

PCR

POST CONSUMER
RECYCLED PLASTICS

ABS, PC/ABS, PC, PP, PS



SUSTAINABILITY
SOLUTION

FCFC For Customer For Care



台湾化學纖維股份有限公司
FORMOSA CHEMICALS & FIBRE CORPORATION

TAIRILAC®

PCR ABS

項 目 Property	單 位 Unit	試驗方法 Test Method	試 驗 條 件 Test Condition	消費後再生塑料 ABS		Post Consumer Recycled ABS		
				AF353R30	AF353R50	AF358R	AF353R90	AG15AR
PCR 含量 PCR Content (%)				30	50	85	90	30
PCR 認證 PCR Certification				UL GRS	UL GRS	UL GRS	UL GRS	GRS
熔融指數 Melt Flow Index	g/10 min	ASTM D-1238 (ISO 1133)	220℃ × 10kg	28	27	22	18	22
Izod 衝擊強度 Izod Impact Strength	kg-cm/cm	ASTM D-256	23 °C , 1/4" 厚 ,Notched	15	12	14	11	15
Charpy 衝擊強度 Charpy Impact Strength	kJ/m²	ISO 179	23 °C , 4mm 厚 ,Notched	14	11	14	11	14
抗張強度 Tensile Strength	kg/cm² (Mpa)	ASTM D-638 (ISO 527)	23 °C , 50mm/min	420 (40)	410 (39)	380 (37)	400 (39)	420 (40)
彎曲強度 Flexural Strength	kg/cm²	ASTM D-790	23 °C , 15mm/min	740	720	710	700	740
	Mpa	ISO 178	23 °C , 2mm/min	62	60	56	55	62
彎曲模數 Flexural Modulus	kg/cm²	ASTM D-790	23 °C , 15mm/min	24000	23000	23000	22000	23000
	Mpa	ISO 178	23 °C , 2mm/min	2200	2100	2000	2000	2100
洛氏硬度 Rockwell Hardness	R-scale	ASTM D-785 (ISO 2039/2)	23 °C	105	104	101	103	105
衛氏軟化點 Vicat Softening Point	°C	ASTM D-1525 (ISO 306)	Annealed, 50N, 50°C /h	94	93	92	92	93
熱變形溫度 Heat Deflection Temperature	°C	ASTM D-648	Unannealed, 1.8Mpa 1/4" 厚 , 120°C /h	84	83	84	82	84
		ISO 75/A	Annealed, 1.8Mpa 4mm 厚 , 120°C /h	89	88	90	90	91
比重 Specific Gravity	-	ASTM D-792 (ISO 1183)	23°C /23°C	1.04	1.04	1.04	1.04	1.04
收縮率 Molding Shrinkage	%	ASTM D-955 (ISO 2577)	3.2mm	0.4~0.7	0.4~0.7	0.4~0.7	0.4~0.7	0.4~0.7
燃燒性 Flammability	-	UL-94	FILE NO. E162823	1.5mm HB All Color	1.5mm HB All Color	1.5mm HB All Color	1.5mm HB All Color	-
特性 Speciality				高流動性 High flow	高流動性 High flow	流動性佳 Good flowability	流動性佳 Good flowability	流動性佳 Good flowability
用途 Application				音響、大型玩具、椅子、機車外殼、事務機外殼、3C 產品 Housing of stereos, Large toys, Chairs, Motorcycles, OA machines, 3C products				



TAIRILOY®

PCR PC/ABS

項 目 Property	單 位 Unit	試驗方法 Test Method	試 驗 條 件 Test Condition	消費後再生塑料 PC/ABS 合膠 Post Consumer Recycled PC/ABS alloy					
				一般級 General Grade	耐燃級 Self Extinguishing Grade				
					AC230R30	AC310R(XX)	AC325R50	AC325R70	AC330R50
PCR 含量 PCR Content (%)				30	35、50、60、70	50	70	50	75
PCR 認證 PCR Certification				GRS	UL GRS	GRS	GRS	UL GRS	UL GRS
熔融指數 Melt Flow Index	g/10 min	ASTM D-1238 (ISO 1133)	240℃ × 5kg	9	25	18	18	37	37
			260℃ × 2.16kg	6	18	12	12	27	27
Izod 衝擊強度 Izod Impact Strength	kg-cm/cm	ASTM D-256	23 ℃ , 3.2mm, Notched	50	60	5	5	50	45
Charpy 衝擊強度 Charpy Impact Strength	kJ/m²	ISO 179	23 ℃ , 4mm	35	15	5	5	12	12
抗張強度 Tensile Strength	kg/cm² (Mpa)	ASTM D-638 (ISO 527)	23 ℃ , 50mm/min	480 (47)	600 (60)	650 (63)	650 (63)	600 (55)	600 (55)
彎曲強度 Flexural Strength	kg/cm²	ASTM D-790	23 ℃ , 15mm/min	840	1,000	1,100	1,100	1,030	1,000
	Mpa	ISO 178	23 ℃ , 2mm/min	82	95	97	97	94	94
彎曲模數 Flexural Modulus	kg/cm²	ASTM D-790	23 ℃ , 15mm/min	23,000	25,000	38,000	38,000	26,000	26,000
	Mpa	ISO 178	23 ℃ , 2mm/min	2,250	2,600	3,750	3,750	2,550	2,550
洛氏硬度 Rockwell Hardness	R-scale	ASTM D-785 (ISO 2039/2)	23 ℃	R-107	R-118	R-113	R-113	R-117	R-117
熱變形溫度 Heat Deflection Temperature	℃	ASTM D-648	Unannealed 18.6 kg/cm²	95	88	87	87	88	87
		ISO 75/A	Unannealed 1.8MPa, 4mm	84	81	83	83	84	83
比重 Specific Gravity	-	ASTM D-792 (ISO 1183)	23℃ /23℃	1.08	1.18	1.30	1.30	1.18	1.18
收縮率 Molding Shrinkage	%	ASTM D-955 (ISO 2577)	3.2mm	0.4-0.6	0.4-0.6	0.3-0.5	0.3-0.5	0.4-0.6	0.4-0.6
燃燒性 Flammability	-	UL-94	FILE NO.162823 (* 為 Lab test)	1.5-1.65mm HB*	1.5mm V-0 2.0mm 5VB	1.2mm V-0 2.0mm V-0, 5VB 3.0mm V-0, 5VA*	1.2mm V-0 2.0mm V-0, 5VB 3.0mm V-0, 5VA*	1.2mm V-1 1.5mm V-0, 5VB	1.5mm V-0, 5VB
特性 Speciality				電鍍 Metal plating	耐燃、無鹵 Flame retardant, Halogen free				
用途 Application				汽車配件、家用電器、3C 電子產品及家庭用品外殼如輪圈蓋、把手、行動硬碟 Auto parts, Household appliances, 3C electronic products and household goods casings such as wheel covers, handles, Portable storage device	家用電器、3C 電子產品、筆記型電腦、網通產品、電腦周邊產品 Household appliances, 3C electronic products, Notebook computers, Netcom products, Computer peripheral products	家用電器、3C 電子產品、網通產品外殼及汽車零件儀表板 Notebook casings, 3C products, Electrical equipment, Dashboard	辦公室設備、3C 電子產品、多功能事務機 OA equipment, 3C electronic products, Multi-functional periphera		



以上數值系參考 ASTM/ISO 方法所測得，僅供選擇用途品級之參考。 All tests were run under laboratory conditions, ASTM, ISO testing procedures.

The data are intended as a general guide only.

TAIRILITE®

PCR PC

項 目 Property	單 位 Unit	試驗方法 Test Method	試 驗 條 件 Test Condition	消費後再生塑料 PC Post Consumer Recycled PC				
				AC381(Z)	AC382(Z)	AC2850-A(Z)	AC351(Z)	AC212R70
PCR 含量 PCR Content (%)				30~97	30~97	30~97	30~80	70
PCR 認證 PCR Certification				GRS	GRS	GRS	GRS	UL GRS
熔融指數 Melt Flow Index	g/10 min	ASTM D-1238 (ISO 1133)	300℃ × 1.2kg	15	15	15	12	7
Izod 衝擊強度 Izod Impact Strength	kg-cm/cm (J/m)	ASTM D-256 (ISO180)	23 °C , 3.2mm, Notched	75 (735)	75 (735)	75 (735)	<10 (<100)	15
Charpy 衝擊強度 Charpy Impact Strength	kJ/m²	ISO 179	23℃ , 4mm, Notched	70	70	70	<10	12
抗張強度 Tensile Strength	kg/cm² (Mpa)	ASTM D-638 (ISO 527-1,2)	23 °C , 50mm/min	710 (70)	710 (70)	670 (66)	810 (80)	1090 (107)
彎曲強度 Flexural Strength	kg/cm² (Mpa)	ASTM D-790 (ISO 178)	23 °C , 2mm/min	1,100 (108)	1,100 (108)	1,200 (118)	1,400 (138)	1,680 (160)
彎曲模數 Flexural Modulus	kg/cm² (Mpa)	ASTM D-790 (ISO 178)	23 °C , 2mm/min	22,000 (2,155)	22,000 (2,155)	22,800 (2,236)	41,500 (4,065)	56,000 (5,490)
洛氏硬度 Rockwell Hardness	R-scale	ASTM D-785 (ISO 2039-2)	23 °C	122	122	122	122	121
熱變形溫度 Heat Deflection Temperature	℃	ASTM D-648	Unannealed, 18.6kg/cm², 3.2mm, 120℃ /h	128	128	126	132	140
比重 Specific Gravity	-	ASTM D-792 (ISO 1183)	23℃	1.20	1.20	1.20	1.30	1.34
收縮率 Molding Shrinkage	%	ASTM D-955 (ISO 294-4)	-	0.5~0.7	0.5~0.7	0.5~0.7	0.2~0.5	0.2~0.5
燃燒性 Flammability	-	UL 94	-	1.0 mm V0 3.0 mm 5VA	1.0 mm V0 2.5 mm 5VA	0.75 mm V2	1.5mm V0	1.5mm V0 3.0mm V0
特性 Speciality				中流動性、阻燃、抗 UV(f1) Mid flow, Flame retardant resin, UV resistance(f1)	中流動性、阻燃、低溫耐衝、 抗 UV(f1) Mid flow, Flame retardant resin, Low temperature, impact property,UV resistance(f1)	中流動性、抗 UV(f1 WT/BK) 中流動性、抗 UV(f1 WT/BK) Mid flow, UV resistance(f1 WT/BK)	消費後再生塑料 PC+GF 高剛性、阻燃 中低流動性、抗 UV、無鹵 Post Consumer Recycled PC+GF High flexural, Flame retardant, Mid-low flow, UV resistance, Halogen free.	消費後再生塑料 PC+GF 無鹵、耐燃、高剛性 尺寸安定性、耐化學性 Post Consumer Recycled PC+GF Halogen free, Flame retardant, High Stiffness Dimensional stability, Chemical resistance
用途 Application				3C 產品外殼、網路通訊外殼、居家電器外殼 3C products case, Network communication shell, Appliance shell				家用電器、辦公室設備內部配件、運動器材 Home appliances, office equipment interior accessories,Sports equipment
備註 Notes				Z=PCR(%) , A、D、E、F、H、K、M、N、R represents PCR(%) A=97%、D=90%、E=85%、F=80%、H=75%、K=65%、M=50%、N=35%、R=30%				



TAIRIPRO® PCR PP

項 目 Property	單 位 Unit	試驗方法 Test Method	試 驗 條 件 Test Condition	消費後再生塑料 PP Post Consumer Recycled PP				
				射出級 Injection Molding				
				G3604	G8003AN	G7025	G4515	G4535
PCR 含量 PCR Content (%)				30	30	30	30	30
PCR 認證 PCR Certification				TÜV GRS	GRS	GRS	GRS	GRS
熔融指數 Melt Flow Index	g/10 min	ASTM D-1238 (ISO 1133)	230℃ × 2.16kg	4.0	3.5	25	20	35
Izod 衝擊強度 Izod Impact Strength	kg-cm/cm	ASTM D-256	23 °C , 1/8" 厚 , Notched	45	45	8	5	5
	kJ/m²	ISO 180	23 °C , 4mm 厚 , Notched	441	441	78	49	49
抗張強度 Tensile Strength	kg/cm² (Mpa)	ASTM D-638 (ISO 527)	23 °C , 50mm/min	250 (24)	250 (24)	250 (24)	280 (27)	280 (27)
斷裂點延伸率 Tensile Elongation at break	%	ASTM D-638 (ISO 527)	23 °C , 50mm/min	>700	>700	>200	>200	>200
彎曲模數 Flexural Modulus	kg/cm² (Mpa)	ASTM D-790 (ISO 178)	23 °C	12,000 (1,176)	12,000 (1,176)	13,200 (1,293)	11,500 (1,127)	11,500 (1,127)
洛氏硬度 Rockwell Hardness	R-scale	ASTM D-785 (ISO 2039-2)	23 °C	80	80	80	85	85
熱變形溫度 Heat Deflection Temperature	°C	ASTM D-648 (ISO 75)	Unannealed, 0.455Mpa 1/4" 厚 , 120°C /h	115	115	118	95	95
比重 Specific Gravity	-	ASTM D-792 (ISO 1183)	23°C /23°C	0.90	0.90	0.90	0.90	0.90
收縮率 Molding Shrinkage	%	ASTM D-955 (ISO 2577)	23°C	1.4~1.8	1.4~1.8	1.4~1.8	1.4~1.8	1.4~1.8
燃燒性 Flammability	-	UL-94	FILE NO. E162823	-	-	-	-	-
FDA 21 CFR 177.1520 Compliance				Yes	Yes	Yes	Yes	Yes
特性 Speciality				高耐衝擊、高剛性 Hight impact strength, High Stiffness	高耐衝擊性、高剛性、 抗靜電優 Excellent impact strength, High stiffness, Excellent anti-static	高流動性、耐衝擊佳、 高剛性 High fluidity, Good impact strength, High Stiffness	高透明性、抗靜電、抗化學藥品性佳 High Clarity, Anti-static, Good resistance to chemical	
用途 Application				汽機車配件、辦公傢俱、 家電產品、棧板、周轉箱 Automotive parts, Furniture, Appliances, Pallet, Crate containers	汽機車配件、辦公傢俱、 家電產品、棧板、周轉箱、 油漆桶 Automotive parts, Furniture, Appliances, Pallet, Crate containers, paint bucket	洗衣機槽、家電產品 Washing machine cylinder, Appliances	高透明容器、透明家庭用品 Transparency container, Transparency houseware	



TAIRIPRO® PCR PP

項 目 Property	單 位 Unit	試驗方法 Test Method	試 驗 條 件 Test Condition	消費後再生塑料 PP Post Consumer Recycled PP				
				射出級 Injection Molding				押出級 Extrusion Molding
				G1011	P1040	P1023	G8025	G1202AN
PCR 含量 PCR Content (%)				30	55	55	55	30
PCR 認證 PCR Certification				GRS	GRS	GRS	GRS	GRS
熔融指數 Melt Flow Index	g/10 min	ASTM D-1238 (ISO 1133)	230℃ × 2.16kg	15	34	27	26	3.5
Izod 衝擊強度 Izod Impact Strength	kg-cm/cm	ASTM D-256	23 °C , 1/8" 厚 , Notched	3	4	2.6	12.5	3.8
	kJ/m²	ISO 180	23 °C , 4mm 厚 , Notched	29	38	25	123	37
抗張強度 Tensile Strength	kg/cm² (Mpa)	ASTM D-638 (ISO 527)	23 °C , 50mm/min	362 (35)	380 (37)	340 (32)	230 (22)	350 (34)
斷裂點延伸率 Tensile Elongation at break	%	ASTM D-638 (ISO 527)	23 °C , 50mm/min	>200	>200	>200	>200	>200
彎曲模數 Flexural Modulus	kg/cm² (Mpa)	ASTM D-790 (ISO 178)	23 °C	15,000 (1,470)	18,000 (1,764)	14,500 (1,421)	11,000 (1,078)	16,000 (1,568)
洛氏硬度 Rockwell Hardness	R-scale	ASTM D-785 (ISO 2039-2)	23 °C	100	105	100	80	95
熱變形溫度 Heat Deflection Temperature	℃	ASTM D-648 (ISO 75)	Unannealed, 0.455Mpa 1/4" 厚 , 120℃ /h	115	125	110	110	120
比重 Specific Gravity	-	ASTM D-792 (ISO 1183)	23℃ /23℃	0.90	0.90	0.90	0.90	0.90
收縮率 Molding Shrinkage	%	ASTM D-955 (ISO 2577)	23℃	1.4~1.8	1.4~1.8	1.4~1.8	1.4~1.8	1.4~1.8
燃燒性 Flammability	-	UL-94	FILE NO. E162823	-	-	-	-	-
FDA 21 CFR 177.1520 Compliance				Yes	Yes	Yes	Yes	Yes
特性 Speciality				剛性佳、光澤性佳 Good stiffness, Good luster	CR 級、高速紡絲性佳 Controlled rheology, Compact Spinning Hight impact strength, High Stiffness	高流動性、剛性佳 High fluidity, Good Stiffness		延伸性佳 Good stretch-ability
用途 Application				通用級、食品容器、 電器用品、家庭用品 General purpose, Foodcontainers, Electrical appliances, Housewares	不織布、細單尼纖維 Nonwoven, Fine Denier filament	薄壁射出成型品、家庭 用品、玩具 hinner Wall Parts, House wares,Toys	汽機車配件、洗衣機內槽、 工具箱 Automotive parts, Washing machine parts, Tool boxes,	文件夾， 扁紗：編織袋、地毯底部 單絲：繩索，刷子，網類 Portfolio, raffia:Woven bags,Carpet Backing, Ropes Monofilament:Brushes,Rope, Netting



以上數值系參考 ASTM/ISO 方法所測得，僅供選擇用途品級之參考。 All tests were run under laboratory conditions, ASTM, ISO testing procedures.

The data are intended as a general guide only.

TAIRIREX® PCR PS

項 目 Property	單 位 Unit	試驗方法 Test Method	試 驗 條 件 Test Condition	消費後再生塑料 PS Post Consumer Recycled PS		
				耐沖聚苯乙烯 High Impact PS		
				HP823R	HP825R50	HP828R
PCR 含量 PCR Content (%)				35	50	85
PCR 認證 PCR Certification				UL GRS	GRS	UL GRS
熔融指數 Melt Flow Index	g/10 min	ASTM D-1238 (ISO 1133)	200℃ × 5kg 49N	7.5	7.2	6.5
Izod 衝擊強度 Izod Impact Strength	kg-cm/cm	ASTM D-256	23 °C , 1/4", Notched	9.0	8.5	7.0
	kJ/m²	ISO 180	23 °C , 4mm, Notched	8.8	8.3	6.5
抗張強度 Tensile Strength	kg/cm²	ASTM D-638	23 °C , 5mm/min	220	215	210
	Mpa	ISO 527	23 °C , 20mm/min	22	21	20
彎曲強度 Flexural Strength	kg/cm²	ASTM D-790	23 °C , 1.2mm/min	400	380	370
	Mpa	ISO 178	23 °C , 2mm/min	36	34	33
彎曲模數 Flexural Modulus	kg/cm²	ASTM D-790	23 °C , 1.2mm/min	21,000	20,000	18,000
	Mpa	ISO 178	23 °C , 2mm/min	1,935	1,830	1,650
熱變形溫度 Heat Deflection Temperature	℃	ASTM D-648	Annealed 80℃ x2hr, 120℃ /h, 1.8Mpa 1/8"	89	88	88
		ISO 75/A	Annealed 80℃ x2hr, 120℃ /h, 1.8Mpa 4mm	86	85	85
衛氏軟化點 Vicat Softening Point	℃	ASTM D-1525	Annealed 80℃ x2hr, 1/8", 10N 50℃ /h	97	30	100
		ISO 306	Annealed 80℃ x2hr, 4mm, 10N 50℃ /h	98	30	93
燃燒性 Flammability	-	UL-94	FILE NO. E162823	1.5 HB All Color	-	1.5 HB All Color
特性 Speciality				高流動性 High flow		
用途 Application				家電外殼、電視機殼、終端機外殼、電腦主機面板 Housing for electrical appliances, TV housing, Monitor housing, PC housing		





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繁中版



English