



主要产品介绍 PRODUCT LINE-UP

- | | | | |
|--------------|---------------------|--------------|---------------------|
| 1. 通用级 | General Purpose (1) | 10. 抗环境应力开裂级 | Chemical Resistant |
| 2. 通用级 | General Purpose (2) | 11. 低摩擦级 | Low Friction |
| 3. 阻燃级 | Flame Retardant (1) | 12. 电镀级、涂饰级 | Plating、Painting |
| 4. 阻燃级 | Flame Retardant (2) | 13. 透明级 | Clear/ |
| 5. 耐候级 | Weatherable (1) | 软性级 | Soft/ |
| 6. 耐候级 | Weatherable (2) | 抗擦伤级 | Anti-Scratch/ |
| 7. 耐热级 | High Heat | 抗静电级 | Electro Static Free |
| 8. A B S 合金级 | Alloy | 14. 挤出成形级 | Extrusion (1) |
| 9. 玻纤增强级 | Fiber Reinforce | 15. 挤出成形级 | Extrusion (2) |

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1. 通用级

General Purpose (1)

				CYCOLAC®					
				EX114	EX18A	EX10U	EX120	EX19C	AM
性能项目 Property	测试方法 Test Method	测试条件 Condition	单位 Units	模量 Modulus	冲击 Impact	高冲击 High Impact	流动 Flow	高流动 High Flow	通用 G.P.
冲击强度(缺口) Charpy Impact Strength	ISO179	23 deg.C -30 deg.C	kJ /m ²	14	13	25	16	14	13
				5	7	11	8	7	6
拉伸强度 Tensile Strength	ISO 527	23 deg.C	MPa	50	50	40	44	41	48
拉伸模量 Tensile Modulus	ISO 527	23 deg.C	MPa	2,550	2,450	2,200	2,300	2,250	2,400
弯曲强度 Flexural Strength	ISO 178	23 deg.C	MPa	83	80	68	71	67	77
弯曲模量 Flexural Modulus	ISO 178	23 deg.C	MPa	2,750	2,650	2,400	2,500	2,450	2,600
硬度 Rockwell Hardness	ISO 2039	23 deg.C	R-Scale	110	109	102	106	103	107
热变形温度 T.D.U.L.	ISO 75	1.82MPa	deg.C	81	83	79	79	79	80
密度 Density	ISO 1183	-	g/cm ³	1.05	1.05	1.05	1.05	1.05	1.05
熔融指数 M.V.R.	ISO 1133	220deg.C 98N	cm ³ /10min.	20	18	14	26	55	15
模具收缩率 Mold Shrinkage	ISO 294-4	-	%	0.4-0.6	0.5-0.7	0.5-0.7	0.4-0.6	0.4-0.6	0.4-0.6
线性膨胀系数 C.L.T.E.	ISO11359-2	-	cm/cm/deg.C (x10 ⁻⁵)	8	8	9	8	9	8
阻燃性 UL File No. E47016	UL 94	min. thick. in mm, Class		0.95 HB	1.5 HB	-	0.95 HB	1.5 HB	0.95 HB

(Cycolac®是通用电气公司的一个注册商标)

(Cycolac® is a registered trademark of General Electric Company)

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2. 通用级

General Purpose (2)

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				CYCOLAC®					
				TJ3G	GML-3K	EX190	LM-A	3001G	GPM-5500
性能项目 Property	测试方法 Test Method	测试条件 Condition	单位 Units	高光泽 High Gloss	低光泽 Low Gloss	耐热 Semi High Heat	发色 High Color	耐疲劳 Fatigue	UL国际 UL Global
冲击强度(缺口) Charpy Impact Strength	ISO179	23 deg.C -30 deg.C	kJ /m ²	11 4	13 6	11 5	10 3	28 9	18 8
拉伸强度 Tensile Strength	ISO 527	23 deg.C	MPa	50	43	52	60	45	44
拉伸模量 Tensile Modulus	ISO 527	23 deg.C	MPa	2,500	2,250	2,650	2,450	2,350	2,350
弯曲强度 Flexural Strength	ISO 178	23 deg.C	MPa	82	59	84	83	72	72
弯曲模量 Flexural Modulus	ISO 178	23 deg.C	MPa	2,750	2,400	2,750	2,600	2,600	2,500
硬度 Rockwell Hardness	ISO 2039	23 deg.C	R-Scale	111	108	110	118	109	105
热变形温度 T.D.U.L.	ISO 75	1.82MPa	deg.C	82	78	85	80	83	80
密度 Density	ISO 1183	-	g/cm ³	1.05	1.05	1.05	1.10	1.05	1.05
熔融指数 M.V.R.	ISO 1133	220deg.C 98N	cm ³ /10min.	20	42	15	17	5	21
模具收缩率 Mold Shrinkage	ISO 294-4	-	%	0.4-0.6	0.4-0.6	0.6-0.8	0.4-0.6	0.4-0.6	0.4-0.6
线性膨胀系数 C.L.T.E.	ISO11359-2	-	cm/cm/deg.C (x10 ⁻⁵)	8	8.5	7	8.5	8.5	8
阻燃性 UL File No. E47016	UL 94	min. thick. in mm, Class		0.95 HB	-	1.5 HB	1.5 HB	1.5 HB	1.5 HB

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3. 阻燃级 Flame Retardant (1)

				CYCOLAC®					
				V520	VX12	VW7	VW10	VW20	VW30
性能项目 Property	性能项目 Test Method	测试条件 Condition	单位 Units	通用 G.P.	通用、流动 G.P. Flow	光稳定、模量 Light stab, Modulus	光稳定、通用 Light stab, G.P.	光稳定、冲击 Light stab, Impact	光稳定、耐热 Light stab, Heat
冲击强度(缺口) Charpy Impact strength	ISO179	23 deg.C -30 deg.C	kJ /m ²	22 6	15 5	12 5	15 5	18 5	13 4
拉伸强度 Tensile Strength	ISO 527	23 deg.C	MPa	41	44	43	41	42	38
拉伸模量 Tensile Modulus	ISO 527	23 deg.C	MPa	2,400	2,500	2,500	2,300	2,300	2,250
弯曲强度 Flexural Strength	ISO 178	23 deg.C	MPa	67	70	71	68	67	65
弯曲模量 Flexural Modulus	ISO 178	23 deg.C	MPa	2,500	2,650	2,600	2,500	2,500	2,350
硬度 Rockwell Hardness	ISO 2039	23 deg.C	R-Scale	102	105	106	105	103	103
热变形温度 T.D.U.L.	ISO 75	1.82MPa	deg.C	68	67	74	75	76	79
密度 Density	ISO 1183	-	g/cm ³	1.20	1.20	1.16	1.16	1.16	1.16
熔融指数 M.V.R.	ISO 1133	220deg.C 98N	cm ³ /10min.	35	30	35	30	10	7
模具收缩率 Mold Shrinkage	ISO 294-4	-	%	0.4-0.6	0.5-0.7	0.4-0.6	0.5-0.7	0.5-0.7	0.5-0.7
线性膨胀系数 C.L.T.E.	ISO 11359-2	-	cm/cm/deg.C (x10 ⁻⁵)	9	9	8	9	9	9
阻燃性 UL File No. E47016	UL 94	min. thick. In mm, Class		2.0 V-0 2.5 5VA** **BK, RD	1.5 V-0 2.5 5VA	1.5 V-0 2.2 5VB 2.5 5VA	1.5 V-0 2.2 5VB 2.5 5VA	1.5 V-0 2.5 5VA	1.5 V-0 2.5 5VA
RTI	UL 94	-	deg.C	60	60	85, 90*	85, 90*	85, 90*	85, 90*

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* Elec: 90deg.C, Mech Imp: 85deg.C, Mech Str: 90deg.C

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4. 阻燃级 Flame Retardant (2)

				CYCOLAC®							
性能项目 Property		性能项目 Test Method	测试条件 Condition	单位 Units	VW33 薄壁 Thin 5VA	VW55J 薄壁 Thin 5VB	VWZ10 薄壁 Thin V-0	SEA2X UL国际 UL Global	V220 通用、流动 G.P.,Flow	VW230 光稳定、耐热 Light stab,Heat	VD200 无卤 Halogen Free
冲击强度(缺口) Charpy Impact trength	ISO179	23 deg.C -30 deg.C		kJ /m ²	12 4	14 5	14 4	16 5	10 5	9 3	9 3
拉伸强度 Tensile Strength	ISO 527	23 deg.C		MPa	37	41	40	42	44	44	50
拉伸模量 Tensile Modulus	ISO 527	23 deg.C		MPa	1,900	2,350	2,350	2,400	2,650	2,600	2,650
弯曲强度 Flexural Strength	ISO 178	23 deg.C		MPa	58	70	68	70	73	75	79
弯曲模量 Flexural Modulus	ISO 178	23 deg.C		MPa	2,100	2,550	2,500	2,600	2,800	2,700	2,850
硬度 Rockwell Hardness	ISO 2039	23 deg.C		R-Scale	98	105	105	105	109	109	111
热变形温度 T.D.U.L.	ISO 75	1.82MPa		deg.C	80	74	77	70	73	78	73
密度 Density	ISO 1183	-		g/cm ³	1.18	1.16	1.19	1.15	1.10	1.10	1.06
熔融指数 M.V.R.	ISO 1133	220deg.C 98N		cm ³ /10min.	7	26	16	40	50	40	45
模具收缩率 Mold Shrinkage	ISO 294-4	-		%	0.5-0.7	0.4-0.6	0.4-0.6	0.4-0.7	0.4-0.6	0.4-0.6	0.4-0.6
线性膨胀系数 C.L.T.E.	ISO 11359-2	-		cm/cm/deg.C (x10 ⁻⁵)	8	8	8	8	9	8	7
阻燃性 UL File No. E47016	UL 94	min. thick. In mm, Class			1.5 V-0 2.0 5VA	1.5 V-0 1.8 5VB	1.1 V-0 2.0 5VB	2.3 V-0 2.5 5VB	0.75 V-2	0.75 V-2	0.75 V-2
RTI	UL 94	-		deg.C	60	60	60	60	60	85, 90*	60

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5. 耐候级 Weatherable (1)

性能项目 Property	测试方法 Test Method	测试条件 Condition	单位 Units	DIALAC®				ASA resin type
				MD120	S210B	S310	S410A	S411A
冲击强度(缺口) Charpy Impact Strength	ISO179	23 deg.C -30 deg.C	kJ /m ²	冲击 Impact	模量 Modulus	冲击 Impact	高冲击 High Impact	高流动 Flow
				15 5	10 2	18 3	19 4	9 2
拉伸强度 Tensile Strength	ISO 527	23 deg.C	MPa	36	47	41	39	42
拉伸模量 Tensile Modulus	ISO 527	23 deg.C	MPa	1,600	2,350	2,100	1,850	2,200
弯曲强度 Flexural Strength	ISO 178	23 deg.C	MPa	52	67	59	51	62
弯曲模量 Flexural Modulus	ISO 178	23 deg.C	MPa	1,700	2,500	2,300	2,100	2,400
硬度 Rockwell Hardness	ISO 2039	23 deg.C	R-Scale	84	108	103	96	108
热变形温度 T.D.U.L.	ISO 75	1.82MPa	deg.C	78	83	81	79	78
密度 Density	ISO 1183	-	g/cm ³	1.06	1.07	1.06	1.06	1.06
熔融指数 M.V.R.	ISO 1133	220deg.C 98N	cm ³ /10min.	7	25	20	18	60
模具收缩率 Mold Shrinkage	ISO 294-4	-	%	0.6-0.8	0.4-0.6	0.4-0.6	0.4-0.6	0.4-0.6
线性膨胀系数 C.L.T.E.	ISO11359-2	-	cm/cm/deg.C (x10 ⁻⁵)	10	8.5	8.5	9	8.5
阻燃性 UL File No. E47016	UL 94	min. thick. in mm, Class		1.5 HB	-	1.5 HB	-	-

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				DIALAC®					
				SAS type	SAS type	ASA type	ASA type	AES type	AES type
				S359A	S351	TW15F	TW25	SK30	UH90
性能项目 Property	测试方法 Test Method	测试条件 Condition	单位 Units	美观 Appearance	流动 Flow	耐热 High Heat	耐热 High Heat	模量 Modulus	耐热 High Heat
冲击强度(缺口) Charpy Impact Strength	ISO179	23 deg.C -30 deg.C	kJ /m ²	11 2	15 3	11 3	9 3	15 4	13 5
拉伸强度 Tensile Strength	ISO 527	23 deg.C	MPa	46	43	44	48	45	39
拉伸模量 Tensile Modulus	ISO 527	23 deg.C	MPa	2,050	2,050	2,100	2,100	2,300	2,200
弯曲强度 Flexural Strength	ISO 178	23 deg.C	MPa	60	62	65	70	73	66
弯曲模量 Flexural Modulus	ISO 178	23 deg.C	MPa	2,200	2,200	2,300	2,300	2,450	2,300
硬度 Rockwell Hardness	ISO 2039	23 deg.C	R-Scale	108	102	104	108	103	102
热变形温度 T.D.U.L.	ISO 75	1.82MPa	deg.C	78	82	92	100	81	95
密度 Density	ISO 1183	-	g/cm ³	1.13	1.06	1.09	1.10	1.03	1.05
熔融指数 M.V.R.	ISO 1133	220deg.C 230deg.C	cm ³ /10min. (98N)	6 -	21 -	5 -	3 -	20 -	- 3
模具收缩率 Mold Shrinkage	ISO 294-4	-	%	0.4-0.6	0.4-0.6	0.4-0.6	0.5-0.7	0.6-0.8-	0.7-0.9
线性膨胀系数 C.L.T.E.	ISO11359-2	-	cm/cm/deg.C (x10 ⁻⁵)	8.5	8.5	9	9	7	8
阻燃性 UL File No. E47016	UL 94	min. thick. in mm, Class		-	-	1.5 HB	1.5 HB	1.5 HB	1.5 HB

●表中所示数据是基于预定测试方法所获得的的本色的典型数值，因而并非保证值。同样，配色产品的数值可能会因所用色粉的种类和含量而有微小的波动，而且，这些数值还会随着物理性质的改进而有变化。●在安全地使用我们的产品之前，建议先阅读物料安全数据表（MSDS）用户可从我们的销售部门得到和使用MSDS。●这些表中所述的信息是在特定条件下获得的，因此，UMG ABS 株式会社不能保证贵方在使用我方产品的过程中始终能获得上述结果。●UMG ABS 株式会社也无法保证在使用我们产品或我们公司所提供的信息时生产的产品的品质 and 安全性。用户必须自行判断这些材料对自己特定产品的适用性，也必须充分注意法律限制和工业知识产权。

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7. 耐热级 High Heat

				BULKSAM®						
				TM-15	TM-20	TM-25	TM-35	TM-30 G6	TML-19F	UT30B
性能项目 Property	测试方法 Test Method	测试条件 Condition	单位 Units	耐热 Heat	耐热 Heat	高耐热 High Heat	超耐热 High Heat	冲击 Impact	低光泽 Low Gloss	模量 Modulus
冲击强度(缺口) Charpy Impact Strength	ISO179	23 deg.C -30 deg.C	kJ /m ²	22 10	19 9	18 9	10 7	24 14	18 7	9 5
拉伸强度 Tensile Strength	ISO 527	23 deg.C	MPa	45	46	46	45	34	39	52
拉伸模量 Tensile Modulus	ISO 527	23 deg.C	MPa	2,150	2,150	2,300	2,300	1,550	2,100	2,700
弯曲强度 Flexural Strength	ISO 178	23 deg.C	MPa	63	64	70	70	47	60	88
弯曲模量 Flexural Modulus	ISO 178	23 deg.C	MPa	2,300	2,300	2,400	2,450	1,850	2,200	2,850
硬度 Rockwell Hardness	ISO 2039	23 deg.C	R-Scale	109	108	112	113	93	108	112
热变形温度 T.D.U.L.	ISO 75	1.82MPa	deg.C	88	92	98	106	93	88	96
密度 Density	ISO 1183	-	g/cm ³	1.05	1.06	1.06	1.08	1.05	1.07	1.06
熔融指数 M.V.R.	ISO 1133	220deg.C 230deg.C	cm ³ /10min. (98N)	9 -	5 -	4 -	3 -	2 -	5 -	- 6
模具收缩率 Mold Shrinkage	ISO 294-4	-	%	0.4-0.6	0.4-0.6	0.5-0.7	0.5-0.7	0.6-0.8	0.4-0.6	0.6-0.8
线性膨胀系数 C.L.T.E.	ISO11359-2	-	cm/cm/deg.C (x10 ⁻⁵)	9	9	9	9.5	10	9	7
阻燃性 UL File No. E47016	UL 94	min. thick. in mm, Class		1.5 HB	1.5 HB	1.5 HB	1.5 HB	-	-	1.5 HB

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8. PC/ABS 合金级 Alloy

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http://www.umgabs.co.jp/cn/

				UMG ALLOY®						
				ABS/PC	ABS/PC	ABS/PC	ASA/PC	ABS/PC	ABS/PC	ABS/PBT
				CX10A	CX15A	CX55B	TA-15	TCL-1D	TC-80A	TX40A
性能项目 Property	测试方法 Test Method	测试条件 Condition	单位 Units	通用 G.P	流动 Flow	阻燃, 无电解 FR, Electro-less	冲击 Impact	低光泽 Low Gloss	高耐热 High Heat	抗环境应力开 裂 E.S.C.R
冲击强度(缺口) Charpy Impact Strength	ISO179	23 deg.C -30 deg.C	kJ /m ²	40 15	60 25	50 30	50 12	50 10	50 30	20 10
拉伸强度 Tensile Strength	ISO 527	23 deg.C	MPa	56	50	50	51	43	48	48
拉伸模量 Tensile Modulus	ISO 527	23 deg.C	MPa	2,500	2,200	2,100	2,100	1,700	1,900	2,300
弯曲强度 Flexural Strength	ISO 178	23 deg.C	MPa	89	80	77	86	78	79	74
弯曲模量 Flexural Modulus	ISO 178	23 deg.C	MPa	2,600	2,250	2,200	2,450	2,050	2,200	2,300
硬度 Rockwell Hardness	ISO 2039	23 deg.C	R-Scale	117	108	106	106	104	107	110
热变形温度 T.D.U.L.	ISO 75	1.82MPa	deg.C	98	96	91	94	98	107	90
密度 Density	ISO 1183	-	g/cm ³	1.12	1.12	1.22	1.11	1.11	1.13	1.11
熔融指数 M.V.R.	ISO 1133	220deg.C 230deg.C	cm ³ /10min. (98N)	- 14	- 22	- 12	9 -	6 -	5 -	8 -
模具收缩率 Mold Shrinkage	ISO 294-4	-	%	0.6-0.8	0.6-0.8	0.6-0.8	0.5-0.7	0.6-0.8	0.7-0.9	0.7-0.9
线性膨胀系数 C.L.T.E.	ISO11359-2	-	cm/cm/deg.C (x10 ⁻⁵)	7	8	8	9.5	9.5	9.5	8
阻燃性 UL File No. E47016	UL 94	min. thick. in mm, Class		3.0 HB	1.5 HB	1.8 V-0 2.9 5VA	-	-	1.5 HB	-

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9. 玻纤增强级 Fiber Reinforce

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				CYCOLAC®		BULKSAM®	UMG ALLOY®			
				ABS	ABS	ABS	ABS/PC	ABS/PC	ABS/PC	ABS/PBT
				GF20	VG45D	MG-2520A	CX70B	CV65F	FA-420CA	TX64D
性能项目 Property	测试方法 Test Method	测试条件 Condition	单位 Units	通用 G.P.	阻燃 FR	高耐热 High Heat	高耐热 High Heat	阻燃 FR	碳纤维 Carbon fiber	阻燃 FR
冲击强度(缺口) Charpy Impact Strength	ISO179	23 deg.C -30 deg.C	kJ /m ²	7 3	6 2	7 3	12 4	8 3	6 3	6 2
拉伸强度 Tensile Strength	ISO 527	23 deg.C	MPa	96	82	92	82	110	102	100
拉伸模量 Tensile Modulus	ISO 527	23 deg.C	MPa	7,000	6,800	6,900	4,400	8,700	8,700	6,900
弯曲强度 Flexural Strength	ISO 178	23 deg.C	MPa	126	107	150	115	140	155	127
弯曲模量 Flexural Modulus	ISO 178	23 deg.C	MPa	6,200	6,000	6,750	4,000	7,500	8,150	6,200
硬度 Rockwell Hardness	ISO 2039	23 deg.C	R-Scale	117	113	118	117	115	112	117
热变形温度 T.D.U.L.	ISO 75	1.82MPa	deg.C	101	98	117	110	125	111	110
密度 Density	ISO 1183	-	g/cm ³	1.20	1.32	1.22	1.18	1.45	1.24	1.41
熔融指数 M.V.R.	ISO 1133	220deg.C 230deg.C	cm ³ /10min. (98N)	8 -	21 -	3 -	- 7	- 5	15 -	15 -
模具收缩率 Mold Shrinkage	ISO 294-4	-	%	0.1-0.4	0.1-0.3	0.1-0.3	0.3-0.5	0.2-0.4	0.1-0.3	0.3-0.6
线性膨胀系数 C.L.T.E.	ISO11359-2	-	cm/cm/deg.C (x10 ⁻⁵)	4	4	4	5	3	1.5	4
阻燃性 UL File No. E47016	UL 94	min. thick. in mm, Class		1.5 HB	1.5 V-0 2.5 5VA	1.5 HB	0.75 HB	1.5 V-0 2.5 5VA	1.0 V-0*	1.7 V-0 2.6 5VA

(Cyclocac®是通用电气公司的一个注册商标 Cyclocac® is a registered trademark of General Electric Company)

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10. 抗环境应力开裂级 Chemical Resistant

				DIALAC®					
				EX18T	EX18Z	VWA60	MAX10	MAX15	MAX20
性能项目 Property	测试方法 Test Method	测试条件 Condition	单位 Units	通用 G.P.	流动 Flow	阻燃 FR	通用 G.P.	高流动 High Impact	高冲击 High Impact
冲击强度(缺口) Charpy Impact Strength	ISO179	23 deg.C -30 deg.C	kJ/m ²	13 7	8 4	16 6	14 4	10 4	32 6
拉伸强度 Tensile Strength	ISO 527	23 deg.C		43	43	36	43	38	36
拉伸模量 Tensile Modulus	ISO 527	23 deg.C	MPa	2,000	2,250	1,750	2,050	1,900	1,750
弯曲强度 Flexural Strength	ISO 178	23 deg.C	MPa	65	70	53	62	55	52
弯曲模量 Flexural Modulus	ISO 178	23 deg.C	MPa	2,150	2,450	1,850	2,050	2,000	1,750
硬度 Rockwell Hardness	ISO 2039	23 deg.C	R-Scale	100	102	85	93	95	82
热变形温度 T.D.U.L.	ISO 75	1.82MPa	deg.C	80	80	72	80	78	78
密度 Density	ISO 1183	-	g/cm ³	1.06	1.05	1.20	1.07	1.07	1.07
熔融指数 M.V.R.	ISO 1133	220deg.C 98N	cm ³ /10min.	11	22	10	7	26	5
模具收缩率 Mold Shrinkage	ISO 294-4	-	%	0.5-0.7	0.5-0.7	0.6-0.8	0.4-0.6	0.4-0.6	0.4-0.6
线性膨胀系数 C.L.T.E.	ISO11359-2	-	cm/cm/deg.C (x10 ⁻⁵)	9	8	10	9	9	10
阻燃性 UL File No. E47016	UL 94	min. thick. in mm, Class		1.5 HB	-	2.2 V-0	1.5 HB	1.5 HB	1.5 HB
E. S. C. R.	Arc jig, Detergent*	23 deg.C	% _max. strain	0.4	0.5	0.7	>1.6	0.8	>1.6

*: Magiclean - Kao Co.

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11. 低摩擦级 Low Friction

				DIALAC®				
				ESA20	ESA30	ESH80	EDF20	WFA10
性能项目 Property	测试方法 Test Method	测试条件 Condition	单位 Units	模量 Modulus	通用 G.P.	耐热 Heat	阻燃, 抗静电 FR, Elec stat free	阻燃 FR
冲击强度(缺口) Charpy Impact Strength	ISO179	23 deg.C -30 deg.C	kJ /m ²	11 4	15 4	15 7	8 3	6 2
拉伸强度 Tensile Strength	ISO 527	23 deg.C		MPa	50	45	41	41
拉伸模量 Tensile Modulus	ISO 527	23 deg.C	MPa	2,600	2,300	2,150	2,300	2,500
弯曲强度 Flexural Strength	ISO 178	23 deg.C	MPa	80	73	66	63	66
弯曲模量 Flexural Modulus	ISO 178	23 deg.C	MPa	2,700	2,450	2,350	2,400	2,600
硬度 Rockwell Hardness	ISO 2039	23 deg.C	R-Scale	110	104	100	97	105
热变形温度 T.D.U.L.	ISO 75	1.82MPa	deg.C	83	81	91	76	75
密度 Density	ISO 1183	-	g/cm ³	1.05	1.04	1.05	1.14	1.16
熔融指数 M.V.R.	ISO 1133	220deg.C 230deg.C	cm ³ /10min. (98N)	22 -	19 -	- 5	50 -	33 -
模具收缩率 Mold Shrinkage	ISO 294-4	-	%	0.6-0.7	0.6-0.8	0.7-0.9	0.6-0.8	0.5-0.7
线性膨胀系数 C.L.T.E.	ISO11359-2	-	cm/cm/deg.C (x10 ⁻⁵)	7	7	8	9	8
阻燃性 UL File No. E47016	UL 94	min. thick. in mm, Class		1.5 HB	1.5 HB	1.5 HB	1.5 V-2	1.9 V-0 2.1 5VB
动的摩擦系数 Dynamic Friction	JIS K7218	same grade 20N, 23deg.C	μ	0.3	0.3	0.3	0.3	0.3

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12. 电镀级、涂饰级 Plating、Painting

				CYCOLAC®						UMG ALLOY®	
				ABS	ABS	ABS	ABS	ABS	ABS	ABS/PC	ASA/PC
				3001M	3001MF	3001MG2A	EX12H	PS-507	TM-15M	CX55B	TC-37M
性能项目 Property	测试方法 Test Method	测试条件 Condition	单位 Units	电镀, 通用 Plating G.P	电镀, 流动 Plating Flow	电镀, 涂饰 Plating, Painting	涂饰 Painting	真空镀气 Vacc. Meta.	高耐热 High Heat	无电解电镀 Electro less	电镀, 耐热 Plating Heat
冲击强度(缺口) Charpy Impact Strength	ISO179	23 deg.C -30 deg.C	kJ /m ²	27 11	26 10	31 20	20 10	27 11	21 12	50 30	45 25
拉伸强度 Tensile Strength	ISO 527	23 deg.C	MPa	42	39	41	47	41	43	50	47
拉伸模量 Tensile Modulus	ISO 527	23 deg.C	MPa	2,350	2,150	2,300	2,400	2,200	2,100	2,100	1,900
弯曲强度 Flexural Strength	ISO 178	23 deg.C	MPa	66	65	61	80	61	62	77	64
弯曲模量 Flexural Modulus	ISO 178	23 deg.C	MPa	2,500	2,400	2,400	2,500	2,300	2,400	2,200	1,900
硬度 Rockwell Hardness	ISO 2039	23 deg.C	R-Scale	109	108	108	105	107	111	106	103
热变形温度 T.D.U.L.	ISO 75	1.82MPa	deg.C	81	80	80	82	83	88	91	98
密度 Density	ISO 1183	-	g/cm ³	1.05	1.05	1.05	1.05	1.05	1.05	1.22	1.10
熔融指数 M.V.R.	ISO 1133	220deg.C 230deg.C	cm ³ /10min. (98N)	21 -	36 -	24 -	20 -	34 -	10 -	- 12	6 -
模具收缩率 Mold Shrinkage	ISO 294-4	-	%	0.4-0.6	0.4-0.6	0.4-0.6	0.5-0.7	0.4-0.6	0.4-0.6	0.6-0.8	0.5-0.7
线性膨胀系数 C.L.T.E.	ISO11359-2	-	cm/cm/deg.C (x10 ⁻⁵)	8.5	8.5	8.5	8	8.5	9	8	9.5
阻燃性 UL File No. E47016	UL 94	min. thick. in mm, Class		1.5 HB	1.5 HB	-	-	-	1.5 HB	1.8 V-0 2.9 5VA	1.5 HB

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13. 透明级/软性级/抗擦伤级/抗静电级

				DIALAC®				CYCOLAC®	
				透明 Clear		软性 Soft	抗擦伤 Anti Scratch	抗静电 Electro Static Free	
				U400	U407	SV10	WH10	CE22	CE22H
性能项目 Property	测试方法 Test Method	测试条件 Condition	单位 Units	通用 G.P.	流动 Flow	通用 G.P.	模量 Modulus	阻燃 FR	阻燃, 抗尘垢 FR, dust Free
冲击强度(缺口) Charpy Impact Strength	ISO179	23 deg.C -30 deg.C	kJ/m ²	8 3	8 3	35 10	5 3	15 4	10 4
拉伸强度 Tensile Strength	ISO 527	23 deg.C	MPa	49	47	23	61	39	41
拉伸模量 Tensile Modulus	ISO 527	23 deg.C	MPa	2,150	1,950	750	2,900	2,150	2,150
弯曲强度 Flexural Strength	ISO 178	23 deg.C	MPa	63	60	23	93	53	62
弯曲模量 Flexural Modulus	ISO 178	23 deg.C	MPa	2,300	2,000	850	3,100	2,250	2,350
硬度 Rockwell Hardness	ISO 2039	23 deg.C	R-Scale	113	109	51	116	92	100
热变形温度 T.D.U.L.	ISO 75	1.82MPa	deg.C	78	70	68	75	76	75
密度 Density	ISO 1183	-	g/cm ³	1.14	1.14	1.06	1.12	1.14	1.10
熔融指数 M.V.R.	ISO 1133	220deg.C 98N	cm ³ /10min.	5	10	4	11	48	48
模具收缩率 Mold Shrinkage	ISO 294-4	-	%	0.4-0.6	0.4-0.6	0.7-0.9	0.4-0.6	0.5-0.7	0.4-0.6
线性膨胀系数 C.L.T.E.	ISO11359-2	-	cm/cm/deg.C (x10 ⁻⁵)	8	8	11	6	10	9
阻燃性 UL File No. E47016	UL 94	min. thick. in mm, Class		1.5 HB	1.5 HB	-	1.5 HB	1.5 V-2	1.5 V-2

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14. 挤出成形级 Extrusion (1)

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				CYCOLAC®					
				EX215	GSE	ET20	EX22K	EX270	VW25
性能项目 Property	测试方法 Test Method	测试条件 Condition	单位 Units	通用 G.P.	涂饰 Painting	高耐热 High Heat	发泡, 型材挤塑 cellular Profile	型材挤塑 Profile Extrusion	阻燃 FR
冲击强度(缺口) Charpy Impact Strength	ISO179	23 deg.C -30 deg.C	kJ /m ²	21 11	22 10	14 6	27 18	23 10	19 7
拉伸强度 Tensile Strength	ISO 527	23 deg.C	MPa	44	46	46	40	47	42
拉伸模 Tensile Modulus	ISO 527	23 deg.C	MPa	2,200	2,150	2,450	2,000	2,550	2250
弯曲强度 Flexural Strength	ISO 178	23 deg.C	MPa	69	71	76	63	77	69
弯曲模量 Flexural Modulus	ISO 178	23 deg.C	MPa	2,350	2,300	2,550	2,200	2,600	2,350
硬度 Rockwell Hardness	ISO 2039	23 deg.C	R-Scale	107	104	108	97	110	101
热变形温度 T.D.U.L.	ISO 75	1.82MPa	deg.C	79	81	95	79	80	77
密度 Density	ISO 1183	-	g/cm ³	1.05	1.05	1.06	1.05	1.05	1.20
熔融指数 M.V.R.	ISO 1133	220deg.C 230deg.C	cm ³ /10min. (98N)	9 -	8 -	3 -	7 -	5 -	6 -
模具收缩率 Mold Shrinkage	ISO 294-4	-	%	0.5-0.7	0.5-0.7	0.6-0.8	0.6-0.8	0.6-0.8	0.5-0.7
线性膨胀系数 C.L.T.E.	ISO11359-2	-	cm/cm/deg.C (x10 ⁻⁵)	9	9	7	9	8	9
阻燃性 UL File No. E47016	UL 94	min. thick. in mm, Class		1.5 HB	1.5 HB	-	-	1.5 HB	1.5 V-0 2.5 5VA

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15. 挤出成形级 Extrusion (2)

				DIALAC®				BULKSAM®
				ASA	SAS	AES	AES	ABS
				E310	E350	SE40	SE60	EX47E
性能项目 Property	测试方法 Test Method	测试条件 Condition	单位 Units	冲击 Impact	美观 Appearance	通用 G.P.	冲击 Impact	吹塑成形 Blow
冲击强度(缺口) Charpy Impact Strength	ISO179	23 deg.C -30 deg.C	kJ /m ²	21 3	22 4	27 7	37 9	15 8
拉伸强度 Tensile Strength	ISO 527	23 deg.C	MPa	47	45	45	38	40
拉伸模量 Tensile Modulus	ISO 527	23 deg.C	MPa	2,200	2,150	2,200	1,800	2,000
弯曲强度 Flexural Strength	ISO 178	23 deg.C	MPa	63	60	69	59	69
弯曲模量 Flexural Modulus	ISO 178	23 deg.C	MPa	2,400	2,200	2,250	1,950	2,150
硬度 Rockwell Hardness	ISO 2039	23 deg.C	R-Scale	104	103	100	91	104
热变形温度 T.D.U.L.	ISO 75	1.82MPa	deg.C	81	81	80	78	95
密度 Density	ISO 1183	-	g/cm ³	1.06	1.06	1.04	1.03	1.06
熔融指数 M.V.R.	ISO 1133	220deg.C 230deg.C	cm ³ /10min. (98N)	13 -	11 -	8 -	6 -	- 2
模具收缩率 Mold Shrinkage	ISO 294-4	-	%	0.4-0.6	0.4-0.6	0.6-0.8	0.6-0.8	0.8-0.9
线性膨胀系数 C.L.T.E.	ISO11359-2	-	cm/cm/deg.C (x10 ⁻⁵)	8.5	8.5	9	12	9
阻燃性 UL File No. E47016	UL 94	min. thick. in mm, Class		-	-	1.5 HB	1.5 HB	-

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