



Catalog



— Contents

Contents	2
Trademarks	3~4
Product Grades	5~26
General Use	5~6
Heat Resistant	6~7
Plating	8
Painting	9
Chemical Resistant, Sliding	10
Extrusion	11
Transparent	11~12
Flame Retardant ABS	13
Weather Resistant (AES)	14
Weather Resistant (ASA)	15~17
ABS/PC Alloy	18~19
AES/PC Alloy, ASA/PC Alloy	19
ABS/PA Alloy (Chemical Resistant)	20~21
ABS/PBT Alloy (Chemical Resistant)	21
Antistatic/Conducting Material	22~23
Glass Reinforced	23~24
SAN Resin	25~26
Molding conditions	27~28
Disclaimer	29
Office Locations	30

Trademarks

Resin type	Trademark	
General-purpose ABS resin Reinforced ABS resin	TECHNO ABS®	UMG ABS®
Transparent ABS resin		—
Heat-resistant ABS resin	TECHNO ABS® TECHNO MUH®	BULKSAM®
ASA resin (Acrylic rubber type)	TECHNO ASA®	DIALAC®
AES resin (Ethylene propylene rubber type)	TECHNO AES®	
Transparent resin (PMMA type)	-	
Alloy resin Reinforced alloy resin	EXCELLOY® TECHNO ALPHALLOY®	UMG ALLOY®
AS resin	SANREX®	-
Wood grain resin	-	UMG WOOD®
Anti-squeaking resin	HUSHLLOY®	
Color and appearance boosted resin	VIVILLOY®	
Plating resin	PLATZON®	

Trademarks

*Separate catalogs with detailed information are available for each product.



HUSHILLOY®

Creates comfortable spaces by reducing the squeaking noise generated between plastic mating parts and the scratching noise of movable parts.

- Characteristic 1 Eliminate squeaking noise
- Characteristic 2 Long-term performance

VIVILLOY®

Realizes vivid color without painting on the surface, eliminating the painting process and thus reducing CO2 emissions.

In addition to vivid color VIVILLOY offers a good balance of weather resistance, moldability, scratch resistance and total cost.

- Characteristic 1 Vivid color
- Characteristic 2 Excellent abrasion resistance
- Characteristic 3 Good moldability



PLATZON®

Demonstrates stable plating adhesion performance under a wide range of molding and etching conditions, thus achieves high yield rates.

- Characteristic 1 Stable plating adhesion performance
- Characteristic 2 Wide range of plating processing and molding
- Characteristic 3 High heat cycle resistance



Product Grades

Property	Test Method	Unit	General Use				
			Middle Impact & High Rigidity	High Impact	Super High Impact	High Flow	High Gloss & Middle Impact
			TECHNO ABS® 130 (15A)	TECHNO ABS® 150 (12A)	TECHNO ABS® 170 (10)	TECHNO ABS® 330 (38)	UMG ABS® TJ3L
Tensile Strength	ISO 527	M Pa	47	43	35	44	45
Flexural Strength	ISO 178	M Pa	75	69	54	70	72
Flexural Modulus	ISO 178	M Pa	2,470	2,290	1,750	2,320	2,450
Charpy Impact	ISO 179	KJ/m2	20	26	36	19	15
Rockwell Hardness	ISO 2039	-	R109	R105	R89	R108	R105
Melt Mass Flow Rate	ISO 1133	g/10Min. Condition	18.0 220°C,98N	16.0 220°C,98N	9.0 220°C,98N	42.0 220°C,98N	
Melt Volume Rate	ISO 1133	cm3/10Min. Condition					13.0 220°C,98N
Temp. of Deflection	ISO 75 (Under Load)	°C	80	79	76	78	80
Density	ISO 1183	-	1.05	1.04	1.03	1.05	1.05
Molding Shrinkage	ISO 294-4	Low High	0.40 0.60	0.40 0.60	0.40 0.60	0.40 0.60	0.40 0.60
Flammability	UL94	mm Method Condition	HB	HB		HB	HB
Surface Resistivity	ASTM D257	Ω					

Typical molding condition

Predrying temperature	B	B	B	B	B
Cylinder temperature	4	4	4	4	4
Mold temperature	T	T	T	T	T

Property	Test Method	Unit	General Use		Heat Resistant		
			High Gloss & High Flow UMG ABS® TJ3G	Fatigue Resistance UMG ABS® 3001GB	Heat Resistant TECHNO ABS® 45H TypeD1	High Heat Resistant TECHNO ABS® 545 (XT01)	Super High Heat Resistant TECHNO MUH® E7301
Tensile Strength	ISO 527	M Pa	50	49	51	43	49
Flexural Strength	ISO 178	M Pa	82	72	75	66	77
Flexural Modulus	ISO 178	M Pa	2,750	2,600	2,430	2,100	2,330
Charpy Impact	ISO 179	KJ/m2	11	27	18	12	11
Rockwell Hardness	ISO 2039	-	R111	R112	R108	R104	R111
Melt Mass Flow Rate	ISO 1133	g/10Min. Condition			17.0 220°C,98N	5.8 220°C,98N	16.0 240°C,98N
Melt Volume Rate	ISO 1133	cm3/10Min. Condition	20.0 220°C,98N	9 220°C,98N			
Temp. of Deflection	ISO 75 (Under Load)	°C	82	82	83	90	95
Density	ISO 1183	-	1.05	1.05	1.05	1.05	1.06
Molding Shrinkage	ISO 294-4	Low High	0.40 0.60	0.40 0.60	0.40 0.60	0.40 0.70	0.50 0.80
Flammability	UL94	mm Method Condition	HB			HB	
Surface Resistivity	ASTM D257	Ω					

Typical molding condition

Predrying temperature	B	B	B	D	F
Cylinder temperature	4	4	4	5	5
Mold temperature	T	T	T	T	T

Property	Test Method	Unit	Heat Resistant				
			Super High Heat Resistant	Super High Heat Resistant	Blow & Heat Resistant	Low Gloss & Heat Resistance	
			BULKSAM® TM-25	BULKSAM® TM-30	TECHNO MUH® BM5620	TECHNO MUH® LG5534	
Tensile Strength	ISO 527	M Pa	46	44	49	57	
Flexural Strength	ISO 178	M Pa	70	70	72	71	
Flexural Modulus	ISO 178	M Pa	2,400	2,400	2,300	2,260	
Charpy Impact	ISO 179	KJ/m2	18	16	21	15	
Rockwell Hardness	ISO 2039	-	R112	R113	R102	R106	
Melt Mass Flow Rate	ISO 1133	g/10Min. Condition			1.6 240°C,98N	7.0 240°C,98N	
Melt Volume Rate	ISO 1133	cm3/10Min. Condition	4 220°C,98N	3 220°C,98N			
Temp. of Deflection	ISO 75 (Under Load)	°C	98	102	94	89	
Density	ISO 1183	-	1.06	1.07	1.05	1.05	
Molding Shrinkage	ISO 294-4	Low High	0.50 0.70	0.50 0.70		0.50 0.80	
Flammability	UL94	mm Method Condition	HB	HB			
Surface Resistivity	ASTM D257	Ω					

Typical molding condition

Predrying temperature	F	F	B	D	
Cylinder temperature	5	5	210~240°C	5	
Mold temperature	T	T	-	T	

Property	Test Method	Unit	Plating				
			Plating Standard PLATZON® 3001M	Plating High Adhesive PLATZON® 3001MV2A	Plating & Painting PLATZON® 430 (25)	Plating & High Heat Resistance PLATZON® TM-25M	Plating & High Heat Resistance ABS/PC Alloy PLATZON® TC-45M
Tensile Strength	ISO 527	M Pa	42	46	42	45	45
Flexural Strength	ISO 178	M Pa	66	66	65	66	68
Flexural Modulus	ISO 178	M Pa	2,500	2,350	2,150	2,500	1,900
Charpy Impact	ISO 179	KJ/m2	27	26	31	17	52
Rockwell Hardness	ISO 2039	-	R109	R108	R105	R113	R104
Melt Mass Flow Rate	ISO 1133	g/10Min. Condition			24.0 220°C,98N		
Melt Volume Rate	ISO 1133	cm3/10Min. Condition	21 220°C,98N	30 220°C,98N		4 220°C,98N	3 220°C,98N
Temp. of Deflection	ISO 75 (Under Load)	°C	81	80	79	98	106
Density	ISO 1183	-	1.05	1.05	1.04	1.06	1.12
Molding Shrinkage	ISO 294-4	Low High	0.40 0.60	0.40 0.60	0.40 0.60	0.40 0.60	0.50 0.70
Flammability	UL94	mm Method Condition	HB		HB	HB	
Surface Resistivity	ASTM D257	Ω					

Typical molding condition

Predrying temperature	B	B	B	F	F
Cylinder temperature	4	4	4	5	5
Mold temperature	T	T	T	U	U

Property	Test Method	Unit	Painting				
			Painting TECHNO ABS® 45H TypeK7	Painting & High Flow UMG ABS® PS-507	Painting & High Heat Resistance TECHNO MUH® C7800	Painting & High Heat Resistance ABS/PC Alloy UMG ALLOY® CG400	
Tensile Strength	ISO 527	M Pa	43	41	44	56	
Flexural Strength	ISO 178	M Pa	66	61	70	88	
Flexural Modulus	ISO 178	M Pa	2,170	2,300	2,270	2,350	
Charpy Impact	ISO 179	KJ/m2	12	27	12	55	
Rockwell Hardness	ISO 2039	-	R107	R107	R106	R118	
Melt Mass Flow Rate	ISO 1133	g/10Min. Condition	27.0 220°C,98N		5.8 220°C,98N		
Melt Volume Rate	ISO 1133	cm3/10Min. Condition		34 220°C,98N		10 220°C,98N	
Temp. of Deflection	ISO 75 (Under Load)	°C	79	83	90	110	
Density	ISO 1183	-	1.06	1.05	1.06	1.14	
Molding Shrinkage	ISO 294-4	Low High		0.40 0.60		0.50 0.70	
Flammability	UL94	mm Method Condition					
Surface Resistivity	ASTM D257	Ω					

Typical molding condition

Predrying temperature	B	B	E	F	
Cylinder temperature	4	4	5	5	
Mold temperature	T	T	T	U	

Property	Test Method	Unit	Chemical Resistant		Sliding		
			Standard DIALAC® EX18Z	High Chemical Resistant TECHNO ABS® R790 (TFB310)	Standard TECHNO ABS® 130 TypeD1F	Heat Resistant TECHNO MUH® DN1300	
Tensile Strength	ISO 527	M Pa	43	49	44	42	
Flexural Strength	ISO 178	M Pa	70	59	76	64	
Flexural Modulus	ISO 178	M Pa	2,450	1,950	2,520	2,280	
Charpy Impact	ISO 179	KJ/m2	8	23	20	11	
Rockwell Hardness	ISO 2039	-	R102	R99	R109	R103	
Melt Mass Flow Rate	ISO 1133	g/10Min. Condition		16.0 220°C,98N	22.0 220°C,98N	10.0 240°C,98N	
Melt Volume Rate	ISO 1133	cm3/10Min. Condition	22 220°C,98N				
Temp. of Deflection	ISO 75 (Under Load)	°C	80	79	80	97	
Density	ISO 1183	-	1.05	1.06	1.05	1.05	
Molding Shrinkage	ISO 294-4	Low High	0.50 0.70	0.40 0.60	0.40 0.60		
Flammability	UL94	mm Method Condition	HB	HB	HB		
Surface Resistivity	ASTM D257	Ω					

Typical molding condition

Predrying temperature	B	B	B	E	
Cylinder temperature	4	4	4	5	
Mold temperature	T	T	T	T	

Property	Test Method	Unit	Extrusion			Transparent	
			Standard TECHNO ABS® 640	High Rigidity UMG ABS® EX74J	Flame Retardant UMG ABS® VE700	Standard TECHNO ABS® 810 (55)	High Rigidity TECHNO ABS® 830 (58)
Tensile Strength	ISO 527	M Pa	45	45	44	42	53
Flexural Strength	ISO 178	M Pa	74	79	71	64	80
Flexural Modulus	ISO 178	M Pa	2,480	3,500	2,400	2,040	2,610
Charpy Impact	ISO 179	KJ/m2	25	17	12	15	9
Rockwell Hardness	ISO 2039	-	R106	R105	R104	R105	R114
Melt Mass Flow Rate	ISO 1133	g/10Min. Condition	7.0 220°C,98N			26.0 220°C,98N	30.0 220°C,98N
Melt Volume Rate	ISO 1133	cm3/10Min. Condition		5 220°C,98N	11 220°C,98N		
Temp. of Deflection	ISO 75 (Under Load)	°C	82	84	75	73	74
Density	ISO 1183	-		1.11	1.20	1.07	1.09
Molding Shrinkage	ISO 294-4	Low High		0.50 0.70	0.50 0.70	0.40 0.60	0.40 0.60
Flammability	UL94	mm Method Condition			1.5mm V-0 2.5mm 5VB	HB	HB
Surface Resistivity	ASTM D257	Ω					

Typical molding condition

Predrying temperature	B	B	A	B	B
Cylinder temperature	1	1	1	4	4
Mold temperature	—	—	—	T	T

Property	Test Method	Unit	Transparent				
			Chemical Resistant TECHNO ABS® 840	Scratch Resistance VIVILLOY® 850	Heat Resistant VIVILLOY® H814	Special Alloy DIALAC® U400	Special Alloy DIALAC® U500
Tensile Strength	ISO 527	M Pa	41	60	48	49	42
Flexural Strength	ISO 178	M Pa	57	88	76	70	56
Flexural Modulus	ISO 178	M Pa	1,720	2,590	2,210	2,100	1,800
Charpy Impact	ISO 179	KJ/m2	16	5	8	8	10
Rockwell Hardness	ISO 2039	-	R97	R118	R114	R113	R106
Melt Mass Flow Rate	ISO 1133	g/10Min. Condition	39.0 220°C,98N	20.0 220°C,98N	14.0 240°C,98N		
Melt Volume Rate	ISO 1133	cm3/10Min. Condition				5 220°C,98N	5 220°C,98N
Temp. of Deflection	ISO 75 (Under Load)	°C	68	78	85	78	75
Density	ISO 1183	-	1.09	1.12	1.09	1.14	1.14
Molding Shrinkage	ISO 294-4	Low High	0.40 0.60		0.40 0.60	0.40 0.60	0.40 0.60
Flammability	UL94	mm Method Condition	HB	HB	HB	HB	HB
Surface Resistivity	ASTM D257	Ω					

Typical molding condition

Predrying temperature	B	B	D	B	B
Cylinder temperature	4	4	5	4	4
Mold temperature	T	T	T	T	T

Property	Test Method	Unit	Flame Retardant ABS				
			1.5mmV-0 Thermostable	1.5mmV-0 Heat Resistant	1.1mmV-2 Thermostable	0.75mmV-2 Non Halogen	
			UMG ABS® VW801	UMG ABS® VW804	TECHNO ABS® F1350 (NC471)	UMG ABS® VD100	
Tensile Strength	ISO 527	M Pa	38	42	51	50	
Flexural Strength	ISO 178	M Pa	66	65	73	74	
Flexural Modulus	ISO 178	M Pa	2,450	2,100	2,430	2,550	
Charpy Impact	ISO 179	KJ/m2	16	12	11	10	
Rockwell Hardness	ISO 2039	-	R102	R100	R110	R109	
Melt Mass Flow Rate	ISO 1133	g/10Min. Condition			35.0 220°C,98N		
Melt Volume Rate	ISO 1133	cm3/10Min. Condition	33 220°C,98N	8 220°C,98N		60 220°C,98N	
Temp. of Deflection	ISO 75 (Under Load)	°C	73	85	79	73	
Density	ISO 1183	-	1.18	1.20	1.09	1.07	
Molding Shrinkage	ISO 294-4	Low High	0.40 0.60	0.50 0.70	0.40 0.60	0.40 0.60	
Flammability	UL94	mm Method Condition	1.5mmV-0 2.0mm 5V	1.5mmV-0 2.0mm 5V	1.1mm V-2	0.75mm V-2	
Surface Resistivity	ASTM D257	Ω					

Typical molding condition

Predrying temperature	A	A	A	A	
Cylinder temperature	3	3	3	3	
Mold temperature	T	T	T	T	

Property	Test Method	Unit	Weather Resistant(AES)				
			High Rigidity & High Flow	Middle Impact	Middle Impact & Heat Resistant	Middle Impact& High Heat Resistant	Super High Heat Resistant
			TECHNO AES® W200 (AES117)	TECHNO AES® W210 (AES112)	TECHNO AES® W240 (AES145)	TECHNO AES® W245 (AES147)	TECHNO AES® W250 (AES491)
Tensile Strength	ISO 527	M Pa	51	49	48	48	49
Flexural Strength	ISO 178	M Pa	77	71	72	70	76
Flexural Modulus	ISO 178	M Pa	2,500	2,220	2,200	2,200	2,350
Charpy Impact	ISO 179	KJ/m2	8	9	18	18	13
Rockwell Hardness	ISO 2039	-	R110	R106	R104	R104	R107
Melt Mass Flow Rate	ISO 1133	g/10Min. Condition	47.0 220°C,98N	19.0 220°C,98N	17.5 220°C,98N	6.3 220°C,98N	26.0 240°C,98N
Melt Volume Rate	ISO 1133	cm3/10Min. Condition					
Temp. of Deflection	ISO 75 (Under Load)	°C	78	77	78	83	92
Density	ISO 1183	-	1.05	1.04	1.04	1.05	1.06
Molding Shrinkage	ISO 294-4	Low High	0.40 0.60	0.40 0.60	0.40 0.60	0.40 0.70	0.40 0.70
Flammability	UL94	mm Method Condition	HB		HB		
Surface Resistivity	ASTM D257	Ω					

Typical molding condition

Predrying temperature	B	B	B	D	E
Cylinder temperature	4	4	4	5	5
Mold temperature	U	U	U	U	T

Property	Test Method	Unit	Weather Resistant(ASA)				
			Standard DIALAC® S210B	Middle Impact DIALAC® S310	High Impact DIALAC® S510	High Flow DIALAC® S411A	Heat Resistant DIALAC® TW20
Tensile Strength	ISO 527	M Pa	47	41	40	42	45
Flexural Strength	ISO 178	M Pa	73	65	60	65	70
Flexural Modulus	ISO 178	M Pa	2,500	2,300	2,100	2,400	2,350
Charpy Impact	ISO 179	KJ/m2	10	18	27	9	11
Rockwell Hardness	ISO 2039	-	R108	R103	R96	R108	R107
Melt Mass Flow Rate	ISO 1133	g/10Min. Condition					
Melt Volume Rate	ISO 1133	cm3/10Min. Condition	25.0 220°C,98N	20.0 220°C,98N	14.0 220°C,98N	60.0 220°C,98N	4.0 220°C,98N
Temp. of Deflection	ISO 75 (Under Load)	°C	83	81	79	78	95
Density	ISO 1183	-	1.07	1.06	1.06	1.06	1.09
Molding Shrinkage	ISO 294-4	Low High	0.40 0.60	0.40 0.60	0.40 0.60	0.40 0.60	0.40 0.60
Flammability	UL94	mm Method Condition		HB	HB		HB
Surface Resistivity	ASTM D257	Ω					

Typical molding condition

Predrying temperature	B	B	B	B	F
Cylinder temperature	4	4	4	4	5
Mold temperature	T	T	T	T	T

Property	Test Method	Unit	Weather Resistant(ASA)				
			Super High Heat Resistant	Vivid Color	High Gloss	High Gloss & Heat Resistance	Extrusion & Vivid Color
			DIALAC® TW25	VIVILLOY® S359E	DIALAC® AR300W	DIALAC® AH111W	VIVILLOY® E359B
Tensile Strength	ISO 527	M Pa	48	45	40	48	48
Flexural Strength	ISO 178	M Pa	75	65	60	74	65
Flexural Modulus	ISO 178	M Pa	2,300	2,100	1,950	2,400	2,250
Charpy Impact	ISO 179	KJ/m2	9	12	30	11	9
Rockwell Hardness	ISO 2039	-	R108	R106	R96	R104	R104
Melt Mass Flow Rate	ISO 1133	g/10Min. Condition					
Melt Volume Rate	ISO 1133	cm3/10Min. Condition	3.0 220°C,98N	3.0 220°C,98N	16.0 220°C,98N	8.0 220°C,98N	12.0 220°C,98N
Temp. of Deflection	ISO 75 (Under Load)	°C	100	77	79	86	73
Density	ISO 1183	-	1.10	1.13	1.06	1.08	1.13
Molding Shrinkage	ISO 294-4	Low High	0.50 0.70	0.40 0.60	0.40 0.60	0.40 0.60	0.40 0.60
Flammability	UL94	mm Method Condition					HB
Surface Resistivity	ASTM D257	Ω					

Typical molding condition

Predrying temperature	F	B	B	C	A
Cylinder temperature	5	4	4	4	1
Mold temperature	T	T	T	T	-

Property	Test Method	Unit	Weather Resistant(ASA)				
			Extrusion DIALAC® E310	Extrusion Surface for PS DIALAC® SP330A	Extrusion & Woody UMG WOOD® W310A	Flame Retardant Extrusion & Woody UMG WOOD® W310E	Light Resistance & Flame Retardant DIALAC® VWJ1
Tensile Strength	ISO 527	M Pa	47	40	32	47	42
Flexural Strength	ISO 178	M Pa	67	60	59	74	64
Flexural Modulus	ISO 178	M Pa	2,400	2,100	2,600	3,200	2,100
Charpy Impact	ISO 179	KJ/m2	21	15	3	3	15
Rockwell Hardness	ISO 2039	-	R104	R92	R92	R105	R94
Melt Mass Flow Rate	ISO 1133	g/10Min. Condition					
Melt Volume Rate	ISO 1133	cm3/10Min. Condition	13.0 220°C,98N	36.0 220°C,98N	22.0 220°C,98N	19.0 220°C,98N	12.0 220°C,98N
Temp. of Deflection	ISO 75 (Under Load)	°C	81	--	79	81	75
Density	ISO 1183	-	1.06	1.05	1.08	1.18	1.18
Molding Shrinkage	ISO 294-4	Low High	0.40 0.60				0.50 0.70
Flammability	UL94	mm Method Condition					1.5mmV-0 2.0mm5VB
Surface Resistivity	ASTM D257	Ω					

Typical molding condition

Predrying temperature	B	A	B	B	A
Cylinder temperature	1	1	1	1	3
Mold temperature	-	-	-	-	T

Property	Test Method	Unit	ABS/PC Alloy				
			Standard	High Flow	Heat Resistant	1.5mmV-0 Non halogen Flame Retardant	
			UMG ALLOY® TC-6F	EXCELLOY® CK43 TypeD4	UMG ALLOY® CX91B	UMG ALLOY® CD402	
Tensile Strength	ISO 527	M Pa	48	55	47	59	
Flexural Strength	ISO 178	M Pa	80	78	75	89	
Flexural Modulus	ISO 178	M Pa	2,200	2,110	2,050	2,600	
Charpy Impact	ISO 179	KJ/m2	50	73	50	43	
Rockwell Hardness	ISO 2039	-	R110	R110	R106	R117	
Melt Mass Flow Rate	ISO 1133	g/10Min. Condition		47.0 240°C,98N			
Melt Volume Rate	ISO 1133	cm3/10Min. Condition	8.5 220°C,98N		8.0 230°C,98N	30.0 220°C,98N	
Temp. of Deflection	ISO 75 (Under Load)	°C	99	98	104	80	
Density	ISO 1183	-	1.11	1.10	1.13	1.17	
Molding Shrinkage	ISO 294-4	Low High	0.50 0.70		0.50 0.70	0.40 0.60	
Flammability	UL94	mm Method Condition	HB			1.5mmV-0 2.0mm 5VB	
Surface Resistivity	ASTM D257	Ω					

Typical molding condition

Predrying temperature	F	F	F	B	
Cylinder temperature	5	5	5	4	
Mold temperature	U	U	U	T	

Property	Test Method	Unit	ABS/PC Alloy		AES/PC Alloy	ASA/PC Alloy	
			Vivid Color VIVILLOY® CK800 TypeD1	Vivid Color & Mar resistant VIVILLOY® CK830	Standard EXCELLOY® CW52S	High Rigidity UMG ALLOY® TA-15W	High Heat Resistant EXCELLOY® CA600
Tensile Strength	ISO 527	M Pa	61	60	52	59	62
Flexural Strength	ISO 178	M Pa	92	91	79	99	96
Flexural Modulus	ISO 178	M Pa	2,390	2,380	2,190	2,750	2,480
Charpy Impact	ISO 179	KJ/m2	53	65	90	45	57
Rockwell Hardness	ISO 2039	-	R118	R116	R111	R113	R118
Melt Mass Flow Rate	ISO 1133	g/10Min. Condition	18.0 240°C,98N	27.0 240°C,98N	38.0 240°C,98N		26.0 240°C,98N
Melt Volume Rate	ISO 1133	cm3/10Min. Condition				11.0 220°C,98N	
Temp. of Deflection	ISO 75 (Under Load)	°C	110	103	99	97	106
Density	ISO 1183	-	1.14	1.16	1.11	1.12	1.16
Molding Shrinkage	ISO 294-4	Low High				0.50 0.70	
Flammability	UL94	mm Method Condition				HB	
Surface Resistivity	ASTM D257	Ω					

Typical molding condition

Predrying temperature	F	F	F	F	F
Cylinder temperature	5	5	5	5	5
Mold temperature	U	U	U	U	U

Property	Test Method	Unit	ABS/PA Alloy(Chemical Resistant)				
			Standard EXCELLOY® AK10 (AK101) (Bone dry)	Standard EXCELLOY® AK10 (AK101) (Moisture 1.6%)	High Impact EXCELLOY® AK15 (AK102) (Bone dry)	High Impact EXCELLOY® AK15 (AK102) (Moisture 2.5%)	
Tensile Strength	ISO 527	M Pa	50	39	41	30	
Flexural Strength	ISO 178	M Pa	75	55	59	32	
Flexural Modulus	ISO 178	M Pa	2,090	1,610	1,610	680	
Charpy Impact	ISO 179	KJ/m2	11	24	69	76	
Rockwell Hardness	ISO 2039	-	R109	R100	R101	R90	
Melt Mass Flow Rate	ISO 1133	g/10Min. Condition	35.0 260°C,98N		30.0 260°C,98N		
Melt Volume Rate	ISO 1133	cm3/10Min. Condition					
Temp. of Deflection	ISO 75 (Under Load)	°C	78	72	65	57	
Density	ISO 1183	-	1.05		1.06		
Molding Shrinkage	ISO 294-4	Low High	0.40 0.70		0.70 1.00		
Flammability	UL94	mm Method Condition					
Surface Resistivity	ASTM D257	Ω					

Typical molding condition

Predrying temperature	B	—	B	—	
Cylinder temperature	6	—	6	—	
Mold temperature	T	—	T	—	

Property	Test Method	Unit	ABS/PA Alloy(Chemical Resistant)			ABS/PBT Alloy	
			Chemical Resistant TECHNO ALPHALOY® MPA1601	Glass Reinforced Alloy TECHNO ALPHALOY® MPA G101		Heat Resistant EXCELLOY® BK102	
Tensile Strength	ISO 527	M Pa	55	80		38	
Flexural Strength	ISO 178	M Pa	80	122		52	
Flexural Modulus	ISO 178	M Pa	2,190	4,010		1,610	
Charpy Impact	ISO 179	KJ/m2	16	5		29	
Rockwell Hardness	ISO 2039	-	R111	R118		R99	
Melt Mass Flow Rate	ISO 1133	g/10Min. Condition	18.0 240°C,98N	10.0 240°C,98N		25.0 240°C,98N	
Melt Volume Rate	ISO 1133	cm3/10Min. Condition					
Temp. of Deflection	ISO 75 (Under Load)	°C	71	117		77	
Density	ISO 1183	-	1.09	1.14			
Molding Shrinkage	ISO 294-4	Low High	0.60 0.90	0.30 0.60			
Flammability	UL94	mm Method Condition				HB	
Surface Resistivity	ASTM D257	Ω					

Typical molding condition

Predrying temperature	B	F		B	
Cylinder temperature	6	6		5	
Mold temperature	T	U		T	

Property	Test Method	Unit	Antistatic/Conducting Material				
			Standard EXCELLOY® EK10 (HK101)	Transparent EXCELLOY® EK81 TypeD5	1.5mm V-0 Flame Retardant EXCELLOY® EKF55	Carbon Fiber Reinforced EXCELLOY® EK13C8	
Tensile Strength	ISO 527	M Pa	44	41	44	65	
Flexural Strength	ISO 178	M Pa	68	59	62	85	
Flexural Modulus	ISO 178	M Pa	2,040	1,840	2,130	4,500	
Charpy Impact	ISO 179	KJ/m2	20	12	7	7	
Rockwell Hardness	ISO 2039	-	R102	R102	R100	R103	
Melt Mass Flow Rate	ISO 1133	g/10Min. Condition	29.0 220°C,98N	42.0 220°C,98N	60.0 220°C,98N	13.0 220°C,98N	
Melt Volume Rate	ISO 1133	cm3/10Min. Condition					
Temp. of Deflection	ISO 75 (Under Load)	°C	80	69	78	97	
Density	ISO 1183	-	1.07	1.09	1.22	1.10	
Molding Shrinkage	ISO 294-4	Low High	0.40 0.60	0.40 0.60	0.40 0.70	0.20 0.40	
Flammability	UL94	mm Method Condition	HB	HB	1.5mm V-0		
Surface Resistivity	ASTM D257	Ω	3×10 ¹¹		3×10 ¹⁰	1×10 ⁴	

Typical molding condition

Predrying temperature	C	C	A	C	
Cylinder temperature	4	4	3	4	
Mold temperature	T	T	T	T	

Property	Test Method	Unit	Antistatic/Conducting Material			Glass Reinforced	
			ABS/PC alloy EXCELLOY® CKE10	ASA/PC Alloy UMG ALLOY® CG900S		Standard TECHNO ABS® 130G10 (15G10)	Standard TECHNO ABS® 130G20 (15G20)
Tensile Strength	ISO 527	M Pa	52	50		63	77
Flexural Strength	ISO 178	M Pa	79	81		98	118
Flexural Modulus	ISO 178	M Pa	2,120	2,150		3,620	5,420
Charpy Impact	ISO 179	KJ/m2	75	50		8	8
Rockwell Hardness	ISO 2039	-	R109	R108		R112	R113
Melt Mass Flow Rate	ISO 1133	g/10Min. Condition	87.0 240°C,98N			18.0 220°C,98N	11.0 220°C,98N
Melt Volume Rate	ISO 1133	cm3/10Min. Condition		7.0 220°C,98N			
Temp. of Deflection	ISO 75 (Under Load)	°C	93	108		93	93
Density	ISO 1183	-		1.15		1.10	1.17
Molding Shrinkage	ISO 294-4	Low High		0.50 0.70		0.20 0.40	0.15 0.35
Flammability	UL94	mm Method Condition				HB	HB
Surface Resistivity	ASTM D257	Ω	1×10 ¹⁰				

Typical molding condition

Predrying temperature	C	F		B	B
Cylinder temperature	4	5		4	4
Mold temperature	T	U		T	T

Property	Test Method	Unit	Glass Reinforced				
			Standard TECHNO ABS® 130G30 (15G30)	1.5mm V-2 Flame Retardant TECHNO ABS® F1350G10 (NC471G10)	ABS/PC Alloy EXCELLOY® CK10G10 (CB10G10)	ABS/PC Alloy EXCELLOY® CK10G20 (CB10G20)	ABS/PC Alloy EXCELLOY® CK10G30 (CB10G30)
Tensile Strength	ISO 527	M Pa	91	61	59	76	91
Flexural Strength	ISO 178	M Pa	136	103	94	117	128
Flexural Modulus	ISO 178	M Pa	7,090	3,780	3,340	4,910	5,670
Charpy Impact	ISO 179	KJ/m2	7	8	14	13	9
Rockwell Hardness	ISO 2039	-	R113	R109	R108	R109	R109
Melt Mass Flow Rate	ISO 1133	g/10Min. Condition	10.0 220°C,98N	21.0 220°C,98N	10.0 240°C,98N	7.0 240°C,98N	6.0 240°C,98N
Melt Volume Rate	ISO 1133	cm3/10Min. Condition					
Temp. of Deflection	ISO 75 (Under Load)	°C	94	96	110	115	120
Density	ISO 1183	-	1.25	1.18	1.15	1.23	1.32
Molding Shrinkage	ISO 294-4	Low High	0.10 0.30	0.30 0.50	0.20 0.40	0.10 0.30	0.10 0.20
Flammability	UL94	mm Method Condition	HB	1.5-2.1mm V-2	HB	HB	HB
Surface Resistivity	ASTM D257	Ω					

Typical molding condition

Predrying temperature	B	B	F	F	F
Cylinder temperature	4	3	6	6	6
Mold temperature	T	U	U	U	U

Property	Test Method	Unit	SAN Resin				
			Standard SANREX® S10 <SAN-C>	High Flow SANREX® S20 <SAN-R>	High Rigidity SANREX® S90 <SAN-H>	1.5mm V-2 Flame Retardant SANREX® SF10 <SAN-AK>	
Tensile Strength	ISO 527	M Pa	71	64	78	69	
Flexural Strength	ISO 178	M Pa	88	87	97	97	
Flexural Modulus	ISO 178	M Pa	3,050	2,970	3,130	3,210	
Charpy Impact	ISO 179	KJ/m2	1.3	1.3	1.6	1.1	
Rockwell Hardness	ISO 2039	-	M82	M82	M82	M82	
Melt Mass Flow Rate	ISO 1133	g/10Min. Condition	25.0 220°C,98N	44.0 220°C,98N	5.0 220°C,98N	35.0 220°C,98N	
Melt Volume Rate	ISO 1133	cm3/10Min. Condition					
Temp. of Deflection	ISO 75 (Under Load)	°C	85	83	90	82	
Density	ISO 1183	-	1.08	1.08	1.08	1.11	
Molding Shrinkage	ISO 294-4	Low High	0.20 0.50	0.20 0.50	0.20 0.50	0.20 0.50	
Flammability	UL94	mm Method Condition	HB		HB	1.5mm V-2	
Surface Resistivity	ASTM D257	Ω					

Typical molding condition

Predrying temperature	A	A	A	A	
Cylinder temperature	4	4	4	2	
Mold temperature	S	S	S	S	

Property	Test Method	Unit	SAN Resin				
			Glass Reinforced SANREX® S10G12 (CLM-S315)	Glass Reinforced SANREX® S10G20 (CLM-S325)	Glass Reinforced SANREX® S10G32 (CLM-S340)		
Tensile Strength	ISO 527	M Pa	99	118	123		
Flexural Strength	ISO 178	M Pa	133	158	164		
Flexural Modulus	ISO 178	M Pa	4,780	6,230	8,350		
Charpy Impact	ISO 179	KJ/m2	3.8	5.2	5.2		
Rockwell Hardness	ISO 2039	-	M86	M91	M93		
Melt Mass Flow Rate	ISO 1133	g/10Min. Condition	7.0 220°C,98N	5.0 220°C,98N	3.0 220°C,98N		
Melt Volume Rate	ISO 1133	cm3/10Min. Condition					
Temp. of Deflection	ISO 75 (Under Load)	°C	97	100	101		
Density	ISO 1183	-	1.17	1.23	1.29		
Molding Shrinkage	ISO 294-4	Low High	0.20 0.40	0.10 0.30	0.10 0.30		
Flammability	UL94	mm Method Condition	HB	HB	HB		
Surface Resistivity	ASTM D257	Ω					

Typical molding condition

Predrying temperature	A	A	A		
Cylinder temperature	4	4	4		
Mold temperature	T	T	T		

Molding conditions

Basically our products shown in this catalog offer good moldability. They can be molded using common molding machines and methods, and, by selecting the right molding conditions, you can obtain a good molding appearance and physical properties.

Pre-drying temperature conditions

ABS absorbs moisture, therefore the pellets must be pre-dried to obtain a good molding appearance. Although it depends on the performance of the dryer used, insufficient drying temperature or time may cause appearance defects (silver streaks, etc.), while excessive drying temperature or time may result in blocking of the pellets. In general, a drying temperature 5–10°C higher than the ISO high deflection temperature for the grade is appropriate. Drying at higher temperatures may cause blocking or other problems in the hopper or other portion in the dryer.

Under humid conditions, such as during the rainy season, it is necessary to control the drying temperature and drying time, as well as the opening aperture for air intake of the dryer, clogging of filters, carefully. Especially for alloy materials, we recommend using a dehumidifying dryer. Typical combinations of molding conditions are shown at the bottom of the tables listing the properties of each grade in this catalog. The drying conditions for each type are as follows.

Type	Predrying temperature	Drying time (hrs)
A	75~80	2~4
B	80~90	2~4
C	80~90	3~6
D	85~95	2~4
E	90~100	2~4
F	100~110	2~4

Molding conditions

Molding temperature (cylinder temperature) conditions

The molding conditions to obtain good moldings vary depending on the type and capacity of the molding machine, the mold structure, the shape, wall thickness, etc. However, in general, low molding temperatures may cause noticeable weld lines or short shots and large molding strain, while burr, discoloration, resin degradation (burning) may occur if the molding temperature is too high. Typical combinations of molding conditions (types) are shown at the bottom of the tables listing the properties of each grade in this catalog. The molding temperatures (cylinder temperatures) for each type are as follows.

Mold temperature

If the mold temperature is too low, flow marks, surface gloss degradation and insufficient fusion of weld portions may occur. On the other hand, if the mold temperature is too high, sink marks may occur.

Typical combinations of molding conditions (types) are shown at the bottom of the tables listing the properties of each grade in this catalog. The mold temperatures for each type are as follows.

Type	Cylinder temperature
1	170~240
2	180~200
3	180~230
4	190~260
5	220~280
6	240~280

Type	Mold temperature
S	20~80
T	40~80
U	50~100

Recycling

In general, the properties of ABS and AS products do not change significantly when recycled materials are used or mixed in. Up to 25% by weight of recycled materials may be added when the UL-746D “Polymeric Materials - Fabricated Parts” standard is applied. However, since the addition of recycled material may cause appearance defects or changes in the color tone, please check this with actual molded products, including a strength check, to determine the appropriate amount of added recycled material.

Furthermore, since the properties and appearance of alloyed products with engineering plastics such as PC may change significantly depending on storage, thermal history, etc., always check actual moldings of these materials, including strength, to optimize the amount of recycled material added. When using recycled material, always ensure that the recycled material is pre-dried.

— Disclaimer

***Notice**

- Each numerical value shown in this catalogue is a typical value based on the specified testing method.
- The data and descriptions may be revised without notice based on new information.
- Before handling the materials in this catalog, refer to the material safety data sheet (SDS) for complete details regarding handling and safety.
- The material should be stored in a dry place out of direct sunlight, rain, excess humidity, heat, and ignition sources.
- Do not inhale the generated gas when the material is processed. Adopt local vent system in the processing room.
- The material should be buried in the ground or burned according to all the regulations or laws where applicable.
- The user of the material is responsible solely for the final determination of safety and suitability.
- When using with specialized applications such as those for the medical devices, food devices, or toys for infant, please consult Techno-UMG in advance.
- UL File No.E54297(Techno Polymer)
- UL File No.E47016 (UMG ABS)

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