



Polypropylene

Products and Properties
North America



Braskem

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Nomenclature

PP

HOMO = Homopolymer

RACO = Random Copolymer

HECO = Heterophasic Copolymer

HCHP = High Crystalline Homopolymer



This information reflects typical values obtained in our laboratories, but should not be considered as absolute or as warranted values. Only the properties and values mentioned on the Certificate of Quality are considered as guarantee of the product.

The mentioned values in this report can be changed without prior communication from Braskem.

For usage doubts or to discuss other applications, contact our Technical Service Engineers.

Braskem: expanding horizons with products and services

Braskem, the leading producer of thermoplastic resins in the Americas and the world's largest producer of biopolymers, has constantly innovated by launching new products in partnership with Clients, bringing about improvements to society and the environment. With installed resin production capacity of over 35 billion pounds a year, Braskem has supported the plastic chain by developing more modern and innovative products, sponsoring expositions and events related to the plastics industry and by providing technical know-how and expanding production capacity.

The operational synergy between Braskem's plants and offices around the world enables it to better meet the growing needs of both our global and local Clients through the supply of products and services.

Besides offering products and services that promote sustainability, Braskem constantly monitors and seeks ways to reduce water and energy consumption, as well as waste and effluent generation, further reducing the environmental impact of its operations in Brazil and around the world.

Innovation, technology, sustainability and the unceasing quest for the best way to serve translate into dreams come true for Clients, and in each new partnership, Braskem creates new ways to look at the world.



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BOPP

Typical Properties		Melt Flow (230 C, 2.16 kg)	Flexural Modulus (0.05in/min, 1% secant)		Notched Izod Impact Strength @ 23 C		Tensile Strength @ yield (2 in/min)	
ASTM Method		D1238	D790A		D256A		D638	
Units		g/10'	psi	MPA	ft-lb/in	J/m	psi	MPA
HOMO	FF018F	1.8	190,000	1,310	0.5	27	4,900	34
	Excellent color and processing stability, superior optical and mechanical properties, broad processing window							
HOMO	Inspire 6025	2.5	270,000	1.862	0.7	37	5,600	39
	Next generation homopolymer that offers a broad processing window and excellent stiffness in a non-nucleated resin							
RACO	6D20	1.9	148,500	1,024	1.1	59	3,900	27
		Good gloss and clarity, low taste and odor transfer						
	DS6D81	5.0	79,700	550	1.7	91	2,750	19
		Good optical properties, low temperature heat seal						
	DR376.01	7.0	79,700	550	1.7	91	2,750	19
		Good optical properties, low temperature heat seal						
DS6D82	7.0	79,700	550	1.7	91	2,750	19	
	Good optical properties, low temperature heat seal							
DS6D21	8.0	110,000	759	0.9	48	3,620	25	
	High clarity and gloss							

Blow Molding

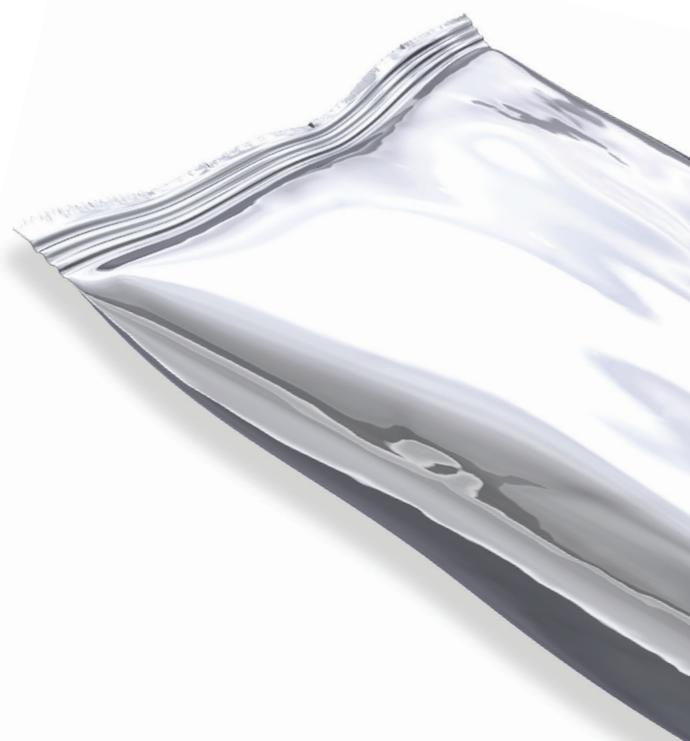
Typical Properties		Melt Flow (230 C, 2.16 kg)	Flexural Modulus (0.05in/min, 1% secant)		Notched Izod Impact Strength @ 23 C		Tensile Strength @ yield (2 in/min)	
ASTM Method		D1238	D790A		D256A		D638	
Units		g/10'	psi	MPA	ft-lb/in	J/m	psi	MPA
RACO	6D20	1.9	148,500	1024	1.1	59	3,900	27
		Consistent processability, good regrind, good gloss and clarity, low taste and odor transfer						
	R131-02A	1.9	149,000	1028	1.1	59	3,900	27
		Consistent processability, good regrind stability, good gloss and clarity, low odor and taste transfer, contains an antistatic additive						
	6D83G	1.9	155,000	1069	5.5	294	4,100	28
		Consistent processability, low plate-out, low odor and taste, high gloss, good regrind stability, contains clarifying additive						
6D83K	1.9	155,000	1069	5.5	294	4,100	28	
	Consistent processability, low odor and taste transfer, high gloss, good regrind stability, contains clarifying additive							
RP650	2.0	170,000	1172	1.2	64	4,600	32	
	High Flexural Modulus, next generation clarifier providing superior aesthetics and enhanced optical properties							

Cast Film

Typical Properties		Melt Flow (230 C, 2.16 kg)	Flexural Modulus (0.05in/min, 1% secant)		Notched Izod Impact Strength @ 23 C		Tensile Strength @ yield (2 in/min)	
ASTM Method		D1238	D790A		D256A		D638	
Units		g/10'	psi	MPA	ft-lb/in	J/m	psi	MPA
HOMO	D218	8.0	320,000	2,207	0.6	32	5,800	
	Contains antiblock and nucleating additives							
HECO	KN-501	8.0	170,000	1,172	2.5	133	3,700	26
		Excellent color and processing stability, excellent long term heat aging properties, wet/dry environment resistance						
	TI4015F	1.6	175,000	1,207	NB	NB	3,800	26
Superior balance of stiffness and impact strength								

Compression Molding

Typical Properties		Melt Flow (230 C, 2.16 kg)	Flexural Modulus (0.05in/min, 1% secant)		Notched Izod Impact Strength @ 23 C		Tensile Strength @ yield (2 in/min)	
ASTM Method		D1238	D790A		D256A		D638	
Units		g/10'	psi	MPA	ft-lb/in	J/m	psi	MPA
HECO	TI4150WR	15.0	220,000	1,517	1.5	80	4,600	32
		Very good mold release, very high flexural modulus						



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Extrusion

Typical Properties		Melt Flow (230 C, 2.16 kg)	Flexural Modulus (0.05in/min, 1% secant)		Notched Izod Impact Strength @ 23 C		Tensile Strength @ yield (2 in/min)	
ASTM Method		D1238	D790A		D256A		D638	
Units		g/10'	psi	MPA	ft-lb/in	J/m	psi	MPA
HOMO	F006EC2	0.5	200,000	1,379	1.3	69	4,900	34
		Enhanced long term heat aging						
	H521	3.6	240,000	1,655	0.7	37	5,400	37
		Injection molding, general purpose, low water carryover						
D218		8.0	320,000	2,207	0.6	32	5,800	40
		Contains antiblock and nucleating additives						
HECO	T14003F	0.3	210,000	1,448	NB	NB	4,200	29
		Extra high izod impact, very high flexural modulus, good low temperature drop impact						
	INSPIRE 114	0.5	215,000	1,483	NB	NB	4,350	30
		High Melt Strength, High Toughness, Excellent Processability, High Impact and Puncture Resistance, High Film Stiffness/Machinability, High Heat Resistance						
	T14007G	0.7	175,000	1,207	NB	NB	4,200	29
		Extra high izod impact, superior low temperature drop impact						
	T14015F	1.6	175,000	1,207	NB	NB	3,800	26
		Superior balance of stiffness and impact strength						
T14020N	2.0	180,000	1,241	NB	NB	4,000	28	
	Extra high Izod impact, excellent low temperature drop impact, good organoleptic properties, nucleated							
C144-04NA	4.0	230,000	1,586	2.0	107	4,800	33	
	Excellent balance of stiffness and impact strength, contains nucleating and antistatic additives							
C7054-07NA	7.0	155,000	1,069	12	641	3,220	22	
	High stiffness, high toughness, contains a nucleating and antistatic additive							
RACO	RP650	2.0	170,000	1,172	1.2	64	4,600	32
High Flexural Modulus, next generation clarifier providing superior aesthetics and enhanced optical properties								



Fiber

Typical Properties		Melt Flow (230 C, 2.16 kg)	Flexural Modulus (0.05in/min, 1% secant)		Notched Izod Impact Strength @ 23 C		Tensile Strength @ yield (2 in/min)	
ASTM Method		D1238	D790A		D256A		D638	
Units		g/10'	psi	MPA	ft-lb/in	J/m	psi	MPA
HOMO	D080T	8.0	230,000	1,586	0.6	37	5,400	37
	General purpose							
	D115A	11.0	230,000	1,586	0.5	37	5,200	36
	Multi purpose, good color and process stability							
	D130C	14.0	220,000	1,517	0.5	27	5,400	37
	High bulk							
	D180A2	18.0	220,000	1,517	0.7	37	5,100	35
	Excellent Melt Stability							
	D180M	18.0	190,000	1,310	0.5	37	5,100	35
	Low Gas Fade							
CP250H	25.0	170,000	1,172	0.4	27	4,700	32	
Narrow molecular weight distribution, low smoke / condensate								
CP360H	34.0	170,000	1,172	0.4	32	4,700	32	
Narrow molecular weight distribution, low smoke / condensate								
CP380G	38.0	205,000	1,414	0.7	21	4,800	33	
Excellent high melt flow characteristics								



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Injection Molding

Typical Properties		Melt Flow (230 C, 2.16 kg)	Flexural Modulus (0.05in/min, 1% secant)		Notched Izod Impact Strength @ 23 C		Tensile Strength @ yield (2 in/min)	
ASTM Method		D1238	D790A		D256A		D638	
Units		g/10'	psi	MPA	ft-lb/in	J/m	psi	MPA
HOMO	F006EC2	0.5	200,000	1,379	1.3	69	4,900	34
	Enhanced long term heat aging							
	H521	3.6	240,000	1,655	0.7	37	5,400	37
	Injection molding, general purpose, low water carryover							
	D115A	11.0	230,000	1,586	0.5	27	5,200	36
	Multi purpose, good color and process stability							
	FT120WB2	12.0	230,000	1,586	0.6	32	5,400	37
	Superior antistatic properties, excellent mold release							
	FT120WV	12.0	240,000	1,655	0.7	37	5,600	38
	Antistatic, nucleated, good mold release							
	FT120W2	12.0	230,000	1,586	0.6	32	5,400	37
	Antistatic, good mold release							
	F180A	17.0	220,000	1,517	0.7	37	5,100	35
	Multipurpose							
	FT200WV	20.0	255,000	1,759	0.7	37	5,600	39
	Good mold release, nucleated, excellent rigidity and hardness							
	ZS-751	22.0	270,000	1,655	0.4	27	5,500	38
	Superior stiffness, excellent mold release, nucleated							
	FPT300F	30.0	200,000	1,379	0.7	37	4,800	33
	Good mold release, excellent part finish (low bloom)							
CP360H	34.0	170,000	1,172	0.4	21	4,700	32	
Narrow molecular weight distribution, low smoke / condensate								
CP350WV	35.0	240,000	1,655	0.5	27	5,500	38	
Narrow molecular weight distribution, nucleated, good mold release								
FPT350WV3	35.0	240,000	1,655	0.5	27	5,500	38	
Narrow molecular weight distribution, antistatic, nucleated, very good mold release								
5E16S	40.0	196,000	1,352	0.5	27	4,600	32	
Good processability, contains antistatic additive								
FP450WV	45.0	240,000	1,655	0.3	16	5,500	38	
Excellent processability, nucleated								
FP650WV	65.0	240,000	1,655	0.3	16	5,500	38	
Excellent processability, nucleated								

Injection Molding

Typical Properties		Melt Flow (230 C, 2.16 kg)	Flexural Modulus (0.05in/min, 1% secant)		Notched Izod Impact Strength @ 23 C		Tensile Strength @ yield (2 in/min)	
ASTM Method		D1238	D790A		D256A		D638	
Units		g/10'	psi	MPA	ft-lb/in	J/m	psi	MPA
HECO	TI4007G	0.7	175,000	1,207	NB	NB	4,200	29
		Extra high izod impact, superior low temperature drop impact						
	TI4020N	2.0	180,000	1,241	NB	NB	4,000	28
		Extra high Izod impact, excellent low temperature drop impact, good organoleptic properties, nucleated						
	TI6035NB	3.8	140,000	966	NB	NB	3,100	21
		Extra high izod impact, superior low temperature drop impact						
	TI4040WT	4.0	205,000	1,414	3.5	187	4,400	30
		Superior drop impact at refrigeration temperature, very high flexural modulus, nucleated, good mold release						
	C7054-07NA	7.0	155,000	1,069	12.0	641	3,220	22
		High stiffness, high toughness, contains a nucleating and antistatic additive						
	KN-501	8.0	170,000	1,172	2.5	133	3,700	26
		Excellent color and processing stability, excellent long term heat aging properties, wet/dry environment resistance						
	TI4150WR	15.0	220,000	1,517	1.5	80	4,600	32
		Very good mold release, very high flexural modulus						
	C702-20	18.0	150,000	1,034	3.5	187	3,000	21
		High Impact						
	C702-20NA	18.0	180,000	1,241	3.5	187	3,300	23
		High impact performance, contains a nucleating and antistatic additive						
	C7079-25RNA	25.0	154,000	1,062	NB	NB	3,200	22
		Consistent processability, excellent toughness, good surface gloss						
	TI6350WV	35.0	135,000	931	4.2	224	2,800	19
		Superior low temperature impact, nucleated, antistatic						
	C719-35RN HP	35.0	155,000	1,069	3.5	187	3,000	21
		High impact, contains nucleating agent, controlled rheology product						
TI4350P	35.0	200,000	1,379	1.4	75	4,000	28	
	Good balance of stiffness and impact strength, excellent organoleptic properties, high melt flow							
C700-35N	35.0	220,000	1,517	1.2	64	4,000	28	
	Good mold fillability, high stiffness, fast set-up, contains a nucleating agent							
C705-44NA	44.0	198,000	1,366	1.0	53	3,180	22	
	High stiffness, nucleated for fast set-up, good impact resistance, contains antistat for mold release							
C7100-50NA	50.0	138,000	952	2.3	160	3,200	22	
	Freezer temperature impact resistance, high flow processing ease, easy mold release, fast cycle time, good organoleptic properties, contains nucleating and antistatic additives							
TI6550WV	55.0	190,000	1,310	1.8	96	3,400	23	
	High melt flow, good low temperature impact, nucleated, good mold release, antistatic							
TI4700P2	70.0	180,000	1,241	1.2	64	3,900	27	
	High stiffness, nucleated							
TI6800WV	80.0	155,000	1,069	2.3	123	3,000	21	
	Nucleated, excellent mold release, high impact properties							
C758-80NA	80.0	200,000	1,379	1.4	75	3,730	26	
	Very easy mold filling with good balance of impact strength and stiffness, contains a nucleating and antistatic additive							

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Injection Molding

Typical Properties		Melt Flow (230 C, 2.16 kg)	Flexural Modulus (0.05in/min, 1% secant)		Notched Izod Impact Strength @ 23 C		Tensile Strength @ yield (2 in/min)	
ASTM Method		D1238	D790A		D256A		D638	
Units		g/10'	psi	MPA	ft-lb/in	J/m	psi	MPA
RACO	RP350	12.0	155,000	1,069	1.1	59	4,300	30
		Processing stability, low odor, good flow and set-up behavior, superior clarity, aesthetics and enhanced optical properties, excellent mold release						
	TR3350CW2	31.0	155,000	1,069	1.0	53	4,100	28
		Good mold release, superior processing stability, superior clarity, nucleated, superior aesthetics and enhanced optical properties						
	TR3350MS	35.0	125,000	862	1.0	53	3,600	25
		High impact performance, excellent mold release, superior clarity, excellent processability						
	RP250	35.0	170,000	1,172	1.0	53	4,500	31
		Superior processing stability, superior clarity, aesthetics and enhanced optical properties, excellent mold release						
	R7021-50RNA	50.0	155,000	1,069	1.0	53	4,000	28
		Good impact properties, excellent optics, fast cycle times, contains clarifier and antistat additives						
R7023-50RNA	50.0	150,000	1,069	1.0	53	4,000	28	
	Good impact properties, excellent optics, fast cycle times, contains clarifier, slip and antistat additives							



Thermoforming

Typical Properties		Melt Flow (230 C, 2.16 kg)	Flexural Modulus (0.05in/min, 1% secant)		Notched Izod Impact Strength @ 23 C		Tensile Strength @ yield (2 in/min)	
ASTM Method		D1238	D790A		D256A		D638	
Units		g/10'	psi	MPA	ft-lb/in	J/m	psi	MPA
HOMO	INSPIRE 6021N	2.0	255,000	1,759	0.6	32	5,410	37
	Next generation nucleated homopolymer that offers a broad processing window with good optical and physical properties							
HOMO	INSPIRE 6025N	2.5	300,000	2,068	0.7	37	5,760	40
	Next generation nucleated homopolymer that offers a broad processing window with good optical and physical properties as well as exceptional color							
HECO	TI4005P2	0.5	210,000	1,448	NB	NB	4,200	29
	Extra high Izod impact, very high flexural modulus, good low temperature drop impact, nucleated							
	INSPIRE 114	0.5	215,000	1,483	NB	NB	4,350	30
	High Melt Strength, High Toughness, Excellent Processability, High Impact and Puncture Resistance, High Film Stiffness/Machinability, High Heat Resistance							
	TI4020N	2.0	180,000	1,241	NB	NB	4,000	28
	Extra high Izod impact, excellent low temperature drop impact, good organoleptic properties, nucleated							
	C144-04NA	4.0	230,000	1,586	2	107	4,800	33
Excellent balance of stiffness and impact strength, contains nucleating and antistatic additives								
TI4040WT	4.0	205,000	1,414	3.5	187	4,400	30	
Superior drop impact at refrigeration temperature, very high flexural modulus, nucleated, good mold release								
C7054-07NA	7.0	155,000	1,069	12.0	641	3,220	22	
High stiffness, high toughness, contains a nucleating and antistatic additive								



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Compounding

Typical Properties		Melt Flow (230 C, 2.16 kg)	Flexural Modulus (0.05in/min, 1% secant)		Notched Izod Impact Strength @ 23 C		Tensile Strength @ yield (2 in/min)	
ASTM Method		D1238	D790A		D256A		D638	
Units		g/10'	psi	MPA	ft-lb/in	J/m	psi	MPA
HOMO	F006EC2	0.5	200,000	1,379	1.3	69	4,900	34
		Enhanced long term heat aging						
	F008F	0.8	190,000	1,310	0.8	43	5,200	36
		High melt strength, excellent rigidity						
	INSPIRE 6025N	2.5	300,000	2,068	0.7	37	5,760	40
		Next generation nucleated homopolymer that offers a broad processing window with good optical and physical properties as well as exceptional color						
	H521	3.6	240,000	1,655	0.7	37	5,400	37
		Injection molding, general purpose, low water carryover						
	D040A	4.2	230,000	1,586	0.7	37	5,400	37
		Injection Molding, Wet and Dry Long-Term Heat Aging						
	D080T	8.0	230,000	1,586	0.6	32	5,400	37
		General purpose						
	D115A	11.0	230,000	1,586	0.5	27	5,200	36
		Multipurpose, good color and process stability						
	F180A	17.0	220,000	1,517	0.7	37	5,100	35
		Multipurpose						
CP360H	34.0	170,000	1,172	0.4	21	4,700	32	
	Narrow molecular weight distribution, low smoke / condensate							
FP450WV	45.0	240,000	1,655	0.3	16	5,500	38	
	Excellent processability, nucleated							
FP650WV	65.0	240,000	1,655	0.3	16	5,500	38	
	Excellent processability, nucleated							
CP1200B	126.0	180,000	1,241	0.3	16	4,700	32	
	Multipurpose, high melt flow							

Compounding

Typical Properties		Melt Flow (230 C, 2.16 kg)	Flexural Modulus (0.05in/min, 1% secant)		Notched Izod Impact Strength @ 23 C		Tensile Strength @ yield (2 in/min)	
ASTM Method		D1238	D790A		D256A		D638	
Units		g/10'	psi	MPA	ft-lb/in	J/m	psi	MPA
HCHP	F350HC2	35.0	300,000	2,069	0.4	21	6,000	41
		Very high flexural modulus, high melt flow						
	F1000HC	115.0	300,000	2,069	0.3	16	5,950	41
		Very high flexural modulus, high melt flow						
High Crystalline HECO	TI2150C	15.0	235,000	1,621	1.5	80	4,600	32
		Highly crystalline homopolymer phase, very high molecular weight EPR phase, very high flexural modulus, reduced emissions, reduced gels						
	TI2350C	40.0	235,000	1,621	1.0	53	4,600	32
		Highly crystalline homopolymer phase, very high molecular weight EPR phase, very high flexural modulus, reduced emissions, reduced gels, high melt flow						
	TI2600C	66.0	235,000	1,621	0.9	48	4,900	34
		Highly crystalline homopolymer phase, very high molecular weight EPR phase, very high flexural modulus, reduced emissions, reduced gels, high melt flow						
	TI2900C	110.0	235,000	1,621	0.7	37	4,900	34
		Highly crystalline homopolymer phase, very high molecular weight EPR phase, very high flexural modulus, reduced emissions, reduced gels, high melt flow						
TI71000M	120.0	260,000	1,793	0.7	37	4,900	34	
	Highly crystalline homopolymer phase, very high molecular weight EPR phase, very high flexural modulus, reduced emissions, reduced gels, high melt flow							



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Compounding

Typical Properties		Melt Flow (230 C, 2.16 kg)	Flexural Modulus (0.05in/min, 1% secant)		Notched Izod Impact Strength @ 23 C		Tensile Strength @ yield (2 in/min)	
ASTM Method		D1238	D790A		D256A		D638	
Units		g/10'	psi	MPA	ft-lb/in	J/m	psi	MPA
HECO	Ti4005P2	0.5	210,000	1,448	NB	NB	4,200	29
	Extra high Izod impact, very high flexural modulus, good low temperature drop impact, nucleated							
	INSPIRE 114	0.5	215,000	1,483	NB	NB	4,350	30
		High Melt Strength, High Toughness, Excellent Processability, High Impact and Puncture Resistance, High Film Stiffness/Machinability, High Heat Resistance						
	Ti4007G	0.7	175,000	1,207	NB	NB	4,200	29
		Extra high izod impact, superior low temperature drop impact						
	Ti6035NB	3.8	140,000	966	NB	NB	3,100	21
		Extra high izod impact, superior low temperature drop impact						
	Ti4040WT	4.0	205,000	1,414	3.5	187	4,400	30
		Superior drop impact at refrigeration temperature, very high flexural modulus, nucleated, good mold release						
	KN-501	8.0	170,000	1,172	2.5	133	3,700	26
		Excellent color and processing stability, excellent long term heat aging properties, wet/dry environment resistance						
	Ti6120Q4	12.0	115,000	793	NB	NB	2,750	19
		Extra high izod impact, superior low temperature drop impact, good paint adhesion						
	C702-20	18.0	150,000	1,034	3.5	187	3,000	21
		High Impact						
	Ti6200Q4	20.0	115,000	793	NB	NB	2,850	20
		Extra high izod impact, superior low temperature drop impact, good paint adhesion						
	C7079-25RNA	25.0	154,000	1,062	NB	NB	3,200	22
		Consistent processability, excellent toughness, good surface gloss						
Ti6350WV	35.0	135,000	931	4.2	224	2,800	19	
	Superior low temperature impact, nucleated, antistatic							
C719-35RN HP	35.0	155,000	1,069	3.5	187	3,000	21	
	High impact, contains nucleating agent, controlled rheology product							
Ti4350P	35.0	200,000	1,379	1.4	75	4,000	28	
	Good balance of stiffness and impact strength, excellent organoleptic properties, high melt flow							
C705-44NA	44.0	198,000	1,366	1.0	53	3,180	22	
	High stiffness, nucleated for fast set-up, good impact resistance, contains antistat for mold release							
Ti6550WV	55.0	190,000	1,310	1.8	96	3,400	23	
	High melt flow, good low temperature impact, nucleated, good mold release, antistatic							
Ti4700P2	70.0	180,000	1,241	1.2	64	3,900	27	
	High stiffness, nucleated							
Ti4900M	115.0	210,000	1,448	0.7	37	4,300	30	
	Very high flexural modulus, high melt flow							

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Braskem has a fundamental concern for all who make, distribute, and use its products, and for the environment in which we live. This concern is the basis for our Product Stewardship philosophy by which we assess the safety, health, and environmental information on our products and then take appropriate steps to protect employee and public health and our environment. The success of our Product Stewardship program rests with each and every individual involved with Braskem products from the initial concept and research, to manufacture, use, sale, disposal, and recycle of each product.

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- b. use as a critical component in medical devices that support or sustain human life; or
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The Braskem logo consists of the word "Braskem" in a white, sans-serif font, centered within a blue rectangular background.