitigate climate change.



All our polypropylene grades are available with ISCC+ certification, using the mass balance method with bio, circular or bio-circular feedstocks*, ensuring sustainability and traceability across the supply chain.

From bumpers and safety relevant parts to under-the-hood components, **our polypropylene is a versatile material used across a wide range of automotive applications.** As a base resin, it is modified with fillers, colorants, and stabilizers to meet the specific requirements of Tiers and OEMs, delivering cost-effective, innovative design solutions that enhance vehicle safety, durability, and performance.





High Impact PP Copolymers

Our globally available high impact copolymers enable the production of previously unattainable balance of high toughness and stiffness compounds.



Key benefits:

- Improved toughness and flowability
- Improved impact properties for high mineral filled compounds
- Higher toughness for FR compounds

High Stiffness PP Homopolymers

Developed for the automotive compounding market, our high crystallinity homopolymers provide premium levels of stiffness, flowability, compounding flexibility, and performance.



Key benefits:

- Wide range of melt flow rates
- Enabling higher HDT performance
- High crystallinity







Low Emission⁽¹⁾ & Fogging, High Melt flow PP Copolymers

Low emission impact copolymers meet VDA277 and VDA278 automotive standards. The latest DC705LE.01⁽²⁾ (MFR 44) enables the development of low emission compounds with a broad MFR range for automotive applications.

Low emission is attainable without:

- Specialized compounding lines
- Additional treatment after production
- Adding expensive additives



⁽¹⁾ All PP grades are available in low emission variants
⁽²⁾ Grade currently under development. For more information, please contact our technical or commercial team

) номо

		Melt Flow Index (230 °C / 2,16 Kg)	Flexural Modulus	Notched Charpy Impact Resistance @23 °C	Strength at Yield	Additives *				
	Method	ISO 1133	ISO 178	ISO 179	ISO 527-1	-				
	Units	g/10 min	MPa	kJ/m²	MPa	-				
sion	DP008H.02	0,8	1500	7	33	_				
		enhanced process stabilization , high melt strength , excellent rigidity								
Extru		2,1	1700	5	36	N, AS				
	INSPIRE 215	superior stiffness/impact balance , high temperature resistance , excellent optical/organoleptic properties								
		3,3	2150	3,5	40	Ν				
	F030HC	high crystallinity for superior stiffness, high temperature resistance, improved VOC performance								
ess	F350HC	35	2000	2,5	40	Ν				
Stiffn		high crystallinity for superior stiffness, high temperature resistance, improved VOC performance								
		110	2200	1,5	41	Ν				
	F1000HC2	high crystallinity for superior stiffness, high temperature resistance , improved VOC performance , very high flowability								
	DHSP120.01	12	1650	3,5	39	AS				
		balanced physical properties, excellent flowability , short cycle times								
	HSP165G	16,5	1500	3,5	34	AGF				
eral		high stiffness and heat resistance, anti gas fading								
Gen	HSP250NA	25	1650	3	36	N, AS				
		high stiffness and heat resistance, low warpage and short cycle times								
		52	1700	2,5	35	N, AS				
	H734-52RNA2	balanced physical properties, easy processing , low warpage, thin wall injection molding , short cycle times								



) ICP

		Melt Flow Index (230 °C / 2,16 Kg)	Flexural Modulus	Notched Charpy Impact Resistance @23 °C	Notched Charpy Impact Resistance @-20 °C	Additives *				
	Method	ISO 1133	ISO 178	ISO 179	ISO 179					
	Units	g/10 min	MPa	kJ/m²	kJ/m²	-				
	CSP030N	0,3	1300	70	6	Ν				
		high molecular weight, low melt flow, very high impact resistance								
usion		0,3	1750	60	2,5	Ν				
Extr	INSPIRE 118	high molecular weight , low melt flow , very high stiffness								
		0,5	1500	65	4,5	-				
	INSPIRE 114	high molecular weight , high melt strength								
	CP396XPD	11	1000	60	10	Ν				
		high stiffness and very high impact resistance, especially at low temperatures								
	CP284RD	14	1150	52,5	6,5	N, AS				
ij		superior balance of stiffness and toughness , excellent impact strength								
mpac	CP295D	20	750	58	8	-				
High I		high flow and high impact resistance								
	TI8300CD	30	1000	57	8,5	Ν				
	11030000	high flow and high impact resistance , superior low temperature drop impact								
	DCD600NQ.01	60	700	15	7,5	Ν				
		high flow and superior low temperature drop impact								
	TI2150C	15	1620	7,2	2,9	Ν				
SS		high stiffness , suppressing tiger marking								
iffne	CG350N	35	1500	7,2	3,5	Ν				
igh S		high flow copolymer with good mold fill ability								
т	TI2900C	110	1600	3,9	2,1	Ν				
	1120000	high stiffness , suppressing tiger marking , high flow								



) ICP

		Melt Flow Index (230 °C / 2,16 Kg)	Flexural Modulus	Notched Charpy Impact Resistance @23 °C	Notched Charpy Impact Resistance @-20 °C	Additives *				
	Method	ISO 1133	ISO 178	ISO 179	ISO 179					
	Units	g/10 min	MPa	kJ/m²	kJ/m²	-				
c	CG150V	15	1100	1100 11 6		-				
nissio		low emissions copolymer (acc. VDA277, 278) for automotive interior applications								
ow en		44	1450	7	4	N, AS				
_	DC/05LE.01	low emissions copolymer (acc. VDA277, 278) for automotive interior applications								
	CD700NAQ	70	1200	8	3,5	N, AS				
3		high flowability, high impact strength at low temperature, low shrinkage & warpage								
eltflo	CG700NA	70	1350	6	3,5	N, AS				
ligh M		high flowability, good balance of mechanical properties even at low temperature, good organoleptics								
T	C7069-100NA	100	1400	4	2,5	N, AS				
		very high flowability , excellent balance of mechanical properties , short cycle times								
	C715-12NHP	12	1450	10	4,5	Ν				
		high stiffness and impact strength								
	C765-15NA	15	1200	12	6,5	N, AS				
		good balance of stiffness and toughness , very low shrinkage , very high elongation at break								
neral	C706-21NAHP	21	1450	8	4,5	N, AS				
Ger		high stiffness and high impact resistance, excellent antistatic properties								
	C7082-30NA	30	1300	8,5	5	N, AS				
		excellent balance of mechanical properties combined with good flow								
	С705-44NAHP	44	1450	7	4	N, AS				
		high flowability , superior stiffness , good impact performance								





BATTERY

			Melt Flow Index (230 °C / 2,16 Kg)	Flexural Modulus	Tensile Modulus	Tensile Strength at yield	Notched Charpy Impact Resistance @23 °C	Notched Charpy Impact Resistance @ -20 °C	Vicat (A50)	HDT B (0.45 MPa)	Additives*
		Method	ISO 1133	ISO 178	ISO 527	ISO 527	ISO 179	ISO 179	ISO 306	ISO 75	
		Units	g/10 min	MPa	MPa	MPa	kJ/m²	kJ/m²	°C	°C	-
Injection Molding	DCSP50.02	5,5		1300	1200	26	30	6,5	151	88	Ν
		excellent heat resistance, very high impact resistance									
	CSP70H	7		1450	1350	28	9	4	152	90	-
		excellent lo	ong term h	ieat stabiliz	ation, good	weldability					



Braskem Global Presence

With a **global**, **human-oriented vision of the future**, Braskem strives every day to improve people's lives by creating sustainable solutions in chemistry and plastics. Braskem is the largest producer of thermoplastic resins in the Americas and a **global leader in the production of biopolymers on an industrial scale**.

Our products are exported to some **70 countries** and we count on 40 Industrial units, located in Brazil, the United States, Germany and Mexico (in partnership with Mexican company Idesa). For more information, visit <u>www.Braskem.com</u>

Clients in more than

countries

More than **8.500**

team members

6th largest producer in PE, PP and PVC

#1 producer PE, PP and PVC in the Americas

#1 PP producer in North America

#1 PE, PP and PVC producer in Latin America





2 plants



- Braskem does not make and expressly disclaims any warranties, including warranties of merchantability or suitability for a particular purpose, regardless of whether oral or written, expressly or implied, or allegedly arising from any use of any trade or from any course of dealing in connection with the use of the information contained herein or the product itself. The data provided in this document is limited to the extent of Braskem's knowledge and/or supplier's information provided to Braskem on this date.
- This Product should not be used in medical or pharmaceutical applications classified as (i) Class IV under applicable Brazilian law or (ii) Class III under applicable EU law or (iii) highest level risk under applicable United States law (i.e., those applications presenting maximum risk to health and safety of patient, operator, consumer or third parties).
- It is the Purchaser's responsibility to verify the suitability of Braskem's Product for the intended use, to obtain the necessary competent government approvals and to ensure compliance with any applicable legal and regulatory requirements. Moreover, Purchaser acknowledges and accepts the responsibility to determine and perform all necessary tests on its finished products to ensure that all conditions, specifications, legal and regulatory requirements are met and that its finished products manufactured with this Product are suitable for the application intended, including, but not limited to, medical, pharmaceutical, food packaging, food contact, as applicable.
- For the purposes of this document, Braskem shall be understood as Braskem S.A and its subsidiaries, including Braskem Netherlands B.V., Braskem Europe GmbH and Braskem America Inc., and the Braskem legal entity(ies) which is/are the seller of Product, unless otherwise expressly specified.



Webpage: braskem.com