POLYPIA Co., Ltd.

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Customer satisfaction and Best business partner

Polypia, a company pursues the satisfaction and trust of customer.

Specialized company for advanced plastics compounding

Composite Polypropylene

Composite Engineering Plastics

PC / ABS Alloy

ABS / SAN

Polypia

Speedy innovation of engineering materials

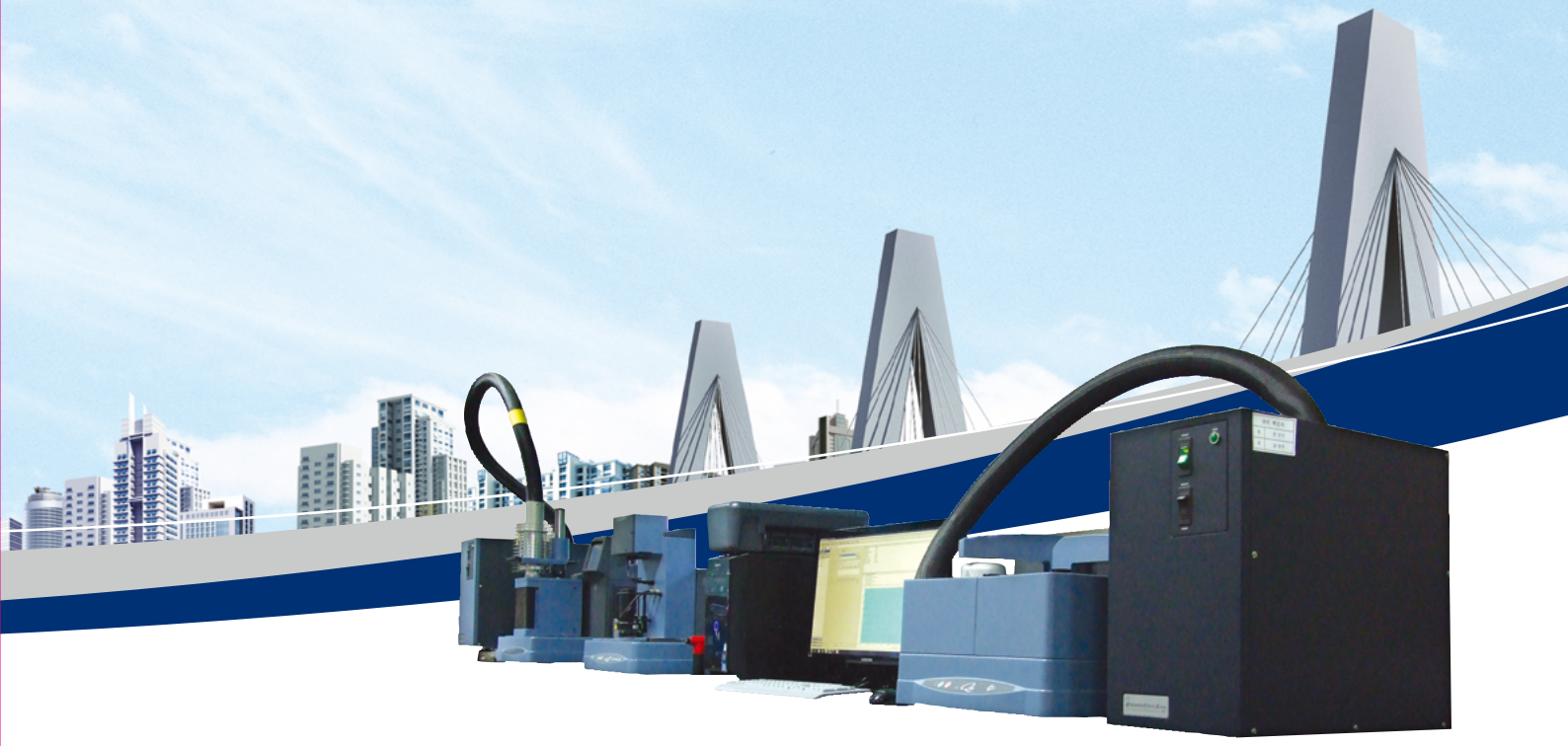
Powerful advancement toward the twenty-first century.

Specialized in Advanced Engineering materials

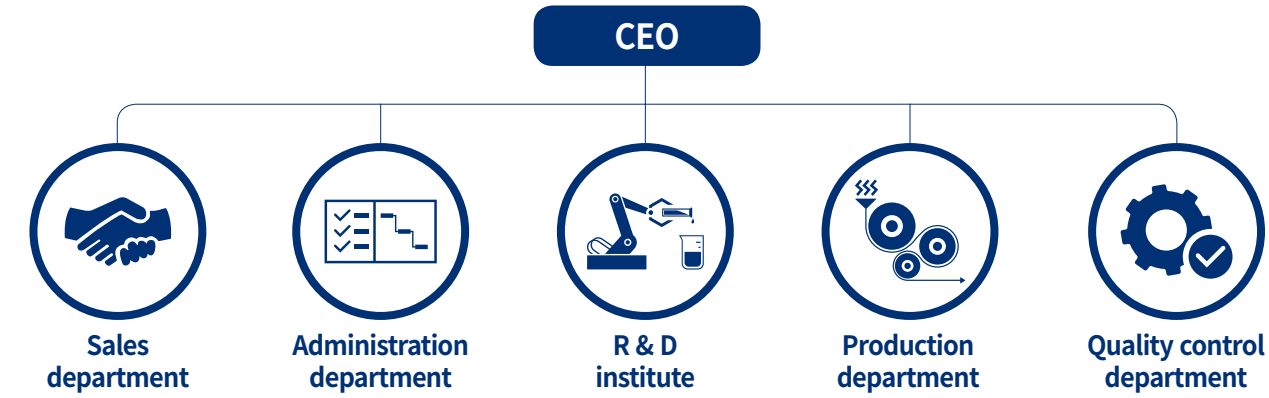
Polypia technical research center has been devoted for research activities for the development of best product as well as the technology innovation, development of new products, improvement of procedures, etc. in order to satisfy the needs of customer, and we will do our best to provide the optimum product to our customers.

Polypia Co., Ltd had been established in 2000 and we have processed and manufactured the engineering plastic with our own exclusive technology which has been used extensively in universal plastic and cutting edge component materials, so we have contributed to the domestic industry. Polypia Co., Ltd has been equipped for various types of OEM capabilities. Based on the extensive knowledge of compounding such as polymer, additive, reinforcing agent, etc. rather than inflexible products, we could manufacture all compounding products ordered by customer and we could even provide customized products and technical services to satisfy the needs of our customer through various & prompt development. As a small but strong company to advance toward the future, all employees of our company will promise to put our best efforts for thorough quality control and quality improvement in order to provide a better product in exchange of supports from our customers.

- Polypia is a company advanced to the **“future”**.
- We fulfill **the “request of our customer”** with the best quality.
- We contribute to lead the value creation for the customer satisfaction through the development of **“new product”** .
- Polypia is the company to open future Reguirements.
- Polypia meets customers’ requirements with world best quality.
- Polypia contributes customer satisfaction by creating the value with new developments.



Organization chart



Products

Compounded polypropylene	Compounded engineering plastics	PC / ABS ALLOY	ABS / SAN
			

Compounded POLYPROPYLENE

1000-SERIES

Polypropylene added with inorganic filler (Talc)

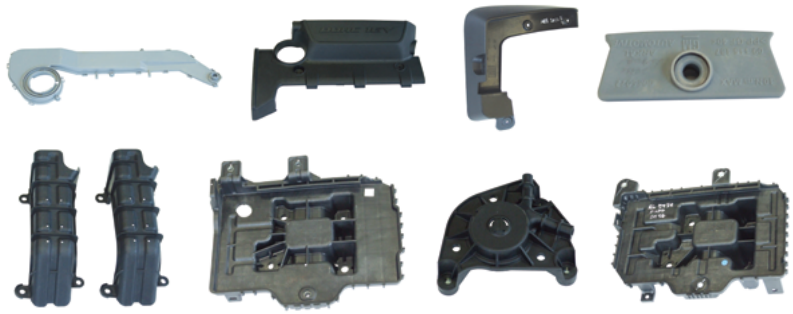
A product which can be applied more extensively with various characteristics of polypropylene

This is a product with improved measurement stability and complemented heat resistance & hardness, and it has equipped with optimized material property for the required characteristics of material to be applied with fields of interior & exterior materials for automobile, industrial materials, electric/electronic, and daily necessities. Furthermore, various fillers can be compounded in accordance with the request of customer.

2000-SERIES

Polypropylene reinforced with glass fiber

This is a product reinforced with glass fiber which is low price semi-engineering plastic reinforced with mechanical material property such as heat resistance, hardness, creep resistance, impact resistance, etc., and it has been superior in machinability and water resistance in comparison with engineering plastics, so it has been applied for mechanical component, automobile component, electrical component, etc. Furthermore, various types of fillers and changes of different content in glass fiber can be compounded in accordance with the request of customer.



Product Info.

Propert	Test method ASTM	Unit	1000-Series							2000-Series					
			B-1151	B-1251	B-1351	B-1451	B-1411	S-1251	S-1351	S-2101	S-2201	S-2301	S-2401	B-2201	B-2301
Melt Index	D-1238	g/10min	9.0	9.0	9.0	8.0	1.0	8.0	8.5	-	-	-	-	-	-
Sp. Gr.	D-792	-	0.97	1.06	1.16	1.24	1.24	1.06	1.16	0.96	1.03	1.12	1.22	1.03	1.12
Tensile Strength	D-638	kg/㎠	320	350	340	330	320	360	350	600	800	950	950	750	900
Elongation	D-638	%	50	30	20	10	10	30	20	3	3	3	3	3	3
Flexural Modulus	D-790	kg/㎠	18000	30000	38000	45000	40000	35000	45000	25000	38000	52000	55000	35000	50000
IZOD Impact Strength 23°C	D-256	kg cm/cm	9.0	7.5	6.0	5.0	5.5	4.0	3.5	5.0	6.0	7.0	6.0	10.0	11.0
Hardness	D-785	R Scale	94	95	93	92	92	98	100	105	108	110	112	107	109
HDT (4.6kg/㎠)	D-648	°C	130	135	142	145	143	138	145	150	155	160	160	158	160
Flame Retardancy	UL 94	-	HB	HB	HB	HB	HB	HB	HB	HB	HB	HB	HB	HB	HB
Mold Shrinkage	D 955	%	1.3~1.4	1.2~1.3	1.0~1.1	0.9~1.0	0.9~1.0	1.2~1.3	1.1~1.2	0.8~1.3	0.6~1.1	0.4~1.0	0.4~0.8	0.6~1.1	0.4~1.0
Molding Temp	-	°C	210 ~ 230	210 ~ 230	210 ~ 230	210 ~ 235	210 ~ 240	210 ~ 230	210 ~ 230	220 ~ 240	220 ~ 240	220 ~ 240	220 ~ 250	220 ~ 240	220 ~ 240

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3000-SERIES

Polypropylene added with inorganic filler (CaCO3)

This is a product added with large quantity of inorganic fillers in heavy weights, and it has been used for the component of sound equipment. Various changes in content are possible in accordance with the request characteristics of customer.

4000-SERIES

Polypropylene added with inorganic filler (BaSO4)

A product with superior combination of hardness and impact resistance as well as surface gloss by adding BaSO4 with polypropylene. This product has excellent surface gloss and heat stability by adding inorganic filler of high gloss and the harmony of hardness and impact resistance is outstanding. Especially with excellent surface gloss, this product is used for a substitute of ABS such as exterior materials of home appliances and housewares.

Product Info.

Propert	Test method ASTM	Unit	3000-Series		4000-Series	
			B-3151	B-3261	S-4251	S-4252
Melt Index	D-1238	g/10min	8.0	10.0	8.0	8.0
Sp. Gr.	D-792	-	0.97	1.18	1.07	1.06
Tensile Strength	D-638	kg/㎠	300	280	320	280
Elongation	D-638	%	60	40	30	30
Flexural Modulus	D-790	kg/㎠	18000	24000	20000	18000
IZOD Impact Strength 23°C	D-256	kg cm/cm	6.0	5.0	5.0	7.0
Hardness	D-785	R Scale	100	93	101	94
HDT(4.6kg/㎠)	D-648	°C	120	130	130	112
Flame Retardancy	UL 94	-	HB	HB	HB	HB
Mold Shrinkage	D 955	%	1.4~1.6	1.3~1.5	1.4~1.6	1.2~1.4
Glossiness	D 523	%	-	-	85	85
Molding Temp	-	°C	210~230	210~230	220~230	200~230

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5000-SERIES

Flame retardant processed polypropylene

A product with superior machinability, flame retardant, mechanical material property, etc. and various flame retardant grades being suitable for the requests of customers

This is a product processed with flame retardant in order to maintain hardness and impact characteristics while minimizing the reduction of material property, and this has been consisted with various grades of flame retardant to meet the needs of customer by adding various flame retardants, and this product has been used for various fields including automobile, electricity/electronic, construction/industrial material, etc.

7000-SERIES

Polymer blend product combined polypropylene with elastomer

A product charged of various fillers with an excellent low-temperature impact characteristics and weather resistance

This is a product with excellent low-temperature impact characteristics and weather resistance, machinability, etc. due to the compatibility of two resins and balance of optimized material property, and this product can be applied for interior & exterior materials for automobile, bumper, sports vehicle products, housewares, electricity/electronic, industrial materials, etc.

Product Info.

Propert		Test method ASTM	Unit	5000-Series				7000-Series					
				B-5111	B-5151	B-5251	B-5431	B-7151	B-7062	B-7352	B-7352GH	B-7352A	B-7462
Melt Index		D-1238	g/10min	1.0	8.0	8.0	5.0	14.0	13.0	12.0	20.0	14.0	12.0
Sp. Gr.		D-792	-	0.95	0.95	0.98	1.31	0.96	1.04	1.12	1.13	1.14	1.19
Tensile Strength		D-638	kg/㎠	290	320	320	360	220	160	150	160	165	130
Elongation		D-638	%	400	100	100	20	100	100	>100	>70	60	>50
Flexural Modulus		D-790	kg/㎠	13000	15000	20000	27000	22000	14000	9000	9000	12000	7000
IZOD Impact Strength	23°C	D-256	kg cm/cm	12.0	8.0	4.0	4.0	15	20	NB	NB	53	NB
	-20°C	D-256	-	-	-	-	-	5	6	12	13	8	18
Hardness		D-785	R Scale	95	95	98	100	-	-	-	-	-	-
HDT (4.6kg/㎠)		D-648	°C	113	113	115	130	118	100	77	75	100	72
Flame Retardancy		UL 94	-	V2	V2	V0	V0	-	-	-	-	-	-
Mold Shrinkage		D 955	%	1.6~1.8	1.6~1.8	1.4~1.6	1.0~1.2	1.2~1.3	1.2~1.3	1.1~1.2	1.1~1.2	1.1~1.2	1.1~1.2
Molding Temp		-	°C	190~210	190~210	200~220	200~220	210~230	210~230	210~230	210~230	210~230	210~230

8000-SERIES

Polypropylene added with Mica

This is a product improved of mechanical hardness, heat resistance, and measurement stability and is used for the product which requires the characteristics of high heat resistance, high hardness, and low bending. This product is mainly used for door ass'y, air conditioning fans, electrical/electronic components, etc. Also, this product can be adjusted to be matched with hardness and molding condition required by the customer.

9000-SERIES

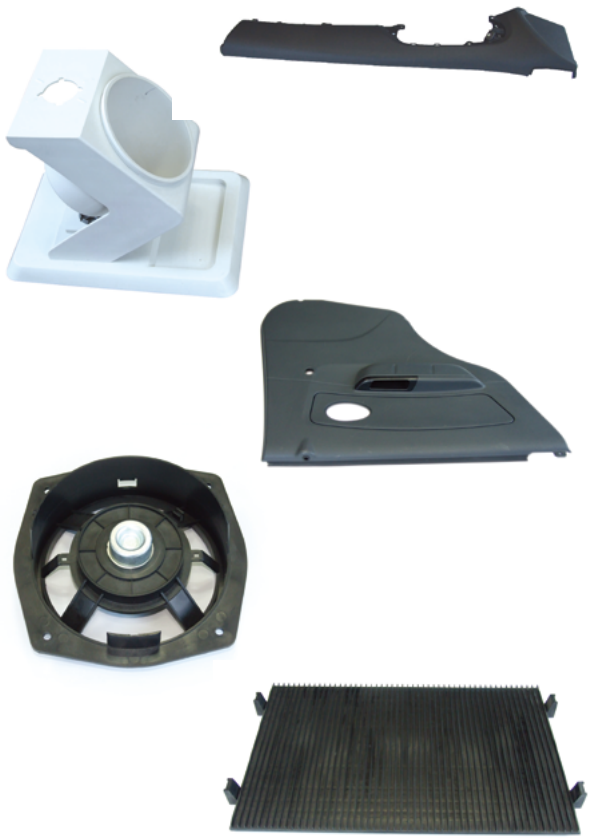
Polypropylene charged with functional inorganic filler

This is a product added with various functional inorganic fillers and this product has been designed to meet the characteristics requirement of customer with measurement stability, heat resistance aging, and heat resistance hardness, so this product can be used as various applications for automobile, electricity/electronic, housewares, etc.

Compounded polypropylene based on high crystallization polypropylene

A product with superior impact strength, hardness, and scratch resistance

This is a product of high crystallization PP added with various fillers to improve mechanical hardness, heat resistance, measurement stability, scratch resistance, etc., and this produce is used for automobile, electricity/electronic, industrial materials, etc.



Product Info.

Propert		Test method ASTM	Unit	8000-Series		9000-Series		BR 5302	DB 411	DB 491	DB 691	SB 813A
				B-8254	B-8454J	B-9120	B-9451					
Melt Index		D-1238	g/10min	6.5	6.0	1.5	8.5	7.0	9.0	9.0	14.0	100.0
Sp. Gr.		D-792	-	1.06	1.24	0.90	1.26	1.10	1.04	0.91	0.90	1.03
Tensile Strength		D-638	kg/㎠	380	400	290	330	270	320	310	340	270
Elongation		D-638	%	10	4	>500	30	35	20	50	100	10
Flexural Modulus		D-790	kg/㎠	35000	65000	14000	45000	27000	30000	19000	18000	19000
IZOD Impact Strength	23°C	D-256	kg cm/cm	3.6	3.0	13.0	4.0	15.0	5.0	12.0	4.0	4.0
	-20°C	D-256	-	-	-	-	-	5.0	2.0	5.0	-	2.0
Hardness		D-785	R Scale	100	104	94	98	96	96	100	110	90
HDT (4.6kg/㎠)		D-648	°C	135	145	110	140	130	135	120	130	130
Mold Shrinkage		D 955	%	0.6~1.1	0.4~0.8	1.6~1.7	0.7~1.0	0.8~1.0	1.3~1.5	1.4~1.6	1.5~1.7	1.1~1.2
Molding Temp		-	°C	210~240	210~240	210~230	220~240	210~230	210~230	210~230	210~230	210~230

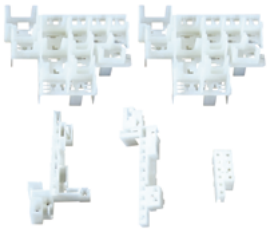
Compounded ENGINEERING PLASTICS

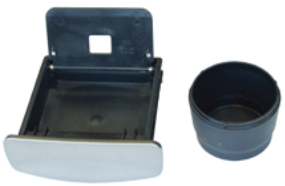
NY-SERIES

Polymide 6, 66 added with inorganic filler or fiber glass

A nylon product of various high functions granted with various functions in order to be suitable for required characteristics of product wanted by the customer as well as a normal grade resin for injection which is a representative engineering plastic

Besides unique material property of Nylon 6 & 66, this product has superior mechanical hardness, heat resistance, impact resistance, abrasion resistance, chemical resistance, measurement stability, surface, etc. and this product is used for overall fields of automobile, electricity/electronic and industrial materials. Especially in case of NYLON 66 product with excellent mechanical hardness & heat resistance, it is used for radiator, shrond, fan, switch, gear, etc.





Product Info.

Propert	Test method ASTM	Unit	NYLON6	NY – Series (Compound reinforced Nylon 6)				NY66	NY – Series (Compound reinforced Nylon 66)						
			NY-200	NY-212G	NY-222G	NY-232GA	NY-242G	NY-100	NY-112G	NY-122G	NY-132GA	NY-142G	NY-152G	NY-135M	NY-142M
Melt Index	D-792	-	1.14	1.22	1.29	1.38	1.50	1.14	1.22	1.30	1.38	1.51	1.56	1.39	1.45
Sp. Gr.	D-638	kg/㎠	800	1100	1500	2000	2100	830	1100	1600	2000	2100	2450	850	1350
Tensile Strength	D-638	%	100.0	4.0	3.0	3.0	3.0	60.0	4.0	3.0	3.0	3.0	2.0	3.0	3.0
Flexural Modulus	D-790	kg/㎠	25000	50000	65000	95000	120000	28500	50000	70000	95000	120000	140000	60000	85000
IZOD Impact Strength 23°C	D-256	kg cm/cm	6.0	7.0	10.0	12.0	14.0	5.5	5.0	8.0	10.0	13.5	14.0	4.5	5.5
Hardness	D-785	R Scale	120	121	121	121	121	120	121	122	123	123	123	121	121
HDT (4.6kg/㎠)	D-648	°C	65	200	205	210	210	85	242	247	250	253	255	195	242
Flame Retardancy	UL 94	-	HB	HB	HB	HB	HB	HB	HB	HB	HB	HB	HB	HB	HB
Mold Shrinkage	D 955	%	1.2~1.5	0.6~0.8	0.5~0.7	0.4~0.6	0.2~0.4	1.5~1.8	0.5~0.7	0.4~0.6	0.3~0.5	0.2~0.4	0.1~0.3	0.3~0.5	0.2~0.4
Molding Temp	-	°C	240~250	240~260	240~260	240~260	240~265	270~285	280~295	280~295	285~300	285~300	285~305	280~300	280~300

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C-SERIES

PC product added with glass fiber

This product has superior heat resistance, hardness, measurement stability, impact resistance, transparency, etc., so it is used for overall fields of industrial materials including electricity / electronic, etc.

ET-SERIES

PET product added with glass fiber

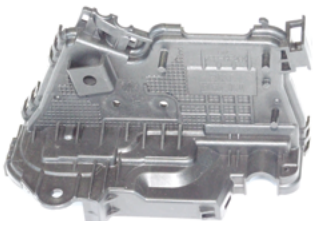
This is a PET product made of improved injection and reinforced with glass fiber for better heat resistance, hardness, and crystallization speed, so it is used for overall fields of electricity/electronic, industrial materials, automobile, etc. Furthermore, this product has superior tensile & mechanical strength and abrasion resistance and is used for a field of electricity / electronic (Transformer Bobbin, IC Case, etc.) and a field of automobile (distributor cap, engine component, etc.).

PB-SERIES

PBT product added with inorganic filler or glass fiber

The unique material property of typical PBT is maintained stably, and the hardness is improved by adding glass fiber, so it is used for electricity / electronic component which require the hardness under the high temperature environment. Also, it has excellent chemical resistance and weather resistance to be used for various fields of industries such as automobile, general machinery component, etc. Moreover, this is a PBT product with various high functions granted by various performances (hardness, impact resistance, flame retardant, etc.) in order to be suitable for required characteristics of customer.

This product presents excellent electrical characteristics in wide range of temperature & humidity and great friction characteristics of driving parts because of possible high-speed molding with fast hardening speed, extremely low coefficient of friction & hard surface. This product is used for overall fields of electricity (coil bobbin, lever, connector, relay switch, etc.), automobile (wiper arm, out door handle, impeller housing, etc.), and machinery.



Product Info.

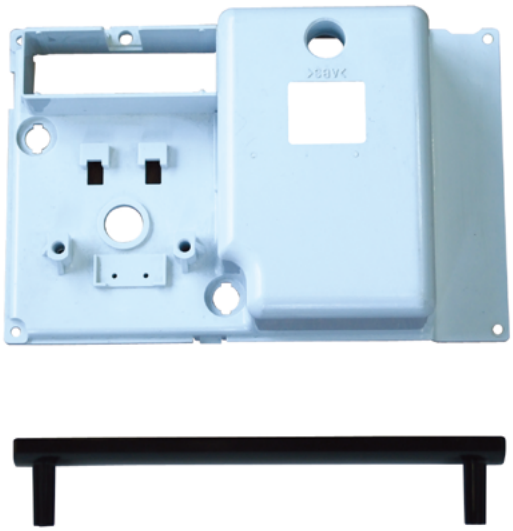
Propert		Test method ASTM	Unit	C – Series (Compound reinforced PC)			ET – Series (Compound reinforced PET)			PBT	PB – Series (Compound reinforced PBT)		
				C-10	C-20	C-30	ET-10	ET-20	ET-30	PB100	PB 15	PB 20	PB 30
Melt Index		D-792	-	1.24	1.34	1.42	1.44	1.50	1.56	1.30	1.38	1.42	1.50
Sp. Gr.		D-638	kg/㎠	700	950	1100	900	1000	1300	600	1000	1200	1300
Tensile Strength		D-638	%	5.0	4.0	3.0	4.0	3.0	2.0	80.0	4.0	3.0	2.5
Flexural Modulus		D-790	kg/㎠	35000	52000	72000	50000	57000	86000	21000	51000	61000	75000
IZOD Impact Strength	23°C	D-256	kg cm/cm	10.0	11.0	12.0	6.0	7.2	8.5	4.0	7.0	7.5	7.5
Hardness		D-785	R Scale	120	121	121	121	121	122	118	119	119	119
HDT (4.6kg/㎠)		D-648	°C	141	142	144	200	207	215	60	205	205	205
Flame Retardancy		UL 94	-	V2	V2	V2	HB	HB	HB	HB	HB	HB	HB
Mold Shrinkage		D 955	%	0.3~0.5	0.2~0.4	0.1~0.3	0.5~0.7	0.4~0.6	0.3~0.5	1.7~2.3	0.6~1.3	0.4~1.1	0.3~0.9
Molding Temp		-	°C	260~290	265~295	270~300	265~295	265~295	270~300	230~245	235~255	235~260	235~265

PC/ABS ALLOY

CA-SERIES

PC/ABS Alloyed product

PC is one of engineering plastics with superior mechanical property, heat deflection temperature, and electrical property expect the low melt viscosity which may cause many problems upon molding process, so there are many problems caused by residual stress being formed during the molding process. This is a product to resolve such problems while it maintains each strong point as much as possible and complements the weakness by complementing the impact strength & machinability of PC which is heavily depended on its thickness, and this is used for electricity / electronic component, automobile component, etc.



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Product Info.

Propert		Test method ASTM	Unit	CA-SERIES				
				General grade		Grade reinforced with glass fiber		
				CA-10	CA-20	CA-10G	CA-20G	CA-30G
Sp. Gr.		D-792	-	1.16	1.13	1.23	1.27	1.31
Tensile Strength		D-638	kg/㎠	600	550	1000	1200	1400
Elongation		D-638	%	100	110	6.0	5.0	4.0
Flexural Modulus		D-790	kg/㎠	24000	25000	41000	60000	75000
IZOD Impact Strength	23°C	D-256	kg cm/cm	65.0	60.0	16.0	14.0	10.0
Hardness		D-785	R Scale	116	112	115	118	118
HDT(4.6kg/㎠)		D-648	°C	115	110	135	140	142
Flame Retardancy		UL 94	-	HB	HB	HB	HB	HB
Mold Shrinkage		D 955	%	0.5~0.7	0.5~0.7	0.3~0.4	0.2~0.3	0.1~0.2
Molding Temp		-	°C	230~270	230~270	240~280	240~290	240~295

ABS, SAN

AG-SERIES

ABS product added with glass fiber

This is a product reinforced for flexural modulus, strength, heat resistance and measurement stability, and it makes a coloring of large area to be possible. This product is used for large range of electricity / electronic component, automobile component, etc.

SNG-SERIES

SAN product added with glass fiber

This is a product with improved impact resistance, heat resistance, flexural modulus, strength & measurement stability by adding glass fiber with SAN resin which has superior chemical resistance and mechanical strength, and this is used for precision device component, structural materials, etc.

Product Info.

Propert		Test method ASTM	Unit	ABS	AG – Series (Compound reinforced ABS)			SAN	SNG – Series (Compound reinforcement SNG)		
				AS100	AG10	AG20	AG30	SA100	SNG10	SNG20	SNG30
Melt Index		D-1238	g/10min	1.7	0.75	0.55	0.35	2.6	-	-	-
Sp. Gr.		D-792	-	1.04	1.10	1.18	1.26	1.07	1.13	1.21	1.29
Tensile Strength		D-638	kg/㎠	480	600	790	950	730	840	930	1000
Elongation		D-638	%	19	3.5	3.2	2.5	3.0	2.0	2.0	2.0
Flexural Modulus		D-790	kg/㎠	25000	40000	45000	60000	37000	48000	58500	67000
IZOD Impact Strength	23°C	D-256	kg cm/cm	35.0	11.0	11.0	12.0	1.3	3.0	3.5	4.0
Hardness		D-785	R Scale	104	105	107	109	120	120	121	121
HDT(4.6kg/㎠)		D-648	°C	99	102	106	110	99	112	120	123
Flame Retardancy		UL 94	-	-	HB	HB	HB	HB	HB	HB	HB
Mold Shrinkage		D 955	%	0.5~0.7	0.4~0.6	0.3~0.5	0.2~0.4	0.4~0.6	0.3~0.5	0.2~0.4	0.1~0.3
Molding Temp		-	°C	190~220	205~225	210~230	210~235	190~220	205~225	210~230	210~235