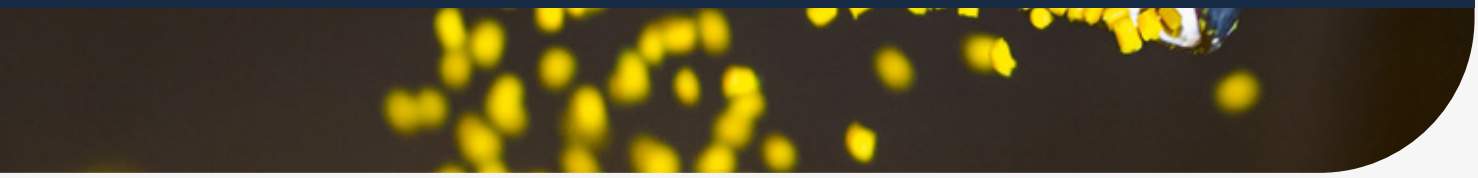
TEREZ®PP



TER plastics

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Portfolio

TEREZ Polypropylene

Since its development in the 1950s, Polypropylene (PP) has seen numerous advancements and has found new applications across various industries. Polypropylene is known for its excellent chemical resistance, high impact strength, It also boasts a low density, making it a lightweight yet durable material.

Polypropylene is often reinforced with materials such as glass fibers to enhance its mechanical properties, including increased stiffness and strength. This reinforcement also allows PP to withstand higher continuous use temperatures. Depending on its formulation, PP can be used in environments ranging from -20°C to +100°C, with short-term exposure totemperatures up to 140°C.

One of the notable characteristics of Polypropylene is its resistance to moisture absorption, which helps maintain its mechanical properties in humid environments. This makes PP an ideal choice for applications where moisture resistance is crucial.

Due to its versatile properties, Polypropylene has replaced many traditional materials in various sectors. It is widely used in automotive parts, electrical components, and packaging. Typical applications include automotive bumpers, battery cases, and interior trim, as well as containers, pipes, and household goods.

Polypropylene's combination of lightweight, durability, and resistance to chemicals and moisture makes it a valuable material in modern manufacturing and engineering.

Nomenclature

Polymer Nomenclature	
PPH	PP HOMO
PPC	PP COPO
PPR	PP RANDOM

Additional functional properties	
H	Various long-term heat stabilization systems for different requirements
UV	Various long-term UV Resistance systems for different requirements
CA	Constant antistatic effect
LM	Laser markable
SF	Super Flow Grades
CSM	Customer-specific modification / More than 3 additional functional properties
MSR	Mar and scratch resistance
I	Impact modification

Approval	
MO	No LTDS
W	Drinking water contact
L	Food contact
F1	Weather resistance / UL Certification

VW	Position 1	Raw material sources
GK1C	**1**00	Chemical Recycling
GK1B	**2**00	Bio based
GK1A	**3**00	Prime Compound
GK3	**4**00	Post Industrial Rezyclate
GK4	**5**00	Post Consumer Rezyclate
GK3+4	**6**00	PIR + PCR

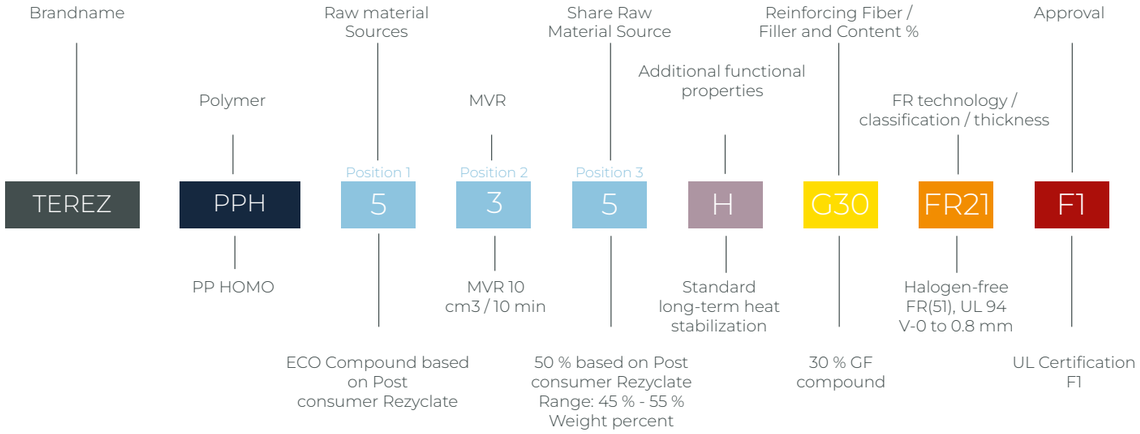
Reinforcing Fiber / Filler	
G	Glass Fiber
GX	Flat Glass Fiber
GL	Long Glass Fiber
B	Glass Beads
M	Mineral Filled

FR - System		UL 94	ISO 1043
FR2	HF HR	V-0	FR (51)
FR4	HF HR	V-2	FR (40)

Flame retardant classification is thickness dependent	
FR20	UL 94 V-0 until 0,4 – 0,6 mm
FR21	UL 94 V-0 until 0,8 mm
FR22	UL 94 V-0 until 1,6 mm
FR23	UL 94 V-0 until 3,2 mm

Position 2	Visc MVR (230°C/2,16 kg)	cm3/ 10 min
TEREZ PPC 5**0**0	MVR 0 - 1	0,5
TEREZ PPC 5**1**0	MVR 1 - 3	2
TEREZ PPC 5**2**0	MVR 3 - 7	5
TEREZ PPC 5**3**0	MVR 7 - 13	10
TEREZ PPC 5**4**0	MVR 10 - 20	15
TEREZ PPC 5**5**0	MVR 15 - 25	20
TEREZ PPC 5**6**0	MVR 25 - 35	30
TEREZ PPC 5**7**0	MVR 35 - 45	40
TEREZ PPC 5**8**0	MVR 45 - 65	55

Position 3	Range	%
50**1**	5-15	10
50**2**	15-25	20
50**3**	25-35	30
50**4**	35-45	40
50**5**	45-55	50
50**6**	55-65	60
50**7**	65-75	70
50**8**	75-85	80
50**9**	85-95	90
50**0**	95-100	100



Polymer Bases

Polypropylene (PP) is a widely used thermoplastic polymer, derived from the polymerization of the monomer propylene. Here are some key points about its polymer base:

1. **Polymerization Process:** PP is typically produced through a process called chain-growth polymerization, using catalysts such as Ziegler-Natta or metallocene catalysts. This process allows for control over the polymer's molecular weight and structure.

2. **Applications:** Due to its versatile properties, PP is used in a variety of applications, including packaging, automotive parts, textiles, and consumer goods. Its recyclability also makes it a popular choice for sustainable practices.

Polypropylene (PP) is a versatile polymer widely used in various applications. It is a thermoplastic polymer made from the monomer propylene. PP is known for its excellent chemical resistance. It is lightweight, durable, and can be easily molded into different shapes, making it ideal for packaging, automotive parts, textiles, and consumer goods. Additionally, PP is recyclable, contributing to its popularity in sustainable practices.

PP Portfolio

	Polypropylen Standard GF	Polypropylen High Performance GF	Polypropylen Standard Mineral Filled		Polypropylen Long Glass Fiber	Polypropylen Flame-Retardant
Unfilled	TEREZ PPC 300 E TEREZ PPH 300 E					TEREZ PPH 310 FR41 E TEREZ PPH 300 FR41 TEREZ PPH 430 FR41 TEREZ PPC 310 FR41 E TEREZ PPC 330 FR41
10% Filled	TEREZ PPC 330 G10 TEREZ PPH 330 G10 TEREZ PPH 439 G10	TEREZ PPH 330 H1 I1 G10 TR TEREZ PPH 340 G10 UV1	TEREZ PPH 340 MX10 TEREZ PPH 449 MX10			
20% Filled	TEREZ PPC 330 G20 TEREZ PPH 330 G20 TEREZ PPH 438 G20 TEREZ PPH 638 G20	TEREZ PPH 330 G20 UV1 TEREZ PPH 435 H20 G20 TEREZ PPH 435 H21 G20	TEREZ PPH 340 MX20 TEREZ PPH 445 MX20 TEREZ PPC 340 MX20			TEREZ PPH 330 G20 FR22 TEREZ PPH 435 G20 FR22
25% Filled	TEREZ PPH 330 G25 TEREZ PPC 330 G25					TEREZ PPH 330 G25 FR21 TEREZ PPH 330 G25 FR22 TEREZ PPH 330 G25 FR22 TEREZ PPH 435 G25 FR22
30% Filled	TEREZ PPC 330 G30 TEREZ PPH 330 G30 TEREZ PPH 340 G30 TEREZ PPH 437 G30 TEREZ PPH 637 G30 TEREZ PPH 639 G30	TEREZ PPH 330 H20 G30 TEREZ PPH 330 H21 G30 TEREZ PPH 435 H21 G30 LW TEREZ PPH 435 H20 G30 TEREZ PPH 435 H21 G30 TEREZ PPH 637 H2 G30	TEREZ PPH 340 MX30 TEREZ PPH 445 MX30 TEREZ PPC 340 MX20		TEREZ PPH 330 GL30 TEREZ PPH 330 H1 GL30 TEREZ PPH 435 H1 GL30	TEREZ PPH 330 G30 FR21 TEREZ PPH 330 G30 FR22 TEREZ PPH 435 G30 FR22
40% Filled	TEREZ PPH 320 G40 TEREZ PPH 436 G40	TEREZ PPH 433 H20 G40	TEREZ PPH 330 MX40		TEREZ PPH 330 GL40 TEREZ PPH 330 H1 GL40 TEREZ PPH 433 H1 GL40	
50% Filled	TEREZ PPH 320 G50 TEREZ PPH 425 G50	TEREZ PPH 320 H20 G50 TEREZ PPH 423 H20 G50 TEREZ PPH 523 H20 G50			TEREZ PPH 320 GL50 TEREZ PPH 325 H1 GL50 TEREZ PPH 423 H1 GL50	
60% Filled	TEREZ PPH 330 G60 TEREZ PPH 424 G60	TEREZ PPH 320 H20 G60 TEREZ PPH 423 H20 G60 TEREZ PPH 523 H20 G61			TEREZ PPH 320 GL60 TEREZ PPH 320 H1 GL60 TEREZ PPH 423 H1 GL60	

*ECO Grades in green