POLYONE technology

ENGINEERING PLASTICS

Engineering plastic compounds
Material selection for your application



COMPANY

Materials engineered for the application

POLYONE Technology manufactures engineering plastic compounds. Our portfolio combines a range of polymer bases with reinforcement, additives and color to address material properties and processing requirements.



2005 Established

Compounding modifies the characteristics of a base polymer. Our manufacturing platform includes both production and pilot equipment.

COMPOUNDING PROCESS

01	02	03	04	05
Weigh & mix	**Extrude**	**Cool & pelletize**	**Screen**	**Pack**

PRODUCT GUIDE

Portfolio & grade designation

PC / PC+ABS 04
Unfilled, GF, FR and alloys

PP 05
GF / MF, impact, automotive

PA6 / PA66 06
Reinforced, FR, low viscosity, alloys

PBT / mPPE 07
Heat, dimensional stability, alloys

POM / STYRENE 08
Wear, GF and impact modification

READING A GRADE CODE

PM202I

PP + 20% mineral filler + standard flow + impact modification

N / G / M / H
Unfilled / glass / mineral / hybrid

1 / 2 / 3
Low / standard / high flow

F / EF
Flame retardant / halogen-free FR

I / M
Impact modification / plating

Additional enquiries: LED light-diffusion materials and super engineering plastics.
GF: glass fiber / MF: mineral filler / FR: flame retardant. Specific grades and application conditions require consultation.

PRODUCT SELECTION

PC & PC/ABS compounds

PC

A portfolio of unfilled, reinforced, flame-retardant and ABS alloy grades. Selection focuses on impact, heat resistance and dimensional stability for electrical housings and automotive components.

SELECTION POINTS

Impact and flow

Flame retardancy

Appearance and plating

Grade	Characteristics	SG	Tensile	Izod	HDT
CN002	Unfilled / medium viscosity	1.20	630	75	130
CN002I	Chemical / low-temp. impact	1.20	580	70	130
CN002EF	Halogen-free FR / impact	1.20	630	72	118
CN003EF	Halogen-free FR / high flow	1.20	620	65	115
CG102	GF 10%	1.25	800	7	140
CG102I	GF 10% / impact-modified	1.25	550	25	137
CG202	GF 20%	1.35	1,000	10	140
CG202I	GF 20% / impact-modified	1.35	900	19	144
CG302	GF 30%	1.43	1,200	11	140
CG302I	GF 30% / impact-modified	1.43	1,100	18	140
CM103	Light-reflective	1.25	570	55	125
CSN302	PC/ABS general purpose	1.14	580	65	113
CSN302I	PC/ABS impact-modified	1.14	580	70	114
CSN60M	PC/ABS plating grade	1.10	440	45	98
CSG102	PC/ABS / GF 10%	1.18	900	10	121
CSG202	PC/ABS / GF 20%	1.30	950	10	116
CSG302	PC/ABS / GF 30%	1.38	1,000	10	118
CSN302EF	PC/ABS / halogen-free FR	1.18	600	40	90
CSG202F	PC/ABS / GF 20% / FR	1.35	950	7	120

SG: ASTM D792 · Tensile: kgf/cm², ASTM D638 · Izod: notched, 23°C, kgf·cm/cm, ASTM D256 · HDT: °C, ASTM D648

Reference values from the legacy catalogue; not specifications or warranties. Contact us for current grade availability and TDS.

PRODUCT SELECTION

PP compounds

PP

PP compounds with glass fiber, mineral filler and impact modification. Grade selection balances stiffness, impact and dimensional requirements for appliances and automotive interiors and exteriors.

SELECTION POINTS

GF and MF content

Stiffness and impact

Shrinkage and expansion

Grade	Characteristics	SG	Tensile	Izod	HDT
PN003I	High flow	0.90	270	7	114
PG102	GF 10%	0.99	500	5	140
PG202	GF 20%	1.03	750	5	150
PG302	GF 30%	1.14	870	8	155
PM102	MF 10%	0.98	350	5	130
PM102I	MF 10% / impact-modified	0.98	290	8	130
PM202	MF 20%	1.05	370	4	140
PM202I	MF 20% / impact-modified	1.05	300	6	137
PM302	MF 30%	1.13	350	3	140
PM302I	MF 30% / impact-modified	1.14	300	4.5	137
PM402	MF 40%	1.20	340	2.5	145
PM152F	MF 15% / FR	1.32	280	5	130
PH302	GF/MF 30%	1.20	700	12	150
PH402	GF/MF 40%	1.22	870	8.5	155
PRM102	Automotive exterior	0.98	180	45	115
PRM202	Automotive interior	1.04	260	20	133
PRM352	Auto exterior / low CLTE	1.12	170	30	125

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PRODUCT SELECTION

PA6 & PA66 compounds

Polyamide compounds for applications with mechanical, thermal and electrical requirements.

PA6

Low viscosity, GF / hybrid reinforcement and ABS alloy

Grade	Characteristics	SG	Tensile	Izod	HDT
AN003	Low viscosity	1.13	810	5	60
AG132	GF 13%	1.22	1,100	5	200
AG332	GF 33%	1.37	1,900	13	210
AG252F	GF 25% / FR	1.60	1,650	11	190
AH202	GF/MF 20%	1.27	1,050	5	180
AH402	GF/MF 40%	1.49	1,300	6	200
ASN502	ABS alloy	1.06	450	70	80

PA66

Low viscosity, GF / MF reinforcement and FR grades

Grade	Characteristics	SG	Tensile	Izod	HDT
BN003	Low viscosity	1.14	820	3.5	75
BN002EF	Halogen-free FR	1.14	800	5	85
BG202	GF 20%	1.30	1,600	8	245
BG332	GF 33%	1.38	1,950	13	250
BG102F	GF 10% / FR	1.45	975	4	232
BG302F	GF 30% / FR	1.63	1,750	10	250
BM302	MF 30%	1.36	750	6	185

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PRODUCT SELECTION

PBT & mPPE/mPPO compounds

PBT

Polyester-based grades selected for moldability, heat, chemical and electrical properties.

Grade	Characteristics	SG	Tensile	Izod	HDT
TN002	Unfilled	1.30	600	3.5	61
TG152	GF 15%	1.41	950	5	200
TG302	GF 30%	1.52	1,200	8	210
TG152F	GF 15% / FR	1.52	1,000	5	200
TG302F	GF 30% / FR	1.62	1,300	8	210
TCN702	PC alloy	1.22	610	60	100

mPPE / mPPO

PPE-based alloys selected for dimensional stability and low moisture absorption.

Grade	Characteristics	SG	Tensile	Izod	HDT
ON002	Unfilled	1.04	500	29	128
ON002EF	Halogen-free FR	1.09	730	20	135
OG202	GF 20%	1.18	970	10	135
OG302	GF 30%	1.28	1,230	13	135
OG202EF	GF 20% / halogen-free FR	1.24	1,200	9	135
OBN502	PA alloy	1.10	600	20	185

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PRODUCT SELECTION

POM & styrenic compounds

POM

Grades for mechanical components such as gears, with fatigue, friction and wear requirements.

Grade	Characteristics	SG	Tensile	Izod	HDT
MG252	GF 25%	1.59	1,300	9	160
MG402	GF 40%	1.72	1,500	12	165
MRN102	Impact-modified	1.38	550	12	95
MRN202	Impact-modified	1.38	420	18	85

STYRENE

Glass-fiber-reinforced ABS and SAN grades for stiffness and dimensional requirements.

Grade	Characteristics	SG	Tensile	Izod	HDT
SG102	ABS / GF 10%	1.10	650	10	97
SG202	ABS / GF 20%	1.19	850	9	98
SG302	ABS / GF 30%	1.28	900	8	99
SG202F	ABS / GF 20% / FR	1.34	860	6	102
NG202	SAN / GF 20%	1.21	1,000	4	100
NG303	SAN / GF 30%	1.31	1,100	4	103

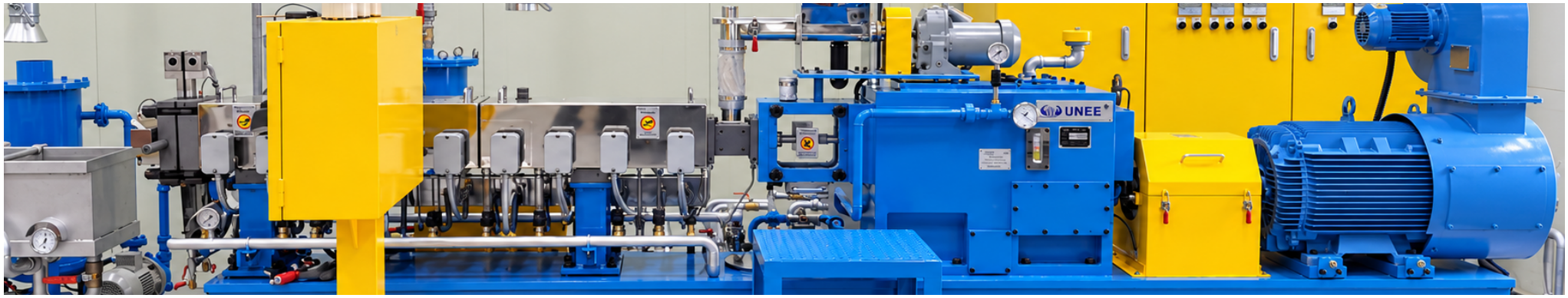
COLOR CODES NP Natural · W White · WB Fluorescent white · Y Yellow · O Orange · P Pink · R Red · V Green · B Blue · SB Sky blue
N Brown · GL Light gray · G Gray · GD Dark gray · K Black (K001) · T Transparent · D Translucent / diffusion

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PRODUCTION

Compounding production equipment



7 production lines / 42,600 t per year + 1 pilot line / 160 t per year

Line	Mixer (m³)	Extruder (Ø)	t/year	L/D	K-TRON side feeder
1	1.0	58	2,400	36:1	-
2	1.0	70	4,800	44:1	2 Side
3	1.0	70	4,800	44:1	2 Side
4	0.7	75	8,600	44:1	2 Side
5	1.0	75	8,600	44:1	2 Side
6	1.0	70	4,800	44:1	2 Side
7	1.0	75	8,600	44:1	2 Side
Pilot	-	45	160	36:1	-

All production lines are twin-screw extruders. Capacity is based on the supplied equipment schedule, not actual output. Pilot capacity is separate.

POLYONE
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Material selection.
Technical enquiries.

Tell us about the component, service conditions and target properties. Discuss existing grades, color, reinforcement and flame-retardancy requirements.

polyone@polyone-tech.co.kr

+82 31 352 9351

8-33, Jeongmunsongsan-ro 93beon-gil,
Manse-gu, Hwaseong-si, Gyeonggi-do,
Republic of Korea

