REFINING & CHEMICALS

POLYPROPYLENE
POLYSTYRENE
CIRCULAR POLYMERS

AMERICAN PRODUCT RANGE

TotalEnergies

TotalEnergies is a global multi-energy company that produces and markets energies: oil and biofuels, natural gas and green gases, renewables and electricity. Our more than 100,000 employees are committed to energy that is ever more affordable, cleaner, more reliable and accessible to as many people as possible.

TotalEnergies Polymers: added value for your business

TotalEnergies develops, produces, and commercializes added value Polypropylene and Polystyrene for a wide range of high-end applications. TotalEnergies Polymers builds on its **extensive** experience and **in-depth** knowledge to be a **pioneer** in new polymer technologies.

To meet today's and tomorrow's challenges, TotalEnergies offers **high-quality** virgin, recycled and bio-based grades, with the ambition to produce **1 million tons** of circular polymers per year by 2030.

Our worldwide presence covering Europe, America, and Asia enables TotalEnergies to promote local business and foster proximity and intimacy with our customers. This presence relies on TotalEnergies' **integrated platforms,** ensuring a reliable production process with direct access to **secure** and **traceable** feedstock across the entire value chain.

Worldwide Presence

MAJOR INTEGRATED PLATFORM

POLYMER PLANT

POLYMER PLANT + R&D CENTERS AND TECHCENTERS

POLYMER PLANT + BIOREFINERY

BIOREFINERY

RE:use | MECHANICAL RECYCLING

RE:build | ADVANCED RECYCLING

RE:newable | BIOPOLYMERS

TotalEnergies Integral Approach for Polymers

Rethink
the use

- Promote durable and high-value applications
- Develop eco-design

Reduce
the impact

- Reduce the environmental footprint of the production
- Reduce the environmental impact of the products

Recycle
and develop circularity

- Leverage the complementarity of recycling technologies
- Develop the use of biopolymers

TotalEnergies RE:clic Range of Circular Polymers

RE:clic

1M tons/year

Our ambition for the production of circular polymers by 2030

Our PLA portfolio

Or go on totalenergies-corbion.com

RE:use

Our polymers based on mechanically recycled Polypropylene or Polystyrene from collectively and well sorted **post-consumer or pre-consumer waste** (PCR or PIR).

In addition to our **third-party certified** ready-to-use solutions containing up to 50% PCR, **tailor-made developments** are possible according to your needs.

RE:build

Our polymers manufactured using an advanced recycling process by pyrolysis that converts hard-to-recycle plastic waste that would otherwise be destined for landfill or incineration.

All TotalEnergies polymer grades in this catalog are available under the RE:build range with **ISCC PLUS** certification based on **the mass balance principles.**

RE:newable

Our polymers based on bio-feedstocks. These feedstocks allow the reduction of carbon emissions without compromising performance and include Poly Lactic Acid (PLA), a biosourced, recyclable, and biocompostable bioplastic.

TotalEnergies Commitments and Initiatives

ALLIANCE TO END PLASTIC WASTE

TotalEnergies is a founding member of the Alliance to End Plastic Waste. Since 2019, this alliance has brought together players to work on solutions to eliminate plastic waste in the environment, especially in the oceans.

Operation Clean Sweep®

TotalEnergies recognizes the importance of preventing pellet loss and has been committed to implementing the Operation Clean Sweep® program since 2015 and having all its operated polymer production sites in Europe and the USA compliant with OCS.

APR

Aims to improve plastic recycling processes for a sustainable business, minimizing waste and emissions. TotalEnergies collaborates with APR to promote recycling-friendly design and expand access.

Polystyrene Recycling℠ ALLIANCE

This coalition unites the polystyrene value chain to promote circularity for polystyrene products across North America. TotalEnergies participates in efforts to expand recycling access and drive higher recycling rates.

TotalEnergies Support

With **experienced production capabilities**, dedicated technical support across North America, and a **customer-focused** development approach, TotalEnergies is here to support your business and deliver solutions tailored to **your needs** - efficiently and effectively.

Processing and Analytical Capabilities:

- Compounding
- Injection Molding
- Sheet and SET
- Films
- Foams
- Fibers
- Chromatography
- Microscopy
- Thermal Analysis
- Spectroscopy
- Physical testing
- Rheology

Summary

Extrusion Applications

Polypropylene for Extrusion Applications

POLYPROPYLENE	MAIN PROPERTIES (ASTM)						APPLICATIONS AND FEATURES			
	Melt Flow Rate	Flexural Modulus	Tensile Strength at Yield	Elongation at Yield	Izod Notched (at 23°C)	Heat Deflection Temperature	Typical Application			Special Features
	g/10-min	Kpsi	psi	%	ft-lb./in	°C (°F)	Sheet Extrusion Thermoforming	Blow Molding	Profile Extrusion	
HOMOPOLYMERS										
3281	1.3	200	4,900	8	0.8	104 (220)	✓	✓	✓	High viscosity
3230	1.6	170	4,800	8	0.7	121 (250)		✓	✓	Superior core rod release
3270	2.0	300	5,400	6	0.5	104 (220)	✓		✓	High stiffness
3485WZ	4.1	270	5,600	6	0.8	111 (232)	✓			Good clarity, gloss and sidewall stiffness
3480Z	4.8	200	5,300	10	0.5	107 (225)			✓	Excellent process stability in high profile extrusion
RANDOM COPOLYMERS										
6232	2.0	150	3,800	14	1.2	77 (170)		✓	✓	Good impact strength, low extractables
7232	2.0	100	3,400	11	1.4	82 (180)		✓	✓	Good impact strength
7238	2.0	120	3,400	11	1.3	88 (190)		✓	✓	Good impact strength, lubricated

Polypropylene for Extrusion Applications

POLYPROPYLENE	MAIN PROPERTIES (ASTM)						APPLICATIONS AND FEATURES			
	Melt Flow Rate	Flexural Modulus	Tensile Strength at Yield	Elongation at Yield	Izod Notched (at 23°C)	Heat Deflection Temperature	Typical Application			Special Features
	g/10-min	Kpsi	psi	%	ft-lb./in	°C (°F)	Sheet Extrusion Thermoforming	Blow Molding	Profile Extrusion	
IMPACT COPOLYMERS										
4170	0.8	165	3,900	11	No Break	90 (194)	✓	✓	✓	High impact, fractional melt
4252	1.5	180	4,000	7	No Break	95 (203)	✓		✓	High impact and processability for corrugated sheet
4481WZ	4.0	250	4,900	7	2.5	117 (243)	✓			Good clarity and stiffness/impact balance

Polystyrene for Extrusion Applications

POLYSTYRENE	MAIN PROPERTIES (ASTM)							MAIN APPLICATIONS
	Melt Flow Rate	Flexural Modulus	Tensile Strength	Elongation	Izod Notched (at 23°C)	Falling Dart	Vicat	
	g/10-min	Kpsi	psi	%	ft-lb./in	in-lb.	°C (°F)	
HIGH MELT STRENGTH CRYSTAL								
595T	1.6	490	7,700	•	•	•	107 (225)	Foam packaging, foam board, OPS
567	8.5	430	6,500	•	•	•	104 (219)	Foam board, insulation foam board
536	9.0	430	6,500	•	•	•	104 (219)	Foam board, wood replacement
CRYSTAL								
524	9.0	450	6,700	•	•	•	101 (213)	High gloss coextrusion capping
HIGH HEAT CRYSTAL								
585	1.6	430	7,600	•	•	•	107 (225)	Foam packaging, foam board, OPS
533	5.0	450	7,400	•	•	•	106 (222)	XPS
523	11	480	6,500	•	•	•	106 (222)	Loose fill packaging, foam board, insulation board
503	23	480	4,000	•	•	•	106 (222)	Insulation foam board, masterbatch carrier

Polystyrene for Extrusion Applications

POLYSTYRENE	MAIN PROPERTIES (ASTM)							MAIN APPLICATIONS
	Melt Flow Rate	Flexural Modulus	Tensile Strength	Elongation	Izod Notched (at 23°C)	Falling Dart	Vicat	
	g/10-min	Kpsi	psi	%	ft-lb./in	in-lb.	°C (°F)	
HIGH IMPACT								
825E	3.0	320	3,600	50	2.0	110	102 (215)	Custom sheet, packaging, FFS applications
844E/845E	3.0	280	3,200	55	2.4	110	100 (212)	Custom sheet, packaging, point of purchase
740	4.0	370	4,400	45	2.0	120	101 (214)	Cups, lids, containers
SUPER HIGH IMPACT								
980E	2.0	300	3,300	40	3.0	140	104 (220)	Custom sheet, packaging, point of purchase
940E	2.8	300	3,800	50	3.0	160	101 (214)	Food packaging, foodservice parts, coextrusion
975E	2.8	270	2,900	55	2.2	105	99 (210)	ESCR dairy packaging, containers, lids, refrigeration liners
945E	3.5	310	3,500	55	3.2	160	98 (208)	Custom sheet, foodservice parts, ABS replacement
960E	3.8	240	2,500	70	3.0	110	99 (210)	High ESCR packaging, refrigeration liners, capping

RE:use Polypropylene with Recycled Content* for Extrusion Applications

RE:use POLYPROPYLENE	MAIN PROPERTIES (ASTM)								MAIN APPLICATIONS
	Melt Flow Rate	Recycled Content	Recycled Type**		Color	FDA COU	Flexural Modulus	Izod Notched (at 23°C)	
	g/10-min	%	PCR	PIR			Kpsi	ft-lb./in	
IMPACT COPOLYMERS									
C303CWZ	3.5	30	✓		Natural	A-H	195	2.0	Sheet extrusion thermoforming
C313CWZ	3.5	30	✓		Natural	A-H	175	2.0	Sheet extrusion thermoforming

All featured RE:use grades are third-party certified for content

*Formulation development tools available to tailor MFR, color, and mechanical properties.
**PCR: Post-Consumer Recycled; PIR: Post-Industrial Recycled

RE:use Polystyrene with Recycled Content* for Extrusion Applications

RE:use POLYSTYRENE	MAIN PROPERTIES (ASTM)							MAIN APPLICATIONS
	Melt Flow Rate	PIR**	Flexural Modulus	Izod Notched (at 23°C)	Tensile Strength	Flexural Strength	Vicat	
	g/10-min	%	Kpsi	ft-lb./in	psi	psi	°C (°F)	
CRYSTAL								
R5030-I	2.5	30	430	<1	7,600	15,200	107 (225)	XPS; OPS
HIGH IMPACT								
R8020-I	4.0	20	330	2	3,400	7,100	99 (211)	Sheet extrusion thermoforming

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Injection Molding Applications

Polypropylene for Injection Molding Applications

POLYPROPYLENE	MAIN PROPERTIES (ASTM)								SPECIFIC FEATURES
	Melt Flow Rate	Flexural Modulus	Tensile Strength at Yield	Elongation at Yield	Izod Notched (at 23°C)	Heat Deflection Temperature	Additives		
	g/10-min	Kpsi	psi	%	ft-lb./in	°C (°F)	Anti-stat	Nucleated	
HOMOPOLYMERS									
3429	4.3	180	4,800	12	0.6	121 (250)			Engineered with a Long-Term Heat Aging additive
3620WZ	12	230	5,400	12	0.5	127 (260)	✓	✓	Fast cycle time, improve contact clarity in thin wall multi-cavity molds
M3661	14	180	4,900	14	0.4	104 (220)			Low extractables
3720WZ	20	220	5,500	13	0.5	127 (260)	✓	✓	Fast cycle time, improve contact clarity in thin wall multi-cavity molds
3721WZ	20	270	5,500	12	0.5	127 (260)	✓	✓	High level of anti-stat
3740WR	20	250	5,400	7	0.3	116 (240)		✓	Gamma radiation stability
M3766	24	200	5,000	24	0.4	86 (186)			Low extractables
3825	30	220	4,800	12	0.4	121 (250)			Easy flow

Polypropylene for Injection Molding Applications

POLYPROPYLENE	MAIN PROPERTIES (ASTM)								SPECIFIC FEATURES
	Melt Flow Rate	Flexural Modulus	Tensile Strength at Yield	Elongation at Yield	Izod Notched (at 23°C)	Heat Deflection Temperature	Additives		
	g/10-min	Kpsi	psi	%	ft-lb./in	°C (°F)	Anti-stat	Nucleated	
HOMOPOLYMERS									
3825WZ	30	260	5,600	11	0.6	127 (260)	✓	✓	Fast cycle time, improve contact clarity
3927WZ	60	270	5,500	10	0.4	127 (260)	✓	✓	Fast cycle time, improve contact clarity
RANDOM COPOLYMERS									
M6571	9	160	4,500	8	0.6	96 (204)			Low extractables
M8623KZ	12	190	4,500	9	1.0	77 (171)	✓	✓	Excellent clarity, low extractables
3727W	20	190	4,800	8	1.0	104 (220)		✓	Optimum stiffness/impact balance
3727WZ	20	190	4,800	12	1.0	104 (220)	✓	✓	Optimum stiffness/impact balance
7823M	30	140	4,300	11	1.4	88 (190)		✓	Clarified

Polypropylene for Injection Molding Applications

POLYPROPYLENE	MAIN PROPERTIES (ASTM)								SPECIFIC FEATURES
	Melt Flow Rate	Flexural Modulus	Tensile Strength at Yield	Elongation at Yield	Izod Notched (at 23°C)	Heat Deflection Temperature	Additives		
	g/10-min	Kpsi	psi	%	ft-lb./in	°C (°F)	Anti-stat	Nucleated	
RANDOM COPOLYMERS									
M6823MZ	30	173	4,300	12	0.7	89 (192)	✓	✓	Excellent clarity, low extractables
M8825KZ	30	173	4,300	12	0.7	89 (192)	✓	✓	Excellent clarity, low extractables
3847MR	45	171	4,700	9	0.6	104 (220)		✓	Clarified and gamma radiation stability
3944MR	60	225	5,000	8	0.4	109 (228)		✓	Clarified and gamma radiation stability
IMPACT COPOLYMERS									
4524WZ	7	170	3,800	7	3.5	90 (194)	✓	✓	High impact
5624WZ	15	170	3,400	5	No Break	90 (194)	✓	✓	Superior cold temperature impact
5720WZ	20	190	3,400	7	3.6	90 (194)	✓	✓	High impact, good stiffness, creep resistance
4720WZ	25	210	4,000	6	2.0	90 (194)	✓	✓	Improved creep resistance

Polypropylene for Injection Molding Applications

POLYPROPYLENE	MAIN PROPERTIES (ASTM)								SPECIFIC FEATURES
	Melt Flow Rate	Flexural Modulus	Tensile Strength at Yield	Elongation at Yield	Izod Notched (at 23°C)	Heat Deflection Temperature	Additives		
	g/10-min	Kpsi	psi	%	ft-lb./in	°C (°F)	Anti-stat	Nucleated	
IMPACT COPOLYMERS									
4740WZ	25	225	4,000	6	1.8	110 (230)	✓	✓	Improved stiffness, creep resistance
4820WZ	35	200	4,000	6	1.5	100 (212)	✓	✓	Improved creep resistance
5824WZ	40	160	3,200	6	3.5	95 (203)	✓	✓	High impact, multi-purpose
4944CWZ	50	210	3,700	5	1.5	90 (194)	✓	✓	Fast cycle time for thin-walled containers
5946WZ	75	180	3,700	6	1.4	110 (230)	✓	✓	High flow, low warpage
5948WZ	84	170	3,600	6	2	107 (225)	✓	✓	High flow, excellent stiffness and impact resistance

Polystyrene for Injection Molding Applications

POLYSTYRENE	MAIN PROPERTIES (ASTM)							MAIN APPLICATIONS
	Melt Flow Rate g/10-min	Flexural Modulus Kpsi	Tensile Strength psi	Elongation %	Izod Notched (at 23°C) ft-lb./in	Falling Dart in-lb.	Vicat °C (°F)	
CRYSTAL								
529	3.5	430	7,500	•	•	•	98 (208)	Electronics packaging and office accessories
525	9.0	450	6,700	•	•	•	101 (213)	Housewares, medical/laboratory parts, electronics, packaging
500	14	460	6,400	•	•	•	97 (206)	Tumblers, cutleries, containers
HIGH HEAT CRYSTAL								
535	4.0	450	7,400	•	•	•	106 (222)	Electronics, office products, cutleries
536	8.5	430	6,500	•	•	•	104 (219)	Electronics, office products, cutleries

Polystyrene for Injection Molding Applications

POLYSTYRENE	MAIN PROPERTIES (ASTM)							MAIN APPLICATIONS
	Melt Flow Rate	Flexural Modulus	Tensile Strength	Elongation	Izod Notched (at 23°C)	Falling Dart	Vicat	
	g/10-min	Kpsi	psi	%	ft-lb./in	in-lb.	°C (°F)	
HIGH IMPACT								
740	4	370	4,400	45	2	120	101 (214)	High gloss applications
825	8	340	3,600	45	2	110	96 (205)	Toys, appliance parts, housewares, packaging
830	13	300	3,300	45	2	120	93 (200)	Thin wall packaging

RE:use Polypropylene with Recycled Content* for Injection Molding Applications

RE:use POLYPROPYLENE	MAIN PROPERTIES (ASTM)								SPECIFIC FEATURES
	Melt Flow Rate	Recycled Content	Recycled Type**		Color	FDA COU	Flexural Modulus	Izod Notched (at 23°C)	
	g/10-min	%	PCR	PIR			Kpsi	ft-lb./in	
HOMOPOLYMERS									
H603CWZ	12	30	✓		Natural	A-H	250	0.5	Good contact clarity
IMPACT COPOLYMERS									
C723CWZ	15	30	✓		Natural	C-H	190	2.0	High impact
C733CWZ	20	30	✓		White	D-G	185	1.5	Improved creep resistance
C803CWZ	25	30	✓		Light Gray	E-G	190	1.5	Improved stiffness

All featured RE:use grades are third-party certified for content

*Formulation development tools available to tailor MFR, color, and mechanical properties.
**PCR: Post-Consumer Recycled; PIR: Post-Industrial Recycled

RE:use Polystyrene with Recycled Content* for Injection Molding Applications

RE:use POLYSTYRENE	MAIN PROPERTIES (ASTM)							SPECIFIC FEATURES
	Melt Flow Rate	PIR**	Flexural Modulus	Izod Notched (at 23°C)	Tensile Strength	Flexural Strength	Vicat	
	g/10-min	%	Kpsi	ft-lb./in	psi	psi	°C (°F)	
CRYSTAL								
R5025-I	12	25	420	<1	6,000	11,000	101 (214)	High flow, high clarity

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Film Applications

Polypropylene for Film Applications

POLYPROPYLENE	MAIN PROPERTIES (ASTM)			TYPICAL APPLICATIONS			
	Melt Flow Rate g/10-min	Xylene Solubles %	Melting Point °C (°F)	BOPP	Heat Seal	Cast Film	Blown Fim
HOMOPOLYMERS							
3270	2.0	0.8	•	✓			
3273	2.0	2.0	•	✓			
3272	2.2	4.0	•	✓			
3371	2.8	4.0	•	✓			
3462	4.1	•	•			✓	
3571	9.0	•	•			✓	
M3661	14	•	•			✓	
3865	35	•	•			✓	

Polypropylene for Film Applications

POLYPROPYLENE	MAIN PROPERTIES (ASTM)			TYPICAL APPLICATIONS			
	Melt Flow Rate g/10-min	Xylene Solubles %	Melting Point °C (°F)	BOPP	Heat Seal	Cast Film	Blown Fim
HOMOPOLYMERS							
6232	2.0	•	147 (298)				✓
8473	4.6	•	134 (273)		✓		
7450HC	5.0	•	132 (270)		✓	✓	
Z9450	5.0	•	129 (264)		✓	✓	
8573	6.8	•	135 (275)		✓		
M6571	9.0	•	143 (290)			✓	
M9675	11	•	119 (246)		✓		
IMPACT COPOLYMERS							
4170	0.8	•	•				✓
5571	7.0	•	•			✓	

RE:use Polypropylene with Recycled Content* for Film Applications

RE:use POLYPROPYLENE	MAIN PROPERTIES (ASTM)								MAIN APPLICATIONS
	Melt Flow Rate	Recycled Content	Recycled Type**		Color	FDA COU	Flexural Modulus	Izod Notched (at 23°C)	
	g/10-min	%	PCR	PIR			Kpsi	ft-lb./in	
HOMOPOLYMERS									
H305I	3	50		✓	Natural	A-H	220	0.7	BOPP

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**PCR: Post-Consumer Recycled; PIR: Post-Industrial Recycled

RE:use Polystyrene with Recycled Content* for Film Applications

RE:use POLYSTYRENE	MAIN PROPERTIES (ASTM)							MAIN APPLICATIONS
	Melt Flow Rate	PIR**	Flexural Modulus	Izod Notched (at 23°C)	Tensile Strength	Flexural Strength	Vicat	
	g/10-min	%	Kpsi	ft-lb./in	psi	psi	°C (°F)	
CRYSTAL								
R5030-I	2.5	30	430	<1	7,600	15,200	107 (225)	XPS; OPS

All featured RE:use grades are third-party certified for content

*Formulation development tools available to tailor MFR, color, and mechanical properties.
**PCR: Post-Consumer Recycled; PIR: Post-Industrial Recycled


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Fiber & Non-Woven Applications

Polypropylene for Fiber and Non-Woven Applications

POLYPROPYLENE	MAIN PROPERTIES (ASTM)		TYPICAL APPLICATIONS		
	Melt Flow Rate g/10-min	Melting Point °C (°F)	Netting, Strapping, Monofilament & Slit Tape	Stable Fiber & Continuous Filament	Spunbond
HOMOPOLYMERS					
3281	1.3	165 (329)	✓		
3274	1.6	165 (329)	✓		
3270	2.0	165 (329)	✓		
3462	4.1	165 (329)	✓		
3662	10	165 (329)		✓	
M3661	14	151 (304)		✓	✓
3762	18	165 (329)		✓	
M3766	24	151 (304)			✓
3865	35	165 (329)			✓

Polypropylene for Fiber and Non-Woven Applications

POLYPROPYLENE	MAIN PROPERTIES (ASTM)		TYPICAL APPLICATIONS		
	Melt Flow Rate g/10-min	Melting Point °C (°F)	Netting, Strapping, Monofilament & Slit Tape	Stable Fiber & Continuous Filament	Spunbond
HOMOPOLYMERS					
3860X	100	165 (329)			✓
3962	1,300	165 (329)			✓

RE:use Polypropylene with Recycled Content* for Fiber and Non-Woven Applications

RE:use POLYPROPYLENE	MAIN PROPERTIES (ASTM)								MAIN APPLICATIONS
	Melt Flow Rate	Recycled Content	Recycled Type**		Color	FDA COU	Flexural Modulus	Izod Notched (at 23°C)	
	g/10-min	%	PCR	PIR			Kpsi	ft-lb./in	
HOMOPOLYMERS									
H804I	30	40		✓	Natural	A-H	190	0.5	Staple & Spunbond

All featured RE:use grades are third-party certified for content

*Formulation development tools available to tailor MFR, color, and mechanical properties.
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Compounding Applications

Polypropylene for Compounding Applications

POLYPROPYLENE	MAIN PROPERTIES (ASTM)								SPECIFIC FEATURES
	Melt Flow Rate	Flexural Modulus	Tensile Strength at Yield	Elongation at Yield	Izod Notched (at 23°C)	Heat Deflection Temperature	Additives		
	g/10-min	Kpsi	psi	%	ft-lb./in	°C (°F)	Anti-stat	Nucleated	
HOMOPOLYMERS									
3270	2.0	270	5,400	6	0.7	104 (220)			High stiffness
3429	4.3	180	4,800	12	0.6	121 (250)			Engineered with a Long-Term Heat Aging additive
3662	10	230	5,300	7	0.5	•			Excellent processing stability
3620WZ	12	230	5,400	12	0.5	127 (260)	✓	✓	Fast cycle time
M3661	14	195	4,900	6	0.4	104 (220)			Low extractables
3721WZ	20	270	5,500	12	0.5	127 (260)	✓	✓	High level of anti-stat
3740WR	20	250	5,400	7	0.3	116 (240)		✓	Gamma radiation stability
M3766	24	200	5,000	7	0.4	86 (186)			Low extractables
3825	30	220	4,800	12	0.4	121 (250)			Easy flow

Polypropylene for Compounding Applications

POLYPROPYLENE	MAIN PROPERTIES (ASTM)								SPECIFIC FEATURES
	Melt Flow Rate	Flexural Modulus	Tensile Strength at Yield	Elongation at Yield	Izod Notched (at 23°C)	Heat Deflection Temperature	Additives		
	g/10-min	Kpsi	psi	%	ft-lb./in	°C (°F)	Anti-stat	Nucleated	
HOMOPOLYMERS									
3825WZ	30	260	5,600	11	0.6	127 (260)	✓	✓	Fast cycle time, improve contact clarity
3865	35	160	4,700	8	0.5	121 (250)			Excellent processability
3927WZ	60	270	5,500	10	0.4	127 (260)	✓	✓	Fast cycle time, improve contact clarity
3860X	100	240	•	•	•	•			High purity
3962	1,300	•	•	•	•	•			Ultra-high melt flow
IMPACT COPOLYMERS									
4170	0.8	165	3,900	11	No Break	90 (194)			High impact, fractional melt
4252	1.5	180	4,000	7	No Break	95 (203)			High impact
4481WZ	4.0	250	4,900	7	2.5	117 (243)	✓	✓	Good stiffness/impact balance

Polypropylene for Compounding Applications

POLYPROPYLENE	MAIN PROPERTIES (ASTM)								SPECIFIC FEATURES
	Melt Flow Rate	Flexural Modulus	Tensile Strength at Yield	Elongation at Yield	Izod Notched (at 23°C)	Heat Deflection Temperature	Additives		
	g/10-min	Kpsi	psi	%	ft-lb./in	°C (°F)	Anti-stat	Nucleated	
IMPACT COPOLYMERS									
4524WZ	7	170	3,800	7	3.5	90 (194)	✓	✓	High impact
5571	7	170	3,400	7	3.5	90 (194)			High impact
5624WZ	15	170	3,400	5	No Break	90 (194)	✓	✓	Superior cold temperature impact
5720WZ	20	190	3,400	7	3.6	90 (194)	✓	✓	High ethylene, good stiffness, creep resistance
4720WZ	25	210	4,000	6	2.0	90 (194)	✓	✓	High impact, improved creep resistance
4740WZ	25	225	4,000	6	1.8	110 (230)	✓	✓	Improved stiffness, creep resistance
4820WZ	35	200	4,000	6	1.5	100 (212)	✓	✓	Improved creep resistance
5824WZ	40	160	3,200	6	3.5	95 (203)	✓	✓	High ethylene
4944CWZ	50	210	3,700	5	1.5	90 (194)	✓	✓	High slip

Polypropylene for Compounding Applications

POLYPROPYLENE	MAIN PROPERTIES (ASTM)								SPECIFIC FEATURES
	Melt Flow Rate	Flexural Modulus	Tensile Strength at Yield	Elongation at Yield	Izod Notched (at 23°C)	Heat Deflection Temperature	Additives		
	g/10-min	Kpsi	psi	%	ft-lb./in	°C (°F)	Anti-stat	Nucleated	
IMPACT COPOLYMERS									
5946WZ	75	180	3,700	6	1.4	110 (230)	✓	✓	High ethylene, high flow
5948WZ	80	170	3,600	6	2.0	107 (225)	✓	✓	High ethylene, high flow

Polystyrene for Compounding Applications

POLYSTYRENE	MAIN PROPERTIES (ASTM)							SPECIAL FEATURES
	Melt Flow Rate	Flexural Modulus	Tensile Strength	Elongation	Izod Notched (at 23°C)	Falling Dart	Vicat	
	g/10-min	Kpsi	psi	%	ft-lb./in	in-lb.	°C (°F)	
HIGH MELT STRENGTH CRYSTAL								
595T	1.6	490	7,700	•	•	•	107 (225)	High melt strength
567	8.5	430	6,500	•	•	•	104 (219)	High melt strength
CRYSTAL								
535	4.0	450	7,400	•	•	•	106 (222)	Electronics, office products, cutleries
536	8.5	430	6,500	•	•	•	104 (219)	Electronics, office products, cutleries
500	14	460	6,400	•	•	•	97 (206)	High flow
503	23	480	4,000	•	•	•	106 (222)	High heat crystal, high flow
HIGH IMPACT								
830	13	300	3,300	45	2.0	120	93 (200)	High flow
SUPER HIGH IMPACT								
980E	2.0	300	3,300	40	3.0	140	104 (220)	High rubber

DMF Listed
& USP Class VI
Tested
Applications

DMF listed and USP Class VI tested Polypropylene

POLYPROPYLENE	MAIN PROPERTIES (ASTM)								MAIN APPLICATIONS
	Melt Flow Rate	Flexural Modulus	Tensile Strength at Yield	Elongation at Yield	Izod Notched (at 23°C)	Heat Deflection Temperature	Regulatory Compliance		
	g/10-min	Kpsi	psi	%	ft-lb./in	°C (°F)	DMF*	USP Class VI	
HOMOPOLYMERS									
3281	1.3	200	4,900	8	0.8	104 (220)		✓	Blow molding, sheet extrusion thermoforming, profile extrusion, fiber
3230	1.6	170	4,800	8	0.7	121 (250)	✓		Blow molding, profile extrusion
3462	4.1	200	5,000	12	0.6	107 (225)	✓		Film, fiber
3620WZ	12	230	5,400	12	0.5	127 (260)	✓	✓	Injection molding
M3661	14	180	4,900	14	0.4	104 (220)	✓		Injection molding, film, fiber
3720WZ	20	220	5,500	13	0.5	127 (260)	✓		Injection molding
3721WZ	20	270	5,500	12	0.5	127 (260)	✓		Injection molding
3740WR	20	250	5,400	7	0.3	116 (240)	✓		Injection molding
3825	30	220	4,800	12	0.4	121 (250)	✓	✓	Injection molding
3825WZ	30	260	5,600	11	0.6	127 (260)	✓		Injection molding

*DMF: Drug Master File

DMF listed and USP Class VI tested Polypropylene

POLYPROPYLENE	MAIN PROPERTIES (ASTM)								MAIN APPLICATIONS
	Melt Flow Rate	Flexural Modulus	Tensile Strength at Yield	Elongation at Yield	Izod Notched (at 23°C)	Heat Deflection Temperature	Regulatory Compliance		
	g/10-min	Kpsi	psi	%	ft-lb./in	°C (°F)	DMF*	USP Class VI	
HOMOPOLYMERS									
3962	1,300	•	•	•	•	•	✓		Blow molding, sheet extrusion thermoforming, profile extrusion, fiber
RANDOM COPOLYMERS									
7232	1.5	100	3,400	11	1.4	82 (180)	✓		Blow molding, profile extrusion
6232	2.0	150	3,800	14	1.2	77 (170)	✓		Injection molding
8473	4.6	•	•	•	•	158 (70)	✓		Film
7450HC	5.0	100	3,400	11	1.1	71 (160)	✓		Injection molding
Z9450	5.0	•	•	•	•	60 (140)	✓		Injection molding
8573	6.8	•	•	•	•	153 (67)	✓		Film
6575	8.0	•	•	•	•	169 (76)	✓		Film

*DMF: Drug Master File

DMF listed and USP Class VI tested Polypropylene

POLYPROPYLENE	MAIN PROPERTIES (ASTM)								MAIN APPLICATIONS
	Melt Flow Rate	Flexural Modulus	Tensile Strength at Yield	Elongation at Yield	Izod Notched (at 23°C)	Heat Deflection Temperature	Regulatory Compliance		
	g/10-min	Kpsi	psi	%	ft-lb./in	°C (°F)	DMF*	USP Class VI	
RANDOM COPOLYMERS									
3727W	20	190	4,800	8	1	104 (220)	✓	✓	Injection molding
3727WZ	20	190	4,800	12	1	104 (220)	✓		Injection molding
3847MR	45	171	4,700	9	0.6	104 (220)	✓	✓	Injection molding
3944MR	60	225	5,000	8	0.4	109 (228)	✓		Injection molding
IMPACT COPOLYMERS									
4720WZ	25	210	4,000	6	2	82 (180)	✓		Injection molding
4820WZ	35	200	4,000	6	1.5	88 (190)	✓		Injection molding
4944CWZ	50	210	3,700	5	1.5	77 (170)	✓		Injection molding

*DMF: Drug Master File

DMF listed and USP Class VI tested Polypropylene

POLYPROPYLENE	MAIN PROPERTIES (ASTM)								MAIN APPLICATIONS
	Melt Flow Rate	Flexural Modulus	Tensile Strength at Yield	Elongation at Yield	Izod Notched (at 23°C)	Heat Deflection Temperature	Regulatory Compliance		
	g/10-min	Kpsi	psi	%	ft-lb./in	°C (°F)	DMF*	USP Class VI	
SYNDIOTACTIC									
1251	2.2	50	2,200	11	No break	•	✓		Blow molding, other

*DMF: Drug Master File

DMF listed and USP Class VI tested Polystyrene

POLYSTYRENE	MAIN PROPERTIES (ASTM)									MAIN APPLICATIONS
	Melt Flow Rate	Flexural Modulus	Tensile Strength	Elongation	Izod Notched (at 23°C)	Falling Dart	Vicat	Regulatory Compliance		
	g/10-min	Kpsi	psi	%	ft-lb./in	in-lb.	°C (°F)	DMF*	USP Class VI	
CRYSTAL										
529	3.5	430	7,500	•	•	•	98 (208)		✓	Injection molding
525	9.0	450	6,700	•	•	•	101 (213)	✓	✓	Injection molding
500	14	460	6,400	•	•	•	97 (206)	✓	✓	Injection molding
HIGH HEAT CRYSTAL										
585	1.6	430	7,600	•	•	•	107 (225)	✓	✓	Extrusion
535	4.0	450	7,400	•	•	•	106 (222)	✓	✓	Injection molding
533	5.0	450	7,400	•	•	•	106 (222)		✓	Extrusion
536	9.0	460	6,500	•	•	•	104 (219)		✓	Extrusion
523	11	480	6,500	•	•	•	106 (222)		✓	Extrusion
503	23	480	4,000	•	•	•	106 (222)		✓	Injection molding, extrusion

*DMF: Drug Master File

DMF listed and USP Class VI tested Polystyrene

POLYSTYRENE	MAIN PROPERTIES (ASTM)									MAIN APPLICATIONS
	Melt Flow Rate	Flexural Modulus	Tensile Strength	Elongation	Izod Notched (at 23°C)	Falling Dart	Vicat	Regulatory Compliance		
	g/10-min	Kpsi	psi	%	ft-lb./in	in-lb.	°C (°F)	DMF*	USP Class VI	
HIGH IMPACT										
844E	3.0	280	3,200	55	2.4	110	100 (212)		✓	Extrusion
845E	3.0	280	3,200	55	2.4	110	100 (212)	✓	✓	Extrusion
740	4.0	370	4,400	45	2.0	120	101 (214)	✓	✓	Injection molding, extrusion
825	8.0	340	3,600	45	2.0	110	96 (205)	✓	✓	Injection molding, extrusion
830	13	300	3,300	45	2.1	120	93 (200)	✓	✓	Injection molding
SUPER HIGH IMPACT										
940E	2.8	300	3,800	50	3.0	160	101 (214)		✓	Injection molding
975E	2.8	270	2,900	55	2.2	105	99 (210)		✓	Extrusion
945E	3.5	310	3,500	55	3.2	160	98 (208)	✓	✓	Extrusion
960E	3.8	240	2,500	70	3.0	110	99 (210)		✓	Extrusion

*DMF: Drug Master File

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TotalEnergies Petrochemicals & Refining USA, Inc.
Refining & Chemicals
POLYMERS AMERICAS
1902 Independence Parkway South
La Porte, TX 77571 – USA

Phone: 281-884-7500
Email: usreclic@totalenergies.com