

INFINO®

Engineering Plastics

CREATE INFINITE POSSIBILITIES



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INFINO® Engineering Plastics

of Samsung Cheil Industries is made by combining traditional polymer with its progressive performance and technology. This material is used for new emerging applications such as LED Reflector, SMT connector, HDD and automotive components which need high heat resistance, heat transmission and high strength.

INFINO® EP range comprises:

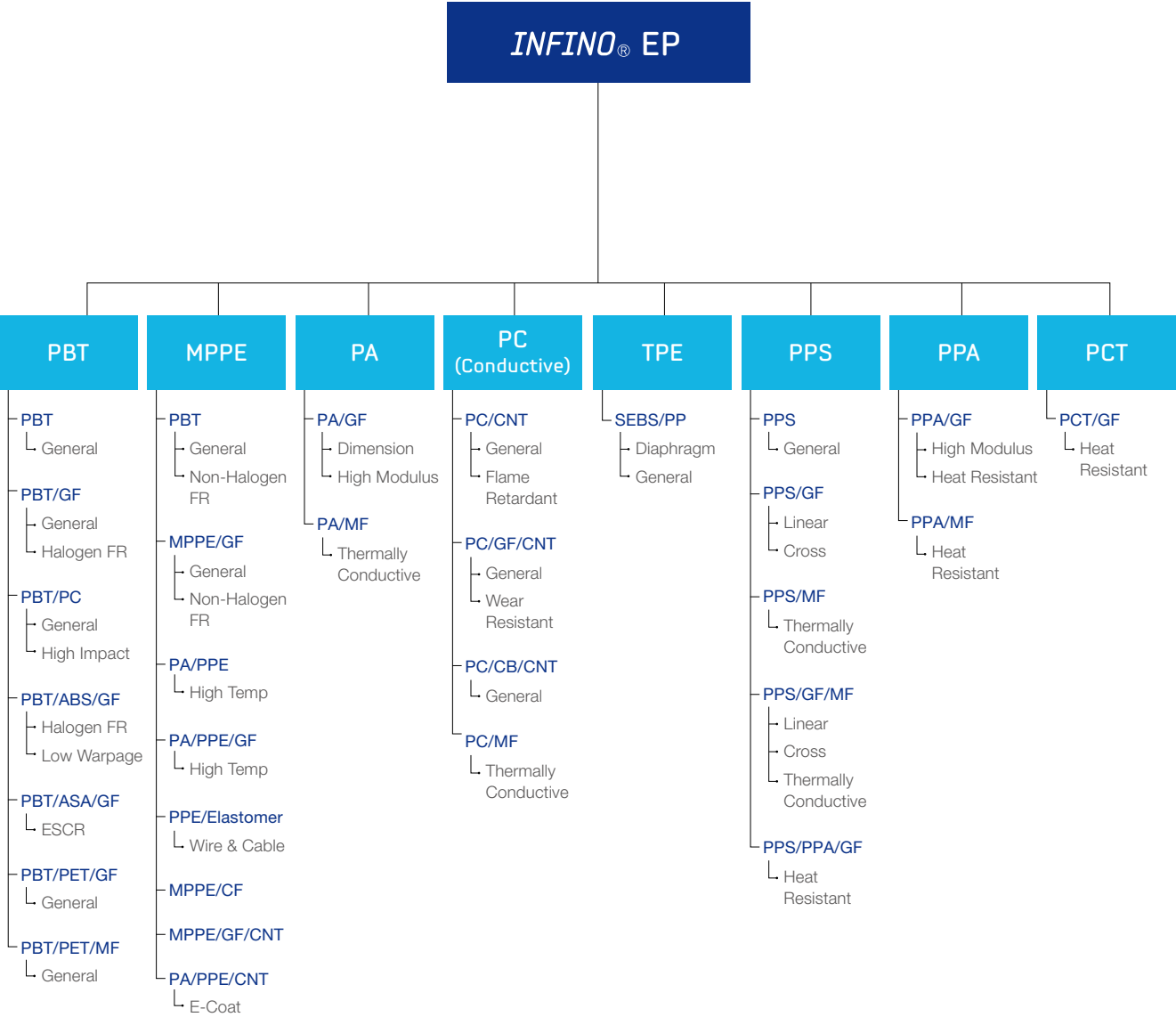
- High heat resistant materials
- Thermally conductive materials
- Electrically conductive materials (CNT composite)
- Super structure materials
- Thermoplastic elastomers (TPEs)
- Automotive materials

INFINO® EP provides:

- Thermal stability
- Dimensional stability
- Versatile electrical conductivity
- Contamination-proof during process
- Superior strength
- Design flexibility
- Light weight



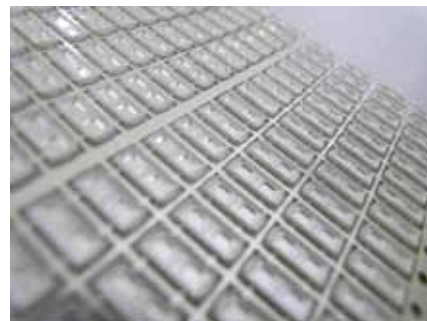
Product Portfolio



INFINO® EP

High Heat Resistant Materials

INFINO® heat resistant series are a family of semi-aromatic polyamides that are suitable for a wide range of high performance applications in the automotives, electrical & electronic, Industrial & consumer industries.



KEY BENEFITS

- LED Reflector
 - Low water absorption
 - Low reflectance drop and yellow index increase
 - Long term reliability
- Non Halogen FR Connector Solution
 - Low metal mold corrosion due to low FR agent
 - Excellent thermal properties
 - Eco-friendly (NH flammability)
 - Surface mount (SMT) compatibility (Blistering resistance)

APPLICATIONS

- LED: Reflector
- Connector: for SMT
- LCD TV: CCFL socket

PRODUCT LINE-UP

LED REFLECTOR

- TK-2046H
 - └ PCT/GF
- TK-2046HM
 - └ PCT/GF, High Modulus
- TK-4046H
 - └ PA6T/GF
- TK-4047H
 - └ PA6T/MF
- TK-6036H
 - └ PA10T/GF
- TK-6047H
 - └ PA10T/MF

CONNECTOR/SOCKET

- XP-4240
 - └ PPS, NH FR
- XP-4300G
 - └ PA6T/GF, NH FR

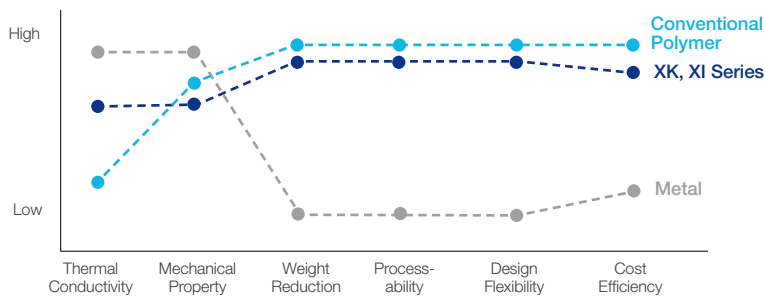
INFINO® EP Thermally Conductive Materials

Our thermally conductive composite has outstanding heat transfer performance compared to the conventional plastic materials. It is lighter than metal and it can realize complex design freely.



KEY BENEFITS

- Excellent design freedom, processability and light weight vs. typical metal



APPLICATIONS

- LED light lamp and tube: Heat sink
- ODD: Pick up base

PRODUCT LINE-UP

ELECTRICALLY CONDUCTIVE

- └ XK-2307
 - └ PPS Base, 7W/mk

ELECTRICALLY INSULATING

- └ XI-4208
 - └ PA Base, 8W/mk
- └ XI-2008F
 - └ PPS Base, 8W/mk, UL94 V0
- └ HK-1104
 - └ PC Base, 4W/mk, UL94 V0
 - └ L-tube, Extrusion Grade

INFINO® EP Super Structural Materials

Reinforced thermoplastics are composite material made of a polymer matrix supplemented with fibers and special fillers. *INFINO*® EP MK series are an excellent alternative to metal in applications where strength, toughness and EMI shielding property are important.



KEY BENEFITS

- Replace with metal: Weight reduction and hardness
- Reduce processing costs and increase system efficiency
- Part design consolidation for overall cost reduction

APPLICATIONS

- IT: Bracket housing
- Security camera: Camera cover
- ODD: All-in-one frame base
- Automotive: Battery pack

PRODUCT LINE-UP

SFRT	LFRT
<ul style="list-style-type: none"> PPS Base <ul style="list-style-type: none"> XP-2130A <ul style="list-style-type: none"> PPS/GF30 (Wear Resistant) XP-2140C <ul style="list-style-type: none"> PPS/GF40 (Cross) XP-2165M <ul style="list-style-type: none"> PPS/GF/MF65 XP-2165BM <ul style="list-style-type: none"> PPS/GF/MF65 (Low Flash) XP-2165MC <ul style="list-style-type: none"> PPS/GF/MF65 (Cross) 	<ul style="list-style-type: none"> General <ul style="list-style-type: none"> NH-8310 <ul style="list-style-type: none"> MPPE/GF30 (ODD Tray) MKD-1016 <ul style="list-style-type: none"> PA66/GF55, 15GPa MKD-1017 <ul style="list-style-type: none"> PA66/GF70, 25GPa XF-4150 <ul style="list-style-type: none"> PA6T/GF50, 15GPa General <ul style="list-style-type: none"> MKD-1015 <ul style="list-style-type: none"> PA66/LGF50 (High Impact)

INFINO® EP

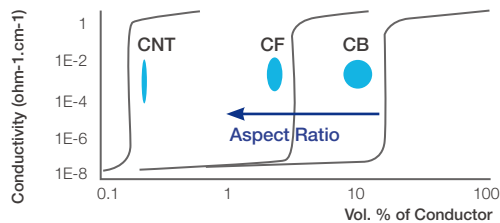
Electrically Conductive Materials

Our electrically conductive CNT composite realizes well balanced mechanical-electrical property with the excellent CNT dispersion technology, which can shorten the decay time using electrical conductivity control.



KEY BENEFITS

- Well balanced material property
- Good surface finish
- Lower risk of particle and vapor contamination
- Excellent electrostatic discharge (ESD) performance
- Good & wide-range electrical conductivity



APPLICATIONS

- HDD: Bracket damper
- Printer: Roller bush
- ATM: Money path
- Automotive: Fuel door, Fender(E-coat)

PRODUCT LINE-UP

ANTI-STATIC	CONDUCTIVE (ESD)			
<ul style="list-style-type: none"> PC/CNT EA-3270 	<ul style="list-style-type: none"> Unfilled PC/CNT EA-3240 EA-3240F 	<ul style="list-style-type: none"> High Modulus PC/GF/CNT EM-3230G MPPE/GF EM-8240C MPPE/GF/CNT EM-8250G 	<ul style="list-style-type: none"> Wear Resistant PC/CNT EW-3250G 	<ul style="list-style-type: none"> Auto (E-Coat) PA/PPE/CNT CA-7000 CA-7009

INFINO® EP

Thermoplastic Elastomers (TPEs)

TPEs (ThermoPlastic Elastomers) are a class of copolymers or a physical mix of polymers (usually a plastic and a rubber) which consist of materials with both thermoplastic and elastomeric properties. While most elastomers are thermosets, thermoplastics are in contrast relatively easy to use in manufacturing.



KEY BENEFITS

- TPEs comparison to conventional rubber or thermoset

	TPE	Rubber
Specific Gravity	Low	High
Recyclable	0	X
Processing	Extrusion, Injection	Compression
Color Variation	0	X
Material Cost	High	Low
Total System Cost	Low	High

APPLICATIONS

- Washing machine: Diaphragm

PRODUCT

SEBS/PP

└─ EK-1045

└─ Hardness 42A, Non-Glycerin

INFINO® EP Automotive Materials

PRODUCT LINE-UP

EXTERIOR

- Mirror Base Plate
 - └ PBT/PET/GF30%
 - └ AR-6308
 - └ PBT/PET/GF50%
 - └ AR-6508
- Door Handle
 - └ PBT/PC
 - └ AE-3060



LIGHTING

- Head Lamp Bezel
 - └ PBT/PET/MF
 - └ ASF-9810F
 - └ Direct Al deposition, smooth surface

STRUCTURE

- Panorama Sunroof Frame
 - └ PBT/ASA/GF
 - └ AR-5300H
- Fender & Fuel Filler Door
 - └ PA/PPE/CNT for E-Coating
 - └ CA-7000, HDT 203°C
 - └ CA-7009, HDT 190°C
- Bump beam & Energy absorber
 - └ PBT/PC
 - └ AE-3063I

UTH

- Junction Box
 - └ PA/PPE
 - └ HT-8010
- EV Battery Pack Housing
 - └ PA66/LGF50%
 - └ MKD-1015
 - └ PA/GF
 - └ AR-9301
- Window Motor Cover
 - └ PBT/GF30%
 - └ GP-5300G

INFINO® EP

High Heat Resistant									
Properties	Test Method	Condition	Unit	PCT		PA BASED			
				TK-2046H	TK-2046HM	XP-4240	TK-4046H	TK-6036H	TK-4047H
PHYSICAL PROPERTIES									
Specific Gravity	ASTM D792	Natural Color	g/cm ³	1.6	1.61	1.55	1.56	1.47	1.58
Water Absorption	ASTM D570		%						
Melt Flow Index 1)	ASTM D1238	220°C, 10kg	g/10min				5		
	ASTM D1238	250°C, 2.16kg	g/10min						
	ASTM D1238	250°C, 10kg	g/10min						
	ASTM D1238	280°C, 10kg	g/10min						
	ASTM D1238	300°C, 1.2KG	g/10min	60	20				
	ASTM D1238	330°C, 5kg	g/10min					50	
	ISO 1133	220°C, 10kg	g/10min						
	ISO 1133	250°C, 10kg	g/10min		65.4 ^{1)A}				
ISO 1133	280°C, 10kg	g/10min							
ISO 1133	300°C, 2.16kg	g/10min						50.4 ^{1)D}	
Mold Shrinkage	ASTM D955		%						
MECHANICAL PROPERTIES									
Tensile Strength at Yield 2)	ASTM D638	5mm/min	kgf/cm ²	630	620	1,300	1,000	1,000	700
	ASTM D638	50mm/min	kgf/cm ²						
	ISO 527-1A	5mm/min	Mpa						70
	ISO 527-1A	50mm/min	Mpa		67		72	87	
Tensile Elongation at Yield 3)	ASTM D638	5mm/min	%		1.5				
Flexural Strength 4)	ASTM D790	2.8mm/min	kgf/cm ²	820	800	1,600	1,500	1,500	1,100
	ISO 178	2mm/min	Mpa		105		122	135	110
Flexural Modulus 5)	ASTM D790	2.8mm/min	kgf/cm ²	71,000	77,000	120,000	72,500	60,000	66,000
	ISO 178	2mm/min	Mpa		7,050		6,900	5,800	6,600
Izod Impact Strength	ASTM D256	(notched) 1/4	kgf-cm/cm		3				
	ASTM D256	(notched) 1/8	kgf-cm/cm	2.5	3		3	3	3
Charpy Impact Strength	ISO 179 1eA	(notched)	KJ/m ²		3.3		1.9	2.6	3.5
Izod Impact Strength	ISO 180 1A	(notched)	KJ/m ²		3.3		2.8	2.6	3.3
Rockwell Hardness	ASTM D785	R-scale							
	ISO 2039-2	R-scale			120	120	122	115	
THERMAL PROPERTIES									
Heat Deflection Temperature 6)	ASTM D648	18.56kgf/cm ²	°C	260	250	270	295	290	
	ISO 75-2	1.8Mpa, 120°C/hr	°C						
VICAT Softening Temperature	ISO R306	B/50	°C						
Melting Point			°C						
Linear Thermal Coefficient	ASTM E 831	Flow 40-100°C	x10 ⁻⁵ cm/cm/°C						
Flame Characteristics									
Flammability	UL94	HB	mm	1.5-3.0					
		V-2	mm						
		V-1	mm						
		V-0	mm			0.8-0.3			
		5VA	mm						
5VB	mm								
ELECTRIC PROPERTIES									
Surface Resistivity	ASTM D250	at 23°C, 50% RH	E+ Ω/sq						
Volume Resistivity	ASTM D257		Ωcm						
Dielectric Contant			10E6Hz						
Dielectric Loss Tangent			10E6Hz						
Other Properties									
ESD	JIS L1049	at 23°C, 50% RH	sec						
Optical reflectivity at 440nm	ASTM D1925	Color chip	%						91% ↑
	E 1331	Color chip	%						91% ↑

¹⁾ Melt Flow Index: ^{1)A} 300°C, 1.2kg | ^{1)B} 280°C, 10kg | ^{1)C} 315°C, 2.16kg | ^{1)D} 330°C, 2.16kg | ^{1)E} 250°C, 5kg | ^{1)F} 275°C, 5kg | ^{1)G} 285°C, 5kg | ^{1)H} 285V, 5kg | ^{1)I} 300°C, 5kg

²⁾ Tensile Strength at Yield: ^{2)A} 20mm/min

³⁾ Tensile Elongation at Yield: ^{3)A} 50mm/min | ^{3)B} 5mm/min

⁴⁾ Flexural Strength: ^{4)A} 1.3mm/min

⁵⁾ Flexural Modulus: ^{5)A} 2.8mm/min | ^{5)B} 10mm/min

⁶⁾ Heat Deflection Temperature: ^{6)A} 0.45 Mpa, 120°C/hr

INFINO® EP

				Thermally Conductive			Super Structural		
Properties	Test Method	Condition	Unit	PA BASED	PPS BASED		PPS BASED		
				XI-4208	XI-2008F	XK-2307	XP-2130A	XP-2140C	
PHYSICAL PROPERTIES									
Specific Gravity	ASTM D792	Natural Color	g/cm ³	1.8	2.2	1.7	1.63	1.66	
Water Absorption	ASTM D570		%	0.3	10		0.02	0.02	
Melt Flow Index 1)	ASTM D1238	220°C, 10kg	g/10min			15			
	ASTM D1238	250°C, 2.16kg	g/10min						
	ASTM D1238	250°C, 10kg	g/10min						
	ASTM D1238	280°C, 10kg	g/10min						
	ASTM D1238	300°C, 1.2KG	g/10min	30					
	ASTM D1238	330°C, 5kg	g/10min			15			
	ISO 1133	220°C, 10kg	g/10min			15	115.9 ^{1)A}		
	ISO 1133	250°C, 10kg	g/10min						
Mold Shrinkage	ASTM D955	300°C, 2.16kg	%			0.1	0.3-1.2	0.25-1.0	
MECHANICAL PROPERTIES									
Tensile Strength at Yield 2)	ASTM D638	5mm/min	kgf/cm ²	670	300	850	1,300	1,800	
	ASTM D638	50mm/min	kgf/cm ²						
	ISO 527-1A	5mm/min	Mpa			84			
	ISO 527-1A	50mm/min	Mpa	71	33	83	139		
Tensile Elongation at Yield 3)	ASTM D638	5mm/min	%				2.5	2.5	
Flexural Strength 4)	ASTM D790	2.8mm/min	kgf/cm ²	1,100	600	1,200	2,000	2,700	
	ISO 178	2mm/min	Mpa	107	59	135	191		
Flexural Modulus 5)	ASTM D790	2.8mm/min	kgf/cm ²	62,000	110,000	180,000	100,000	130,000	
	ISO 178	2mm/min	Mpa	5,800	8,880	15,600	10,220		
Izod Impact Strength	ASTM D256	(notched) 1/4	kgf-cm/cm	4			8		
	ASTM D256	(notched) 1/8	kgf-cm/cm		2	4.5		10	
Charpy Impact Strength	ISO 179 1eA	(notched)	KJ/m ²	3.6	2.8	3.9	11.1		
Izod Impact Strength	ISO 180 1A	(notched)	KJ/m ²	3.9	3.4	3.9	10.9		
Rockwell Hardness	ASTM D785		R-scale				120	121	
	ISO 2039-2		R-scale	116	109	112	116		
THERMAL PROPERTIES									
Heat Deflection Temperature 6)	ASTM D648	18.56kgf/cm ²	°C	over 240	over 270	over 270	270	270	
	ISO 75-2	1.8Mpa, 120°C/hr	°C			over 270			
VICAT Softening Temperature	ISO R306	B/50	°C						
Melting Point			°C						
Linear Thermal Coefficient	ASTM E 831	Flow 40~100°C	x10 ⁻⁴ cm/cm/°C				2.3	2.2	
Thermal Conductivity	Chei	Method	W/m-k	8	8	7			
Flame Characteristics									
Flammability	UL94	HB	mm				0.75		
		V-2	mm						
		V-1	mm			1.5			
		V-0	mm			2.0-3.0	0.75	0.75	
		5VA	mm						
		5VB	mm						
ELECTRIC PROPERTIES									
Surface Resistivity	ASTM D250	at 23°C, 50% RH	E+ Ω/sq	14					
Volume Resistivity	ASTM D257		Ωcm				10 ¹⁶	10 ¹⁶	
Dielectric Contant			10E6Hz				4	4	
Dielectric Loss Tangent			10E6Hz				0.002	0.002	
Other Properties									
ESD	JIS L 1049	at 23°C, 50% RH	sec						
Optical reflectivity at 440nm	ASTM D1925	Color chip	%						
	E 1331	Color chip	%						

¹⁾ Melt Flow Index: ^{1)A} 300°C, 1.2kg | ^{1)B} 280°C, 10kg | ^{1)C} 315°C, 2.16kg | ^{1)D} 330°C, 2.16kg | ^{1)E} 250°C, 5kg | ^{1)F} 275°C, 5kg | ^{1)G} 285°C, 5kg | ^{1)H} 285V, 5kg | ^{1)I} 300°C, 5kg

²⁾ Tensile Strength at Yield: ^{2)A} 20mm/min

³⁾ Tensile Elongation at Yield: ^{3)A} 50mm/min | ^{3)B} 5mm/min

⁴⁾ Flexural Strength: ^{4)A} 1.3mm/min

⁵⁾ Flexural Modulus: ^{5)A} 2.8mm/min | ^{5)B} 10mm/min

⁶⁾ Heat Deflection Temperature: ^{6)A} 0.45 Mpa, 120°C/hr

Super Structural								Electrically Conductive		
PPS BASED			PA BASED				MPPE BASED	MPPE BASED		
XP-2165BM	XP-2165M	XP-2165MC	XF-4150	MKD-1015	MKD-1016	MKD-1017	NH-8310	EM-8240C	EM-8250G	
1.9	1.96	1.96	1.56	1.57	1.65	1.86	1.38	1.2	1.2	
0.02	0.02	0.02	0.3		4					
							13.5	25	10	
			13 ^{11-C}		7					
							12.6		10	
			13 ^{11-C}							
0.2-0.8	0.25-0.8	0.25-0.8	0.1-0.3		0.1			0.2-0.3	0.2-0.3	
1,100	1,200	1,500	2,200	2,400	2,500	2,450	1,100	1,000	1,100	
						240				
138			188	232	264		123		106	
1.5	1.5	1.5	2.7		4			2.5	2.5	
1,800	1,900	2,000	2,800	3,100	3,400	3,600	1,400	1,200	1,500	
196			273	318	337	390	180		154	
180,000	180,000	180,000	135,000	133,000 ^{91-A}	156,000	233,000	85,000	95,000	60,000	
16,500			15,500	13,500	16,400	23,000	10,300		6,600	
				25	13	14			10	
4	6	6	12.5		11		6	5	10	
6.1			15.6	21.9	16.8	15	7.8		10.4	
6.8			15.5	27.8	17.1	15	7.1		9.8	
121	121	121		115	120	120			120	
167			116	121	122	120	121		118	
270	270	270	280	250	252	244		130	130	
					260		132		135	
1.6	1.8	1.8								
							1.5,3.0			
	1.6	1.6								
	1.6	1.6								
10 ^{^16}	10 ^{^16}	10 ^{^16}						10 ^{^5}	10 ^{^5}	
5	5	5								
0.007	0.007	0.007								
								≤1	≤1	

INFINO® EP

Electrically Conductive

Properties	Test Method	Condition	Unit	PC BASED				
				EA-3240	EA-3240F	EA-3270	EM-3230G	EW-3250G
PHYSICAL PROPERTIES								
Specific Gravity	ASTM D792	Natural Color	g/cm ³	1.2	1.2	1.2	1.3	1.4
Water Absorption	ASTM D570		%	0.15	0.15			0.15
Melt Flow Index 1)	ASTM D1238	220°C, 10kg	g/10min	22	27		32	13
	ASTM D1238	250°C, 2.16kg	g/10min					
	ASTM D1238	250°C, 10kg	g/10min		26	20		
	ASTM D1238	280°C, 10kg	g/10min					
	ASTM D1238	300°C, 1.2KG	g/10min					
	ASTM D1238	330°C, 5kg	g/10min					
	ISO 1133	220°C, 10kg	g/10min	22	27			13
	ISO 1133	250°C, 10kg	g/10min					
	ISO 1133	280°C, 10kg	g/10min					
	ISO 1133	300°C, 2.16kg	g/10min					
Mold Shrinkage	ASTM D955		%	0.3-0.5	0.3-0.5	0.4-0.6	0.3-0.5	0.1-0.2
MECHANICAL PROPERTIES								
Tensile Strength at Yield 2)	ASTM D638	5mm/min	kgf/cm ²					
	ASTM D638	50mm/min	kgf/cm ²	640	650	650	1,200	1,400
	ISO 527-1A	5mm/min	Mpa					
	ISO 527-1A	50mm/min	Mpa	63	66		116	133
Tensile Elongation at Yield 3)	ASTM D638	5mm/min	%			20		
Flexural Strength 4)	ASTM D790	2.8mm/min	kgf/cm ²	1,100	880	950	1,500	1,700
	ISO 178	2mm/min	Mpa	93	98		157	189
Flexural Modulus 5)	ASTM D790	2.8mm/min	kgf/cm ²	28,000	23,000	22,500	56,000	75,000
	ISO 178	2mm/min	Mpa	2,430	2,600		6,000	8,430
Izod Impact Strength	ASTM D256	(notched) 1/4	kgf-cm/cm					
	ASTM D256	(notched) 1/8	kgf-cm/cm	23	15	55	6	13
Charpy Impact Strength	ISO 179 1eA	(notched)	KJ/m ²	16.8	12.5		8.2	12.4
Izod Impact Strength	ISO 180 1A	(notched)	KJ/m ²	17	11.5		6.5	11.3
Rockwell Hardness	ASTM D785	R-scale		119		120		
	ISO 2039-2	R-scale		121	121		121	121
THERMAL PROPERTIES								
Heat Deflection Temperature 6)	ASTM D648	18.56kgf/cm ²	°C	129	115	135	115	120
	ISO 75-2	1.8Mpa, 120°C/hr	°C					
VICAT Softening Temperature	ISO R306	B/50	°C	140	125		119	125
Melting Point			°C					
Linear Thermal Coefficient	ASTM E 831	Flow 40~100°C	x10 ⁻⁵ cm/cm/°C					
FLAME CHARACTERISTICS								
Flammability	UL94	HB	mm					
		V-2	mm					
		V-1	mm		3			3
		V-0	mm				3	
		5VA	mm					
		5VB	mm					
ELECTRIC PROPERTIES								
Surface Resistivity	ASTM D250	at 23°C, 50% RH	E+ Ω/sq	10 ⁴ -10 ⁷	10 ⁴ -10 ⁵	10 ⁴ -10	10 ⁸	10 ⁵ -10 ⁶
Volume Resistivity	ASTM D257		Ωcm					
Dielectric Constant			10E6Hz					
Dielectric Loss Tangent			10E6Hz					
OTHER PROPERTIES								
ESD	JIS L1049	at 23°C, 50% RH	sec				≤1	
Optical reflectivity at 440nm	ASTM D1925	Color chip	%					
	E 1331	Color chip	%					

1) Melt Flow Index: 1A 300°C, 1.2kg | 1B 280°C, 10kg | 1C 315°C, 2.16kg | 1D 330°C, 2.16kg | 1E 250°C, 5kg | 1F 275°C, 5kg | 1G 285°C, 5kg | 1H 285V, 5kg | 1I 300°C, 5kg

2) Tensile Strength at Yield: 2A 20mm/min

3) Tensile Elongation at Yield: 3A 50mm/min | 3B 5mm/min

4) Flexural Strength: 4A 1.3mm/min

5) Flexural Modulus: 5A 2.8mm/min | 5B 10mm/min

6) Heat Deflection Temperature: 6A 0.45 Mpa, 120°C/hr

INFINO® EP

Automotive

Properties	Test Method	Condition	Unit	PBT BASED					
				AE-3060	AR-5300H	AR-6308	AR-6508	ASF-9810F	
PHYSICAL PROPERTIES									
Specific Gravity	ASTM D792	Natural Color	g/cm ³	1.2	1.45	1.55	1.75	1.34	
Water Absorption	ASTM D570		%						
Melt Flow Index 1)	ASTM D1238	220°C, 10kg	g/10min						
	ASTM D1238	250°C, 2.16kg	g/10min	8.5			9.5	55	
	ASTM D1238	250°C, 10kg	g/10min		30 ^{1)E}				
	ASTM D1238	280°C, 10kg	g/10min						
	ASTM D1238	300°C, 1.2KG	g/10min						
	ASTM D1238	330°C, 5kg	g/10min						
	ISO 1133	220°C, 10kg	g/10min						
	ISO 1133	250°C, 10kg	g/10min			13			
ISO 1133	280°C, 10kg	g/10min							
ISO 1133	300°C, 2.16kg	g/10min							
Mold Shrinkage	ASTM D955		%		0.4-0.6	0.4-0.6			
MECHANICAL PROPERTIES									
Tensile Strength at Yield 2)	ASTM D638	5mm/min	kgf/cm ²		1,300		1,450		
	ASTM D638	50mm/min	kgf/cm ²	600				620	
	ISO 527-1A	5mm/min	Mpa			130	140		
	ISO 527-1A	50mm/min	Mpa	58				56	
Tensile Elongation at Yield 3)	ASTM D638	5mm/min	%				3		
Flexural Strength 4)	ASTM D790	2.8mm/min	kgf/cm ²	850	1,900		2,200	850	
	ISO 178	2mm/min	Mpa	84		210		83	
Flexural Modulus 5)	ASTM D790	2.8mm/min	kgf/cm ²	22,000	90,000		140,000	25,000	
	ISO 178	2mm/min	Mpa	2,100		9,500		2,400	
Izod Impact Strength	ASTM D256	(notched) 1/4	kgf-cm/cm				9		
	ASTM D256	(notched) 1/8	kgf-cm/cm	74	9.5		11	3	
Charpy Impact Strength	ISO 179 1eA	(notched)	KJ/m ²	65		9		3.6	
Izod Impact Strength	ISO 180 1A	(notched)	KJ/m ²	61		9		4.5	
Rockwell Hardness	ASTM D785	R-scale		114				120	
	ISO 2039-2	R-scale		125				118	
THERMAL PROPERTIES									
Heat Deflection Temperature 6)	ASTM D648	18.56kgf/cm ²	°C	100	190		205		
	ISO 75-2	1.8Mpa, 120°C/hr	°C	85		195			
VICAT Softening Temperature	ISO R306	B/50	°C	124				180	
Melting Point			°C						
Linear Thermal Coefficient	ASTM E 831	Flow 40~100°C	x10 ⁻⁴ -5cm/cm/°C						
Flame Characteristics									
Flammability	UL94	HB	mm						
		V-2	mm						
		V-1	mm						
		V-0	mm						
		5VA	mm						
		5VB	mm						
ELECTRIC PROPERTIES									
Surface Resistivity	ASTM D250	at 23°C, 50% RH	E+ Ω/sq						
Volume Resistivity	ASTM D257		Ωcm						
Dielectric Constant			10E6Hz						
Dielectric Loss Tangent			10E6Hz						
Other Properties									
ESD	JIS L1049	at 23°C, 50% RH	sec						
Optical reflectivity at 440nm	ASTM D1925	Color chip	%						
	E 1331	Color chip	%						

¹⁾ Melt Flow Index: ^{1)A} 300°C, 1.2kg | ^{1)B} 280°C, 10kg | ^{1)C} 315°C, 2.16kg | ^{1)D} 330°C, 2.16kg | ^{1)E} 250°C, 5kg | ^{1)F} 275°C, 5kg | ^{1)G} 285°C, 5kg | ^{1)H} 285V, 5kg | ^{1)I} 300°C, 5kg

²⁾ Tensile Strength at Yield: ^{2)A} 20mm/min

³⁾ Tensile Elongation at Yield: ^{3)A} 50mm/min | ^{3)B} 5mm/min

⁴⁾ Flexural Strength: ^{4)A} 1.3mm/min

⁵⁾ Flexural Modulus: ^{5)A} 2.8mm/min | ^{5)B} 10mm/min

⁶⁾ Heat Deflection Temperature: ^{6)A} 0.45 Mpa, 120°C/hr

Automotive

PBT BASED											
	GP-5000	GP-5150GT	GP-5300G	GP-5400G	VB-3100G	VB-5150G	VB-5150GL	VB-5300G	VB-5300GS	VB-5302GR	VB-5400G
	1.31	1.41	1.53	1.61	1.43	1.52	1.52	1.63	1.62	1.38	1.74
		0.07	0.06		0.08	0.07	0.07	0.06	0.06		0.06
	74	25	20	10	30	25	18	15	15	15	8
	1.2-2.1	0.4-1.1	0.3-0.9	0.3-0.7	0.7-1.1	0.4-1.1	0.4-1.1	0.3-0.9	0.3-0.9	0.3-0.9	0.3-0.7
			1,200	1,400	750	1,000	1,000	1,300	1,300	1,300	1,300
	550	1,000									
			138		70						
	4	4	3	3	4	4	4	3	3	3	3
	850	1,500 ^{1)F}	1,900	2,100	1,100	1,500	1,500	1,900	1,900	1,900	2,200
					98						
	23,000	50,000 ^{5)B}	82,000	11,000	43,000	55,000	55,000	90,000	90,000	90,000	115,000
					3,800						
	3	5	8	9.5	5	5	5	7.5	7.5	7.5	9
					2.8						
					2.4						
	115	120	115	115	113	118	118	120	120	120	118
					116						
	65	185	210	210	150	200	200	210	210	210	200
					107						
					147						
			220	220	220	220	220	220	220	220	220
	0.7	0.7	0.75, 1.7, 3.0	0.75, 1.7, 3.0							
					1.5, 3.0	0.74, 1.7, 3.0	0.74, 1.7, 3.0	0.75, 1.7, 3.0	0.75, 1.7, 3.0	0.75, 1.7, 3.0	0.8, 3.0
	3.1										
	0.02										

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GLOBAL TOTAL SOLUTION PROVIDER

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- Tailored service to enhance customer's competitiveness
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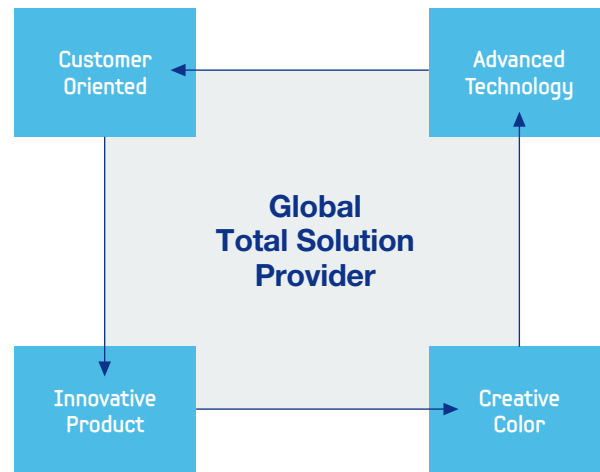
- Quality support & consultation with reliable assessment
- Propose efficient process conditions

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- Broad product portfolio
- Optimized material offering and development in partnership

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- Real time color development service



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Crea Lab

World-class color research center

Crea Lab is Samsung Cheil Industries' global design research hub and a venue where customers can get a hands-on experience on creative color solutions and grasp latest trends. Customers can be provided a wide range of color samples that are under development for all the available resin products.

Ino Lab

Innovative consultation through tear-down

Tear down INO lab can help customers to be a market faster & market leader with breakthrough solution; Innovative design, cost saving, optimized material, finest quality.

Advanced Technology Test Lab

Leading technology driven for market leader

Samsung Cheil Industries drive to develop new and innovative technologies, provide optimum injection conditions and mold design guide for our customers worldwide.

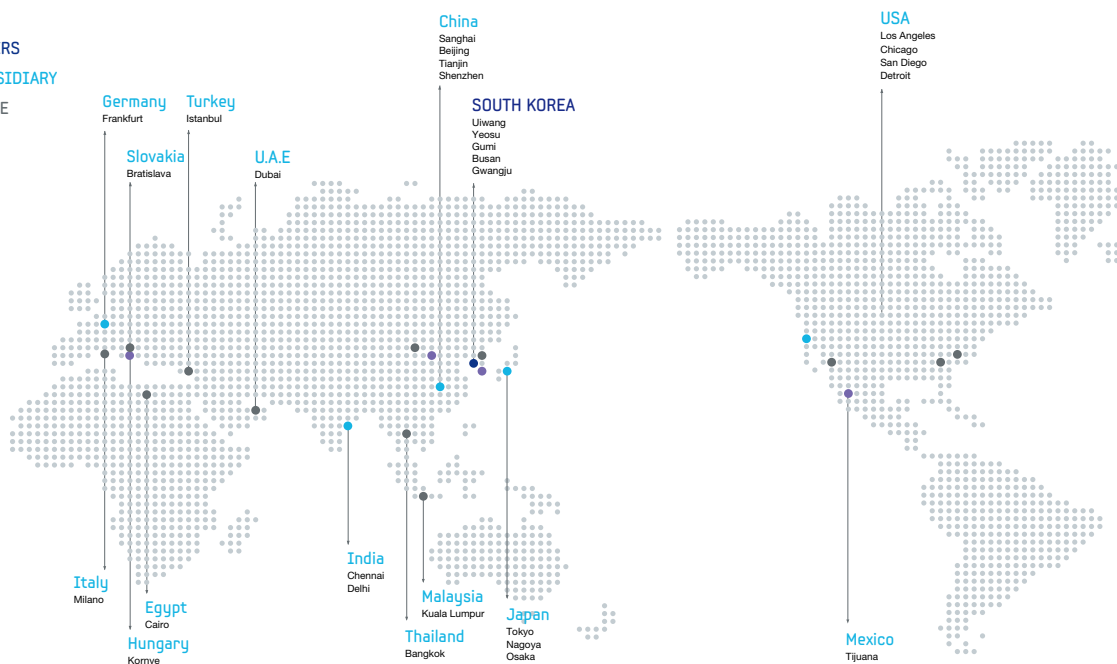
Reliability Test Lab

Providing comprehensive solutions guide

Samsung Cheil Industries' Reliability test lab measures the life cycle of materials and error rates, thereby enhancing the reliability for the company's newly developed materials for high value added components as well as housing materials.

Global Network

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