

產品齊全 · 品質優良 · 滿足您所有需求

Driving into the future with **Formosa Plastics Group**.

# 汽車部件

汽車外裝部件使用材料

For Exterior Parts



台塑企業  
FORMOSA PLASTICS GROUP



本型錄不限形式(書面或口頭)所陳述之產品用途或應用，僅代表台塑集團之關係企業或關聯企業(以下簡稱台塑企業)之看法。所有使用者必須自行採用充分及可靠的測試方法，以確保這些產品之一般使用或特定用途之適用性。台塑企業對於製造或應用於特定用途，不做任何形式的聲明或保證。再者，台塑企業對產品使用或應用上之所有建議(不論書面或口頭)，不應視為建議或教唆侵犯任何第三方智慧財產權，並且對於違反智慧財產權之使用或應用，台塑企業一概不負任何責任。

“ANY AND ALL SUGGESTIONS CONCERNING USES OR APPLICATIONS OF THE PRODUCTS, WHETHER WRITTEN IN THIS PUBLICATION OR ELSEWHERE, OR VERBALLY COMMUNICATED, ARE ONLY THE OPINION OF THE AFFILIATES OR RELATED COMPANIES OF FORMOSA PLASTICS GROUP (HEREINAFTER “FORMOSA”). ALL USERS MUST PERFORM THEIR OWN SUFFICIENT AND RELIABLE TESTS TO DETERMINE THE ACTUAL SUITABILITY OF THESE PRODUCTS FOR ALL AND ANY PARTICULAR USES OR PURPOSES THE USER MIGHT MAKE OF THESE PRODUCTS. FORMOSA MAKES NO WARRANTY OR GUARANTEE OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING THOSE OF MANUFACTURING AND FITNESS FOR A PARTICULAR PURPOSE. FURTHER, ANY AND ALL SUGGESTIONS (WHETHER WRITTEN HEREIN OR VERBALLY COMMUNICATED) CONCERNING USES OR APPLICATIONS SHALL NOT BE CONSTRUED OR INTERPRETED AS RECOMMENDING OR INDUCING THE INFRINGEMENT OF ANY THIRD PARTY'S INTELLECTUAL PROPERTY RIGHTS AND NO LIABILITY FOR INFRINGEMENT OUT OF ANY SUCH USE OR APPLICATION IS ASSUMED BY FORMOSA.”

---

## 目錄 INDEX

---

保險桿、保險桿內襯 Bumper & Bumper Lining .....	-1
擋泥板 Mudguard .....	-11
輪弧飾板 Wheel Arch Trim .....	-21
後視鏡外殼、後視鏡底座 Rearview Mirror Housing & Rearview Mirror Base .....	-31
車燈底座、車燈反射鏡、車燈外殼及日間行車燈 Headlight Base, Car Light Reflector, Headlight Housing & Day Running Light .....	-45
輪圈蓋 Wheel Cover .....	-63
汽車門把手、行李架、車架 Door Handle , Luggage Rack & Car Rack .....	-71
擾流板 Spoiler .....	-79
複合材料板件 Composite Body Panels .....	-87
汽車隔熱紙 Car Window Film .....	-95
水箱護罩 Radiator Grille .....	-101
輪胎內層 Tire Inner Liner .....	-109
雨刷臂 Wiper Arm .....	-121
天線 Antenna .....	-127

---





台塑企業**汽車部件** 使用材料

**保險桿、保險桿內襯**

**Bumper & Bumper Lining**







## 高衝擊強度、安全、質輕

擁有高衝擊強度、高流動性及低溫脆性優特性，使用於保險桿上兼具安全性及質輕量化的優點。





## HIGH IMPACT STRENGTH, SAFE, LIGHTWEIGHT

The excellent high impact strength, high fluidity, resistance to low temperature brittleness, and other beneficial properties found in bumper materials will help enhance both safety and lightweight effects.





# 保險桿原料



## PP 產品 (台塑公司)

4304/4204/4084/3003/3005

### 產品特性及優點：

台塑 PP 產品用於汽車零件有輕量化、低成本、加工性佳優點，並可依其特性進行改質（如：添加滑石粉、玻纖等），以產製各式化汽車零組件。

- A. 4304、4204、4084 為熱塑性聚烯烴 (RTPO) 材料，屬於高橡膠含量、高流動、高衝擊強度產品，可以降低增韌劑 (POE) 添加，有利於降低成本。
- B. 3005、3003 吹製型產品，高熔融張力，垂墜性良好，並有多年生產休旅車保險桿 (bumper) 或轎車保險槓 (bumper beam) 的經驗。
- C. 目前大都改用 EPP 發泡材，為 PP 材質，具有良好抗衝強度及相當的挺性。

加工方式：(1) 注塑成型 (2) 吹製成型。

### 產品規格表：

種類		耐衝擊共聚物									
產品型號		4304	對抗品	4204	對抗品	4084	對抗品	3003	3005	對抗品	
項目	單位	平均值									
熔融指數	g/10min	30	32	19	17	10	9	0.35	0.5	0.3	
降伏強度	kg/cm <sup>2</sup>	230	210	210	210	220	220	250	250	240	
剛性係數	kg/cm <sup>2</sup>	9,500	10,000	8,500	9,000	9,000	10,000	12,000	11,500	10,000	
Izod 耐衝擊 強度	kg-cm/ cm	常溫 (23°C)	45	15	40	NB	40	NB	80	60	83
		低溫 (-20°C)	10	7	10	8.3	10	8.5	16	16	-
熱變形 溫度	°C	100	108	100	98	100	110	110	110	80	

※ 4304、4204、4084 規格材料可與滑石粉混摻，達到所需模縮，且添加 20% 滑石粉，其 IZOD 衝擊強度 >25 kg.cm/cm，符合保險槓品質要求。

聯繫方式：台灣塑膠工業股份有限公司 聚丙烯部 營業處

公司電話：886-2-27122211 轉 6169 公司傳真：886-2-27181230

公司地址：10508 台北市松山區敦化北路 201 號前棟八樓

E-mail：eric0602@fpc.com.tw、tbcharles@fpc.com.tw

# Raw materials for Bumper



## PP Resins (FPC )

4304/4204/4084/3003/3005

### Product Features and Benefits:

Using FPC's PP raw materials in auto parts provides lightweight, low cost, and good workability characteristics and can be modified according to their properties (such as adding talc, glass fiber, etc.) to produce a variety of auto parts and components.

- A. 4304, 4204, and 4084 are thermoplastic polyolefin (RTPO) materials that feature the properties of high rubber content, high fluidity, and high impact strength and can reduce the addition of toughener (POE) to help lower costs.
- B. 3005 and 3003 are blow-molded products with high melt tension and a good drape and have been used to make RV bumpers and car bumper beams for many years.
- C. Expanded polypropylene, also known as EPP, is an engineered plastic foam material that offers high impact strength and stiffness.

### Processing Methods:

- (1) Designed for injection molding.
- (2) Designed for blow molding.

### Products Specifications:

Type		Impact Copolymer									
Grade		4304	Competitor	4204	Competitor	4084	Competitor	3003	3005	Competitor	
Properties	Unit	Typical Value									
Melt Index	g/10min	30	32	19	17	10	9	0.35	0.5	0.3	
Tensile Strength at Yield	kg/cm <sup>2</sup>	230	210	210	210	220	220	250	250	240	
Flexural Modulus	kg/cm <sup>2</sup>	9,500	10,000	8,500	9,000	9,000	10,000	12,000	11,500	10,000	
Izod Impact Strength	kg-cm/cm	23°C	45	15	40	NB	40	NB	80	60	83
		-20°C	10	7	10	8.3	10	8.5	16	16	-
HDT	°C	100	108	100	98	100	110	110	110	80	

※ The 4304, 4204, and 4084 materials can be mixed with talcum powder to achieve the desired mold shrinkage. When combined with 20% talcum powder, it can yield an Izod impact strength of >25 kg.cm/cm to comply with the quality requirements of bumpers.

### Contact Information:

Formosa Plastics Corporation Polypropylene Div. Sales Dept.

TEL: 886-2-27122211 EXT. 6169 FAX: 886-2-27181230

ADD.: 8F., No. 201, Tung Hwa N. Road, Songshan Dist., Taipei City 10508, Taiwan (R.O.C.)

E-mail: eric0602@fpc.com.tw / tbcharles@fpc.com.tw

# 保險桿原料



## PP 產品 (台化公司)

### 產品特性及優點：

台化發揮 Chisso Know-how 氣相製程，開發出多款高附加價值 Impact Copolymer，供應汽車 Compound 行業使用，K9017 擁有室溫高耐衝、低溫抗耐衝及抗 UV 效果，具有耐衝極佳、比重小及質輕量化的特性。

#### A. 台化 PP 已通過認證資料：

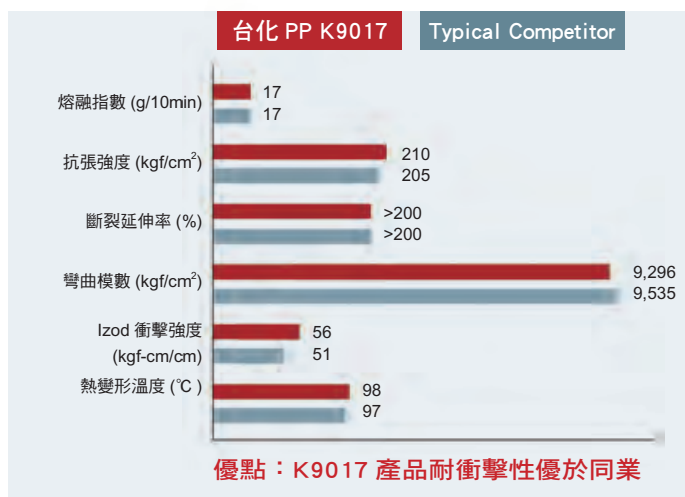
(1)ISO 9001 ,14001 (2)OHSAS 18001 (3) 環保證明。

#### B. K9017 取得認證資料：

(1)FDA Compliance (2)UL 94 HB (3)RoHS  
(4)REACH SVHC (5)PAHS

加工方式：射出注塑成型。

### 台化 PP K9017 產品與 Typical Competitor 物性比較：



### 產品規格表：

種類		耐衝擊共聚物	
產品型號		K9017	
特性		高流動性、抗 UV、高耐衝	
應用		複合材、保險桿、擋泥板、輪弧飾板	
項目	單位	試驗方法	平均值
熔融指數	g/10min	ASTM D1238	17
抗張強度	kgf/cm <sup>2</sup>	ASTM D638	210
斷裂延伸率	%	ASTM D638	> 200
彎曲模數	kgf/cm <sup>2</sup>	ASTM D790A	9,296
硬度	R-Scale	ASTM D785	76
Izod 衝擊強度	kgf-cm/cm	ASTM D256	56
熱變形溫度	°C	ASTM D648	98

聯繫方式：台灣化學纖維股份有限公司 塑膠部 營業二處

公司電話：886-2-27178355 公司傳真：886-2-27131649

公司地址：10508 台北市松山區敦化北路 201 號前棟二樓

E-mail：anderson.plastics@fcfc.com.tw

# Raw materials for Bumper



## PP Resins (FCFC)

### Product Features and Benefits:

FCFC has exhibited the technical know-how of the Chisso gas-phase process to develop a number of high value-added impact copolymers into compound materials and supply them to the auto industry. K9017 features excellent impact strength, such as high impact strength at room temperature and impact resistance at low temperature, as well as anti-UV, low specific gravity, and lightweight properties.

#### A. FCFC's PP has received:

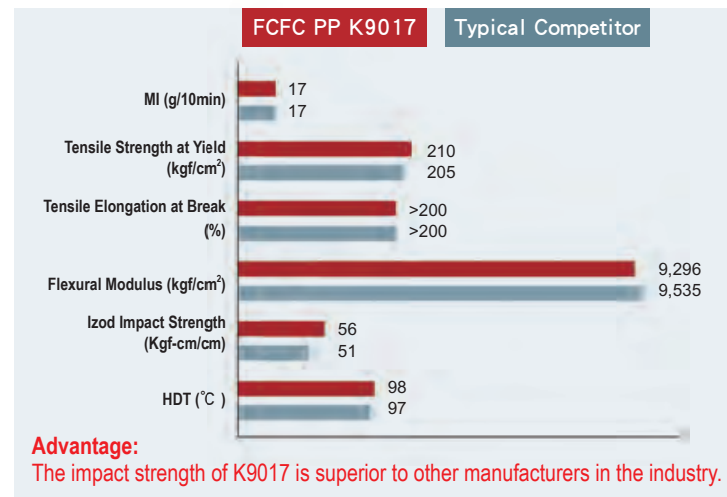
- (1) ISO 9001 & 14001, (2) OHSAS 18001, and  
(3) environmental protection certification.

#### B. K9017 has obtained the certification of:

- (1) FDA, (2) UL 94 HB, (3) RoHS, (4) REACH SVHC, and (5) PAHS.

**Processing Methods:** Designed for injection molding.

### Comparison of FCFC PP K9017 with a Typical Competitor:



### Products Specifications:

Type			Impact Copolymer
Grade			K9017
Characteristics			High fluidity, Anti-UV, High impact strength
Applications			Composite materials, Bumpers, Mudguards, Wheel arch trims
Properties	Unit	Test Method	Typical Value
Melt Index	g/10min	ASTM D1238	17
Tensile Strength at Yield	kg/cm <sup>2</sup>	ASTM D638	210
Tensile Elongation at Break	%	ASTM D638	> 200
Flexural Modulus	kgf/cm <sup>2</sup>	ASTM D790A	9,296
Hardness	R-Scale	ASTM D785	76
Izod Impact Strength	kgf-cm/cm	23°C ASTM D256	56
HDT	°C	ASTM D648	98

### Contact Information:

Formosa Chemicals & Fibre Corporation Plastics Div. 2<sup>nd</sup> Sales Dept.

TEL: 886-2-27178355 FAX: 886-2-27131649

ADD.: 2F., No. 201, Tung Hwa N. Road, Songshan Dist., Taipei City 10508, Taiwan (R.O.C.)

E-mail: anderson.plastics@fcfc.com.tw

# 保險桿內襯原料



## PE 產品 (台塑公司)

### 產品特性及優點：

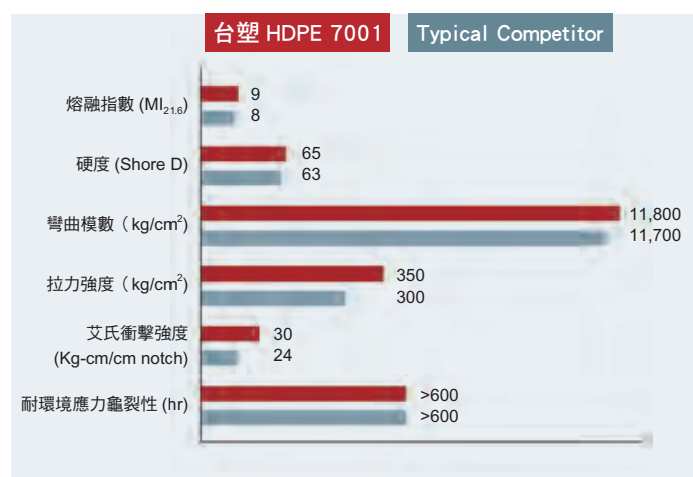
PE 產品具有良好的耐溫、耐油性及耐環境應力龜裂性，且絕緣性及耐寒性佳，以注塑、吹塑、熱壓等方式加工，主要應用於汽車內裝、外裝、引擎室零件。

認證資料：ISO 14001/ ISO 9001/ OHSAS 18001。

驗證測試報告：US FDA/ 歐盟 RoHS/ 歐盟 EU10 食品接觸溶出試驗 / EN 71-3 重金屬檢測。

加工方式：吹製成型。

### 台塑 HDPE7001 產品與 Typical Competitor 物性比較：



### 產品規格表：

產 品			HDPE
產 品 型 號			7001
特 性			耐衝擊強度優、抗低溫脆化
應 用			保險桿內襯吸震緩衝材
項目	單位	測試	平均值
熔融指數 (MI <sub>2.16</sub> /MI <sub>21.6</sub> )	g/10min	ASTM D1238	0.07 / 9.0
密度	g/cm <sup>3</sup>	ASTM D1505	0.949
熔點	°C	DSC	131
拉力降伏強度	Kg/cm <sup>2</sup>	ASTM D638	250
拉力斷裂強度	Kg/cm <sup>2</sup>	ASTM D638	350
斷裂伸長率	%	ASTM D638	600
艾氏衝擊強度	Kg-cm/cm notch	ASTM D256	30
硬度	Shore A/D	ASTM D2240	-- / 65
耐環境應力龜裂性	Hours	ASTM D1693	>600

聯繫方式：台灣塑膠工業股份有限公司 聚烯部 營五處

公司電話：886-2-27122211 轉 8140 公司傳真：886-2-27193260、886-2-27178176

公司地址：10508 台北市松山區敦化北路 201 號後棟四樓

E-mail：formosa\_pe@fpc.com.tw

# Raw material for Bumper Lining



## PE Resins (FPC)

### Product Features and Benefits:

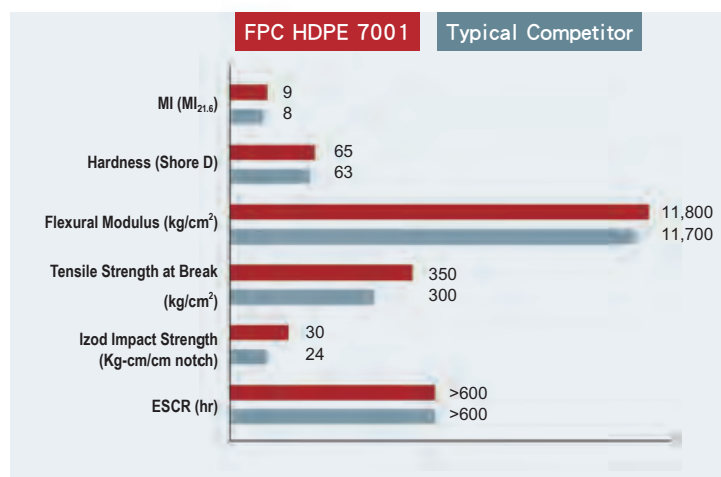
PE features good heat resistance, oil resistance, environmental stress cracking resistance, good insulation, and cold resistance properties. It is mainly used in interior and exterior auto parts and engine compartment parts and are processed by injection molding, blow molding, thermoforming, etc.

**Certifications:** ISO 14001 / ISO 9001 / OHSAS 18001

**Verification test reports:** US FDA / EU RoHS / EU10 food contact dissolution test / EN 71-3 heavy metals test

**Processing Methods:** Designed for blow molding.

### Comparison of FPC HDPE 7001 with a Typical Competitor:



## Products Specifications:

Product			HDPE
Grade			7001
Characteristics			Excellent impact resistance, resistance to low temperature brittleness
Applications			Shock-absorbing lining material for bumpers
Properties	Unit	Test Method	Typical Value
Melt Index (MI <sub>2.16</sub> /MI <sub>21.6</sub> )	g/10min	ASTM D1238	0.07 / 9.0
Density	g/cm <sup>3</sup>	ASTM D1505	0.949
Melting point	°C	DSC	131
Tensile Strength at Yield	Kg/cm <sup>2</sup>	ASTM D638	250
Tensile Strength at Break	Kg/cm <sup>2</sup>	ASTM D638	350
Elongation at Break	%	ASTM D638	600
Izod Impact Strength	Kg-cm/cm notch	ASTM D256	30
Hardness	Shore A/D	ASTM D2240	-- / 65
ESCR	Hours	ASTM D1693	>600

## Contact Information:

Formosa Plastics Corporation Polyolefin Div. Sales Dept.

TEL: 886-2-27122211 EXT. 8140 FAX:886-2-27193260/ 886-2-27178176

ADD.: 4F., No. 201, Tung Hwa N. Road, Songshan Dist., Taipei City 10508, Taiwan (R.O.C.)

E-mail: formosa\_pe@fpc.com.tw

台塑企業**汽車部件**使用材料

**擋泥板 Mudguard**









## 高流動性、堅固、耐磨性佳

高流動性與耐磨性佳，具有保護汽車底盤及防止雨天時水霧形成優點。





## HIGH FLUIDITY, TOUGHNESS, EXCELLENT WEAR RESISTANCE

The high fluidity and good wear resistance will help protect the car chassis and minimize the spray of water and mud.



# 擋泥板原料



## PP 產品 (台塑公司)

1124/1600A/3504

### 產品特性及優點：

台塑 PP 產品用於汽車零件有輕量化、低成本、加工性佳優點，並可依其特性進行改質（如：添加滑石粉、玻纖等），以產製各式化汽車零組件。

- A. 1124、1600A 係粉漿氫調法生產之高結晶性產品，具有低氣味、無寡聚物、高流動、高剛性、高耐熱等優點的產品，獲國內廠商好評，在不影響衝擊下有高添加比例。
- B. 3504 為高流動性，剛性與耐衝擊強度平衡性良好的產品。
- C. 兩者匹配性下良好，再與增韌劑 (POE) 或熱塑性聚烯烴 (RTPO) 及滑石粉 (TALC) 共同改性，獲得品質佳及成本低的複合材，提供給擋泥板及輪弧飾板使用。

加工方式：注塑成型。

### 產品規格表：

種類		均聚物				耐衝擊共聚物	
產品型號		1124	對抗品	1600A	對抗品	3504	對抗品
項目	單位	平均值					
熔融指數	g/10min	15	14.5	60	65	55	50
降伏強度	kg/cm <sup>2</sup>	490	400	400	350	270	240
剛性係數	kg/cm <sup>2</sup>	22,000	20,000	19,000	14,000	12000	12,500
Izod 耐衝擊強度	kg-cm/cm 常溫 (23°C)	3	3	2.5	2	8.5	10
熱變形溫度	°C	135	122	130	110	125	115

聯繫方式：台灣塑膠工業股份有限公司 聚丙烯部 營業處

公司電話：886-2-27122211 轉 6169 公司傳真：886-2-27181230

公司地址：10508 台北市松山區敦化北路 201 號前棟八樓

E-mail：eric0602@fpc.com.tw、tbcharles@fpc.com.tw

## Raw materials for Mudguard



### PP Resins (FPC)

1124/1600A/3504

#### Product Features and Benefits:

Using FPC's PP raw materials in auto parts provides lightweight, low cost, and good workability characteristics and can be modified according to their properties (such as adding talc, glass fiber, etc.) to produce a variety of auto parts and components.

- A. 1124 and 1600A are highly crystalline materials suitable for being produced using the powder slurry hydrogen regulation method. Featuring the advantages of low odor, non-oligomer, high fluidity, high rigidity, and high heat resistance. They are appreciated by domestic manufacturers for their high additive proportion without affecting impact strength.
- B. 3504 is a good material with high fluidity, rigidity, and impact strength balance properties.
- C. These materials feature good matchability. When jointly modified with toughener (POE) or thermoplastic polyolefin (RTPO) and talcum powder, they can yield good-quality and low-cost composite materials suitable for producing mudguards and wheel arch trims.

**Processing Methods:** Designed for injection molding.

#### Products Specifications:

Type		Homopolymer				Impact copolymers	
Grade		1124	Competitor	1600A	Competitor	3504	Competitor
Properties	Unit	Typical Value					
Melt Index	g/10min	15	14.5	60	65	55	50
Tensile Strength at Yield	kg/cm <sup>2</sup>	490	400	400	350	270	240
Flexural Modulus	kg/cm <sup>2</sup>	22,000	20,000	19,000	14,000	12,000	12,500
Izod Impact Strength	kg-cm/cm    23°C	3	3	2.5	2	8.5	10
HDT	°C	135	122	130	110	125	115

#### Contact Information:

Formosa Plastics Corporation Polypropylene Div. Sales Dept.

TEL: 886-2-27122211 EXT. 6169    FAX: 886-2-27181230

ADD.: 8F., No. 201, Tung Hwa N. Road, Songshan Dist., Taipei City 10508, Taiwan (R.O.C.)

E-mail: eric0602@fpc.com.tw / tbcharles@fpc.com.tw

# 擋泥板原料



## PP 產品 (台化公司)

### 產品特性及優點：

台化發揮 Chisso Know-how 氣相製程，開發出多款高附加價值 Impact Copolymer，供應汽車 Compound 行業使用，K9017 擁有室溫高耐衝、低溫抗耐衝及抗 UV 效果，具有耐衝極佳、比重小及質輕量化的特性。

#### A. 台化 PP 已通過認證資料：

(1)ISO 9001,14001 (2)OHSAS 18001 (3) 環保證明。

#### B. K9017 取得認證資料：

(1)FDA Compliance (2)UL 94 HB (3)RoHS  
(4)REACH SVHC (5)PAHS。

加工方式：射出注塑成型。

台化 PP K9017 產品與 Typical Competitor 物性比較：



### 產品規格表：

種類			耐衝擊共聚物
產品型號			K9017
特性			高流動性、抗 UV、高耐衝擊
應用			複合材、保險桿、擋泥板、輪弧飾板
加工方式	單位	試驗方法	平均值
熔融指數	g/10min	ASTM D1238	17
抗張強度	kgf/cm <sup>2</sup>	ASTM D638	210
斷裂延伸率	%	ASTM D638	> 200
彎曲模數	kgf/cm <sup>2</sup>	ASTM D790A	9,296
硬度	R-scale	ASTM D785	76
Izod 衝擊強度	kgf-cm/cm 常溫 (23°C)	ASTM D256	56
熱變形溫度	°C	ASTM D648	98

聯繫方式：台灣化學纖維股份有限公司 塑膠部 營業二處

公司電話：886-2-27178355 公司傳真：886-2-2-27131649

公司地址：10508 台北市松山區敦化北路 201 號前棟二樓

E-mail：anderson.plastics@fcfc.com.tw

# Raw materials for Mudguard



## PP Resins (FCFC)

### Product Features and Benefits:

FCFC has exhibited the technical know-how of the Chisso gas-phase process to develop a number of high value-added impact copolymers into compound materials and supply them to the auto industry. K9017 features excellent impact strength, such as high impact strength at room temperature and impact resistance at low temperature, as well as anti-UV, low specific gravity, and lightweight properties.

#### A. FCFC's PP has received :

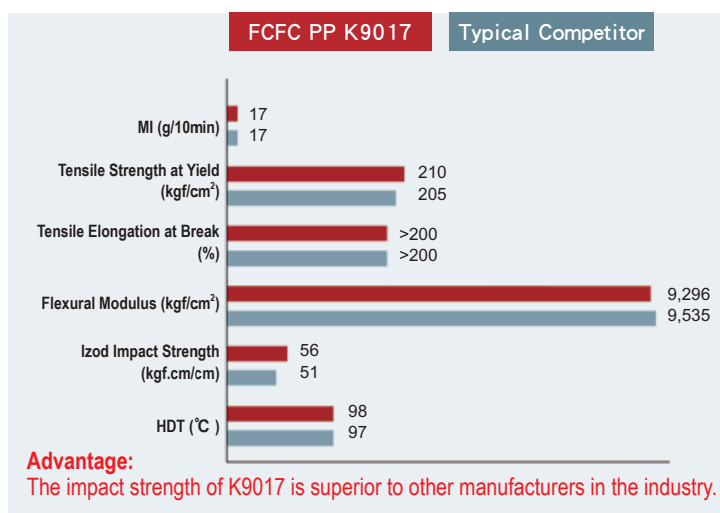
- (1) ISO 9001 & 14001, (2) OHSAS 18001, and
- (3) environmental protection certification.

#### B. K9017 has obtained certification from:

- (1) FDA, (2) UL 94 HB, (3) RoHS, (4) REACH SVHC, and (5) PAHS.

**Processing Methods:** Designed for injection molding.

### Comparison of FCFC PP K9017 with a Typical Competitor:



### Products Specifications:

Type			Impact Copolymer
Grade			K9017
Characteristics			High fluidity, Anti-UV, High impact strength
Applications			Composite materials, Bumpers, Mudguards, Wheel arch trims
Properties	Unit	Test Method	Typical Value
Melt Index	g/10min	ASTM D1238	17
Tensile Strength at Yield	kgf/cm <sup>2</sup>	ASTM D638	210
Tensile Elongation at Break	%	ASTM D638	> 200
Flexural Modulus	kgf/cm <sup>2</sup>	ASTM D790A	9,296
Hardness	R-scale	ASTM D785	76
Izod Impact Strength	kgf-cm/cm	23°C ASTM D256	56
HDT	°C	ASTM D648	98

### Contact Information:

Formosa Chemicals & Fibre Corporation Plastics Div. 2<sup>nd</sup> Sales Dept.

TEL: 886-2-27178355 FAX: 886-2-27131649

ADD.: 2F., No. 201, Tung Hwa N. Road, Songshan Dist., Taipei City 10508, Taiwan (R.O.C.)

E-mail: anderson.plastics@fcfc.com.tw

# 擋泥板原料



## EVA 產品 (台塑公司)

### 產品特性及優點：

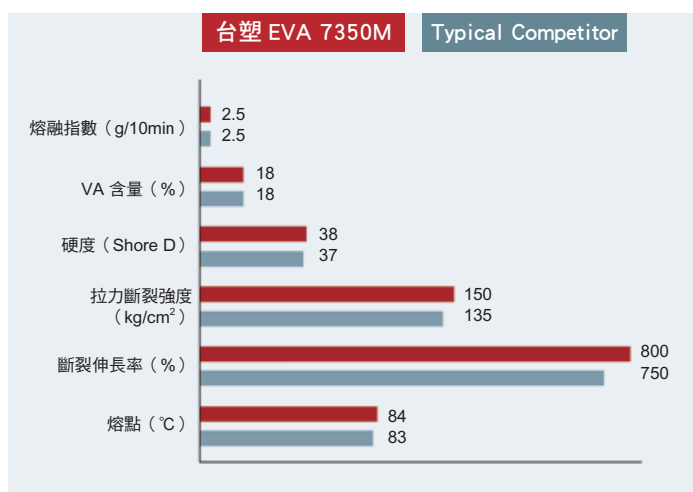
EVA 產品具有柔軟抗變形、衝擊性優、高可撓性、抗化學性佳、彈性佳之特點，以射出成型方式加工，主要應用於汽車外裝。

認證資料：ISO 14001/ISO 9001/OHSAS 18001。

驗證測試報告：US FDA/ 歐盟 RoHS/ 歐盟 EU 10 食品接觸溶出試驗 /EN 71-3 重金屬檢測。

加工方式：射出成型。

### 台塑 EVA7350M 產品與 Typical Competitor 物性比較：



### 產品規格表：

產品			EVA
產品型號			7350M
特性			柔軟抗變形、衝擊性優
應用			擋泥板
項目	單位	測試方法	平均值
熔融指數 (M <sub>2.16</sub> )	g/10min	ASTM D1238	2.5
密度	g/cm <sup>3</sup>	ASTM D1505	0.938
熔點	°C	DSC	84
拉力降伏強度	Kg/cm <sup>2</sup>	ASTM D638	45
拉力斷裂強度	Kg/cm <sup>2</sup>	ASTM D638	150
斷裂伸長率	%	ASTM D638	800
硬度	Shore A/D	ASTM D2240	88 / 38
VA 含量	%	FPC Method	18

聯繫方式：台灣塑膠工業股份有限公司 聚烯事業部 營五處

公司電話：886-2-27122211 轉 8140 公司傳真：886-2-27193260、886-2-27178176

公司地址：10508 台北市松山區敦化北路 201 號後棟四樓

E-mail：formosa\_pe@fpc.com.tw

# Raw materials for Mudguard



## EVA (FPC)

### Product Features and Benefits:

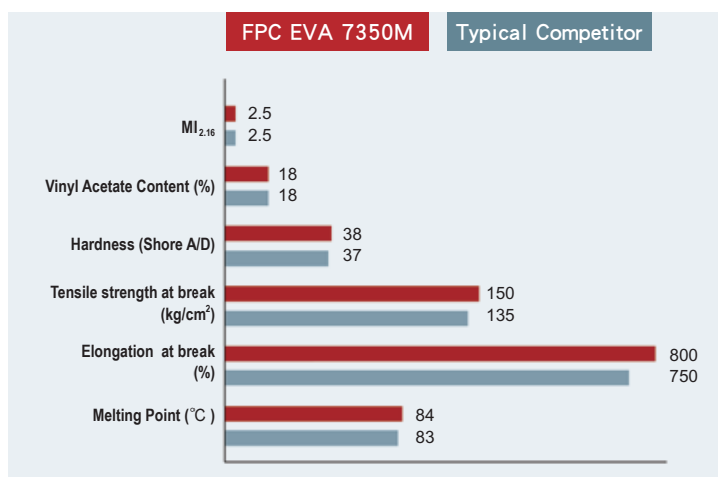
EVA features such benefits as resistance to soft deformation, excellent impact resistance, chemical resistance, and good flexibility. It is mainly used in exterior auto parts produced by injection molding.

**Certifications:** ISO 14001 / ISO 9001 / OHSAS 18001

**Verification test reports:** US FDA / EU RoHS / EU 10 food contact dissolution test / EN 71-3 heavy metals test

**Processing Methods:** Designed for injection molding.

### Comparison of FPC EVA 7350M with a Typical Competitor:



### Products Specifications:

<b>Product</b>			EVA
<b>Grade</b>			7350M
<b>Characteristics</b>			Resistance to soft deformation, Excellent impact strength
<b>Applications</b>			Mudguards
<b>Properties</b>	<b>Unit</b>	<b>Method</b>	<b>Typical Value</b>
Melt Index (MI <sub>2.16</sub> )	g/10min	ASTM D1238	2.5
Density	g/cm <sup>3</sup>	ASTM D1505	0.938
Melting point	°C	DSC	84
Tensile Strength at Yield	Kg/cm <sup>2</sup>	ASTM D638	45
Tensile Strength at Break	Kg/cm <sup>2</sup>	ASTM D638	150
Elongation at Break	%	ASTM D638	800
Hardness	Shore A/D	ASTM D2240	88 / 38
Vinyl Acetate Content	%	FPC Method	18

### Contact Information:

**Formosa Plastics Corporation Polyolefin Div. Sales Dept.**

TEL: 886-2-27122211 EXT. 8140 FAX: 886-2-27193260/ 886-2-27178176

ADD.: 4F., No. 201, Tung Hwa N. Road, Songshan Dist., Taipei City 10508, Taiwan (R.O.C.)

E-mail: formosa\_pe@fpc.com.tw



台塑企業**汽車部件**使用材料

**輪弧飾板 Wheel Arch Trim**







## 極佳的流動性、高質感流線造型

高流動性應用於輪弧飾板，透過改性加工強化輪弧特點，塑造高流線的造型，匹配車身的設計。





## EXCELLENT FLUIDITY, HIGH-QUALITY STREAMLINED DESIGN

The high fluidity and modified properties used in wheel arch trims will help create high-quality streamlined shapes to perfectly match the designs of car bodies.



# 輪弧飾板原料



## PP 產品 (台塑公司)

1124/1600A/3504

### 產品特性及優點：

台塑 PP 產品用於汽車零件有輕量化、低成本、加工性佳優點，並可依其特性進行改質（如：添加滑石粉、玻纖等），以產製各式化汽車零組件。

- A. 1124、1600A 係粉漿氫調法生產之高結晶性產品，具有低氣味、無寡聚物、高流動、高剛性、高耐熱等優點的產品，獲國內廠商好評，在不影響衝擊下有高添加比例。
- B. 3504 為高流動性，剛性與耐衝擊強度平衡性良好的產品。
- C. 兩者匹配性下良好，再與增韌劑 (POE) 或熱塑性聚烯烴 (RTPO) 及滑石粉 (TALC) 共同改性，獲得品質佳及成本低的複合材，提供給擋泥板及輪弧飾板使用。

加工方式：注塑成型。

### 產品規格表：

種類		均聚物				耐衝擊共聚物	
產品型號		1124	對抗品	1600A	對抗品	3504	對抗品
項目	單位	平均值					
熔融指數	g/10min	15	14.5	60	65	55	50
降伏強度	kg/cm <sup>2</sup>	490	400	400	350	270	240
剛性係數	kg/cm <sup>2</sup>	22,000	20,000	19,000	14,000	12,000	12,500
Izod 耐衝擊強度	kg-cm/cm 常溫 (23°C)	3	3	2.5	2	8.5	10
熱變形溫度	°C	135	122	130	110	125	115

聯繫方式：台灣塑膠工業股份有限公司 聚丙烯部 營業處

公司電話：886-2-27122211 轉 6169 公司傳真：886-2-27181230

公司地址：10508 台北市松山區敦化北路 201 號前棟八樓

E-mail：eric0602@fpc.com.tw、tbcharles@fpc.com.tw

# Raw materials for Wheel Arch Trim



## PP Resins (FPC)

1124/1600A/3504

### Product Features and Benefits:

Using FPC's PP raw materials in auto parts provides lightweight, low cost, and good workability characteristics and can be modified according to their properties (such as adding talc, glass fiber, etc.) to produce a variety of auto parts and components.

- A. 1124 and 1600A are highly crystalline products suitable to be produced using the powder slurry hydrogen preparation method. Featuring low odor, non-existence of oligomers, high fluidity, high rigidity, high heat resistance, and other advantages, it is appreciated by domestic manufacturers for its high additive proportion without affecting impact strength.
- B. 3504 is a good material with high fluidity, rigidity, and impact strength balance properties.
- C. These materials feature good matchability. When jointly modified with toughener (POE) or thermoplastic polyolefin (RTPO) and talcum powder, they can yield high-quality and low-cost composite materials suitable for producing mudguards and wheel arch trims.

**Processing Methods:** Designed for injection molding.

### Products Specifications:

Type		Homopolymer				Impact copolymer	
Grade		1124	Competitor	1600A	Competitor	3504	Competitor
Properties	Unit	Typical Value					
Melt Index	g/10min	15	14.5	60	65	55	50
Tensile Strength at Yield	kg/cm <sup>2</sup>	490	400	400	350	270	240
Flexural Modulus	kg/cm <sup>2</sup>	22,000	20,000	19,000	14,000	12,000	12,500
Izod Impact Strength	kg-cm/cm    23°C	3	3	2.5	2	8.5	10
HDT	°C	135	122	130	110	125	115

### Contact Information:

Formosa Plastics Corporation Polypropylene Div. Sales Dept.

TEL: 886-2-27122211 EXT. 6169    FAX: 886-2-27181230

ADD.: 8F., No. 201, Tung Hwa N. Road, Songshan Dist., Taipei City 10508, Taiwan (R.O.C.)

E-mail: eric0602@fpc.com.tw / tbcharles@fpc.com.tw

# 輪弧飾板原料



## PP 產品 (台化公司)

### 產品特性及優點：

台化發揮 Chisso Know-how 氣相製程，開發出多款高附加價值 Impact Copolymer，供應汽車 Compound 行業使用，K9017 擁有室溫高耐衝、低溫抗耐衝及抗 UV 效果，具有耐衝極佳、比重小及質輕量化的特性。

#### A. 台化 PP 已通過認證資料：

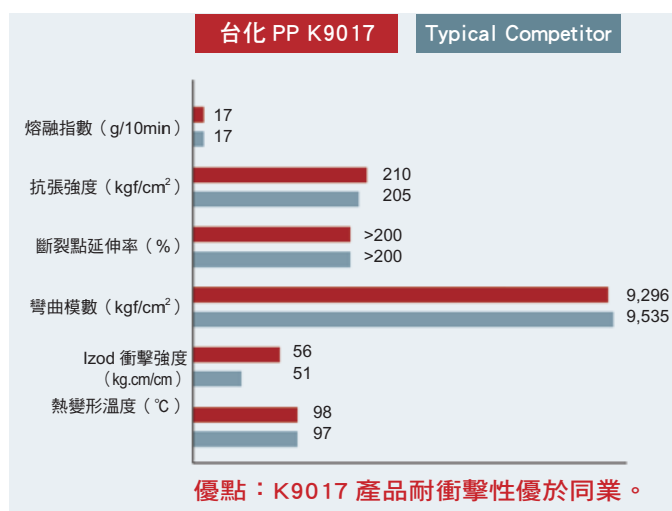
(1)ISO 9001 ,14001 (2)OHSAS 18001 (3) 環保證明。

#### B. K9017 取得認證資料：

(1)FDA Compliance (2)UL 94 HB (3)RoHS  
(4)REACH SVHC (5)PAHS

加工方式：射出注塑成型。

台化 PP K9017 產品與 Typical Competitor 物性比較：



### 產品規格表：

種類			耐衝擊共聚物	
產品型號			K9017	
特性			高流動性、抗 UV、高耐衝	
應用			複合材、保險桿、擋泥板、輪弧飾板	
加工方式	單位	試驗方法	平均值	
熔融指數	g/10min	ASTM D1238	17	
抗張強度	kgf/cm <sup>2</sup>	ASTM D638	210	
斷裂點延伸率	%	ASTM D638	> 200	
彎曲模數	kgf/cm <sup>2</sup>	ASTM D790A	9,296	
硬度	R-scale	ASTM D785	76	
IZOD 衝擊強度	kgf-cm/cm	常溫 (23°C)	ASTM D256	56
熱變形溫度	°C	ASTM D648	98	

聯繫方式：台灣化學纖維股份有限公司 塑膠部 營業二處

公司電話：886-2-27128355 公司傳真：886-2-27131649

公司地址：10508 台北市松山區敦化北路 201 號前棟二樓

E-mail：anderson.plastics@fcfc.com.tw

# Raw materials for Wheel Arch Trim



## PP Resins (FCFC)

### Product Features and Benefits:

FCFC has exhibited the technical know-how of the Chisso gas-phase process to develop a number of high value-added impact copolymers into compound materials and supply them to the auto industry. K9017 features excellent impact strength, such as high impact strength at room temperature and impact resistance at low temperature, as well as anti-UV, low specific gravity, and lightweight properties.

#### A. FCFC's PP has received:

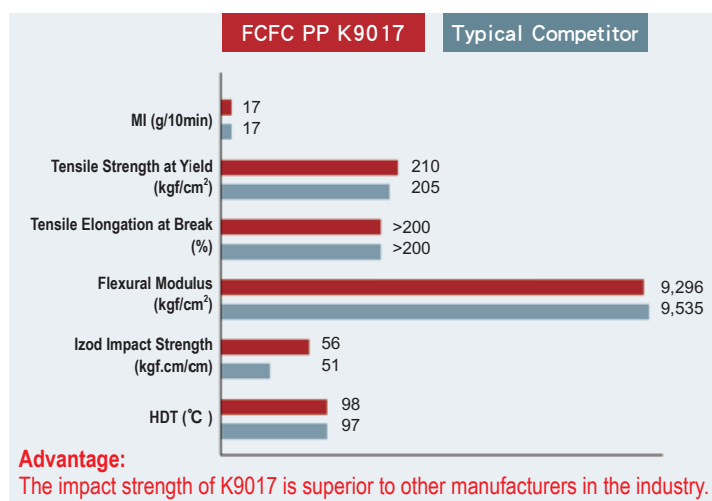
- (1) ISO 9001 & 14001, (2) OHSAS 18001, and  
(3) environmental protection certification.

#### B. K9017 has obtained certification from:

- (1) FDA, (2) UL 94 HB, (3) RoHS, (4) REACH SVHC, and (5) PAHS.

**Processing Methods:** Designed for injection molding.

### Comparison of FCFC PP K9017 with a Typical Competitor:



## Products Specifications:

Type			Impact Copolymer
Grade			K9017
Characteristics			High fluidity, Anti-UV, High impact strength
Applications			Composite materials, Bumpers, Mudguards, Wheel arch trims
Properties	Unit	Test Method	Typical Value
Melt Index	g/10min	ASTM D1238	17
Tensile Strength at Yield	kgf/cm <sup>2</sup>	ASTM D638	210
Tensile Elongation at Break	%	ASTM D638	> 200
Flexural Modulus	kgf/cm <sup>2</sup>	ASTM D790A	9,296
Hardness	R-scale	ASTM D785	76
Izod Impact Strength	kgf-cm/cm	23°C ASTM D256	56
HDT	°C	ASTM D648	98

## Contact Information:

Formosa Chemicals & Fibre Corporation Plastics Div. 2<sup>nd</sup> Sales Dept.

TEL: 886-2-27128355 FAX: 886-2-27131649

ADD.: 2F., No. 201, Tung Hwa N. Road, Songshan Dist., Taipei City 10508, Taiwan (R.O.C.)

E-mail: anderson.plastics@fcfc.com.tw



# 輪弧飾板原料



## PE 產品（台塑公司）

### 產品特性及優點：

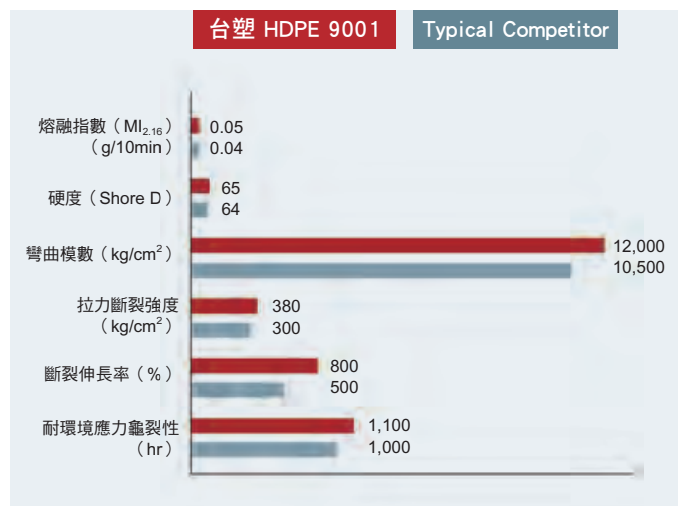
PE 產品具有良好的耐溫、耐油性及耐環境應力龜裂性，且絕緣性及耐寒性佳，以注塑、吹塑、熱壓等方式加工，主要應用於汽車內裝、外裝、引擎室零件。

認證資料：ISO 14001/ISO 9001/OHSAS 18001

驗證測試報告：US FDA/ 歐盟 RoHS/ 歐盟 EU 10 食品接觸溶出試驗 /EN 71-3 重金屬檢測。

加工方式：(1) 押出成型 (2) 熱壓成型。

台塑 HDPE9001 產品與 Typical Competitor 物性比較：



### 產品規格表：

產 品			HDPE
產 品 型 號			9001
特 性			分子量高、耐衝擊性佳、耐環境應力佳
應 用			上輪弧蓋
項目	單位	測試方法	平均值
熔融指數 (MI <sub>2,16</sub> )	g/10min	ASTM D1238	0.05
密度	g/cm <sup>3</sup>	ASTMD 1505	0.950
熔點	°C	DSC	130
拉力降伏強度	Kg/cm <sup>2</sup>	ASTM D638	260
拉力斷裂強度	Kg/cm <sup>2</sup>	ASTM D638	380
斷裂伸長率	%	ASTM D638	800
艾氏衝擊強度	Kg-cm/cm notch	ASTM D256	22
硬度	Shore A/D	ASTM D2240	-- / 65
耐環境應力龜裂性	Hours	ASTM D1693	>1,000

聯繫方式：台灣塑膠工業股份有限公司 聚烯部 營五處

公司電話：886-2-27122211 轉 8140 公司傳真：886-2-27193260、886-2-27178176

公司地址：10508 台北市松山區敦化北路 201 號 後棟四樓

E-mail：formosa\_pe@fpc.com.tw

# Raw materials for Wheel Arch Trim



## PE Resins (FPC)

### Product Features and Benefits:

PE features good heat resistance, oil resistance, environmental stress cracking resistance, good insulation, and cold resistance properties. It is mainly used in interior and exterior auto parts and engine compartment parts and are processed by injection molding, blow molding, thermoforming, etc.

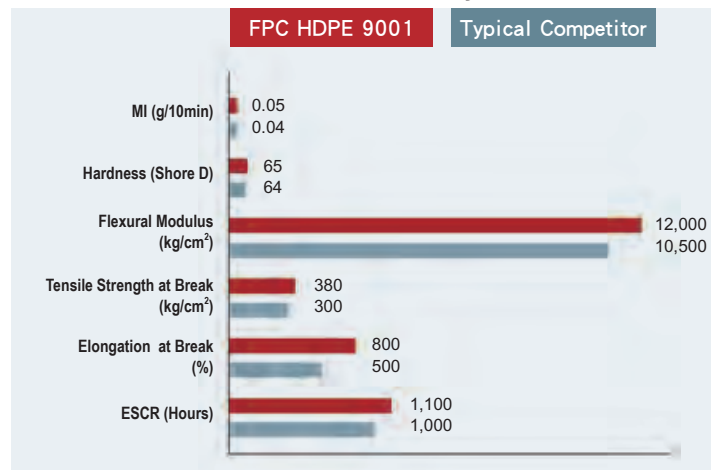
**Certifications:** ISO 14001 / ISO 9001 / OHSAS 18001

**Verification test reports:** US FDA / EU RoHS / EU 10 food contact dissolution test / EN 71-3 heavy metals test

**Processing Methods:** (1) Designed for extrusion molding.

(2) Designed for thermoforming molding.

### Comparison of FPC HDPE 9001 with a Typical Competitor:



## Products Specifications:

Product			HDPE
Grade			9001
Characteristics			High molecular weight, Impact resistance, Excellent environmental stress resistance
Applications			Top wheel arch covers
Properties	Unit	Test Method	Typical Value
Melt Index (MI <sub>2.16</sub> )	g/10min	ASTM D1238	0.05
Density	g/cm <sup>3</sup>	ASTMD 1505	0.950
Melting Point	°C	DSC	130
Tensile Strength at Yield	Kg/cm <sup>2</sup>	ASTM D638	260
Tensile Strength at Break	Kg/cm <sup>2</sup>	ASTM D638	380
Elongation at Break	%	ASTM D638	800
Izod Impact Strength	Kg-cm/cm notch	ASTM D256	22
Tensile Strength at Break	Shore A/D	ASTM D2240	-- / 65
ESCR	Hours	ASTM D1693	>1,000

## Contact Information:

Formosa Plastics Corporation Polyolefin Div. Sales Dept.

TEL: 886-2-27122211 EXT. 8140 FAX:886-2-27193260/ 886-2-27178176

ADD.: 4F., No. 201, Tung Hwa N. Road, Songshan Dist., Taipei City 10508, Taiwan (R.O.C.)

E-mail: formosa\_pe@fpc.com.tw

台塑企業**汽車部件** 使用材料

**後視鏡外殼、後視鏡底座**  
**Rearview Mirror Housing &**  
**Rearview Mirror Base**







## 高品質、安全、視覺感佳

高耐溫及電鍍密著性加特性，讓後視鏡外殼增添時尚及金屬質感般效果。





## HIGH QUALITY, SAFE, EXCELLENT VISUAL EFFECT

The high temperature resistance and excellent plating adhesion properties will enhance rearview mirror housing with a fashionable metallic touch.



# 後視鏡外殼原料



## PP 產品 (台化公司)

### 產品特性及優點：

台化發揮 Chisso Know-how 氣相製程，開發出多款高附加價值 Impact Copolymer，供應汽車 Compound 行業使用，K7005 高剛性、耐溫、抗變形及高耐衝的特性。

### A. 台化 PP 已通過認證資料：

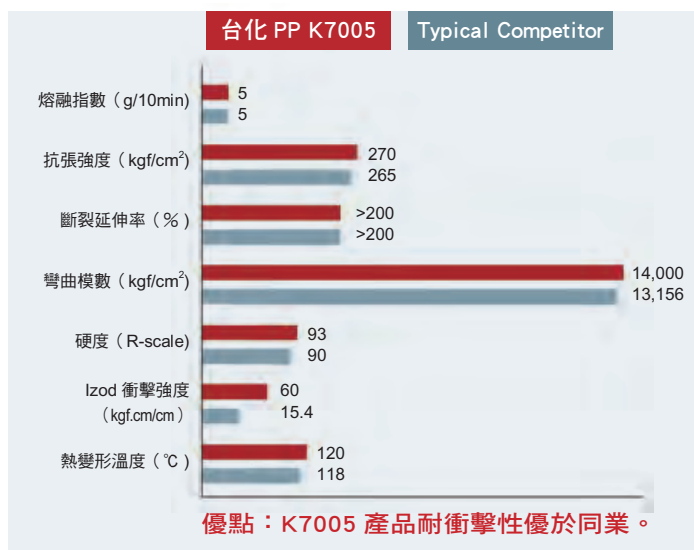
(1)ISO 9001, 14001 (2)OHSAS 18001 (3) 環保證明。

### B. K7005 取得認證資料：

(1)FDA Compliance (2)UL 94 HB (3)RoHS  
(4)REACH SVHC (5)PAHS。

加工方式：射出注塑成型。

### 台化 PP K7005 產品與 Typical Competitor 物性比較：



### 產品規格表：

種類			耐衝擊共聚物
產品型號			K7005
特性			高耐衝擊、高剛性
應用			複合材、後視鏡外殼
項目	單位	試驗方法	平均值
熔融指數	g/10min	ASTM D1238	5
抗張強度	kgf/cm <sup>2</sup>	ASTM D638	270
斷裂延伸率	%	ASTM D638	> 200
彎曲模數	kgf/cm <sup>2</sup>	ASTM D790A	14,000
硬度	R-scale	ASTM D785	93
Izod 衝擊強度	kgf-cm/cm 常溫 (23°C)	ASTM D256	N.B >45
熱變形溫度	°C	ASTM D648	120

### 聯繫方式：台灣化學纖維股份有限公司 塑膠部 營業二處

公司電話：886-2-27178355 公司傳真：886-2-27131649

公司地址：10508 台北市松山區敦化北路 201 號前棟二樓

E-mail：anderson.plastics@fcfc.com.tw

# Raw materials for Rearview Mirror Housing



## PP Resins (FCFC)

### Product Features and Benefits:

FCFC has exhibited the technical know-how of the Chisso gas-phase process to develop a number of high value-added impact copolymers into compound materials and supply them to the auto industry. K9017 features excellent impact strength, such as high impact strength at room temperature and impact resistance at low temperature, as well as anti-UV, low specific gravity, and lightweight properties.

#### A. FCFC's PP has received:

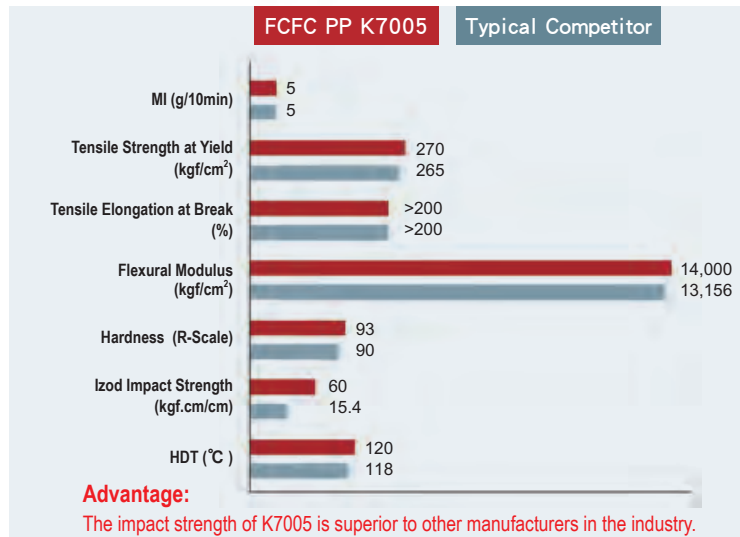
- (1) ISO 9001 & 14001, (2) OHSAS 18001, and
- (3) Environmental protection certification.

#### B. K7005 has obtained certification from:

- (1) FDA, (2) UL 94 HB, (3) RoHS, (4) REACH SVHC, and (5) PAHS.

**Processing Methods:** Designed for injection molding.

### Comparison of FCFC PP K7005 with a Typical Competitor:



### Products Specifications:

Type			Impact Copolymer
Grade			K7005
Characteristics			High impact strength, High rigidity
Applications			Composite materials, Rearview mirror housings
Properties	Unit	Test Method	Typical Value
Melt Index	g/10min	ASTM D1238	5
Tensile Strength at Yield	kgf/cm <sup>2</sup>	ASTM D638	270
Tensile Elongation at Break	%	ASTM D638	> 200
Flexural Modulus	kgf/cm <sup>2</sup>	ASTM D790A	14,000
Hardness	R-Scale	ASTM D785	93
Izod Impact Strength	kgf-cm/cm	23°C ASTM D256	N.B >45
HDT	°C	ASTM D648	120

### Contact Information:

Formosa Chemicals & Fibre Corporation Plastics Div. 2<sup>nd</sup> Sales Dept.

TEL: 886-2-27178355 FAX: 886-2-27131649

ADD.: 2F., No. 201, Tung Hwa N. Road, Songshan Dist., Taipei City 10508, Taiwan (R.O.C.)

E-mail: anderson.plastics@fcfc.com.tw



# 後視鏡外殼原料



## ABS 產品 (台化公司)

### 產品特性及優點：

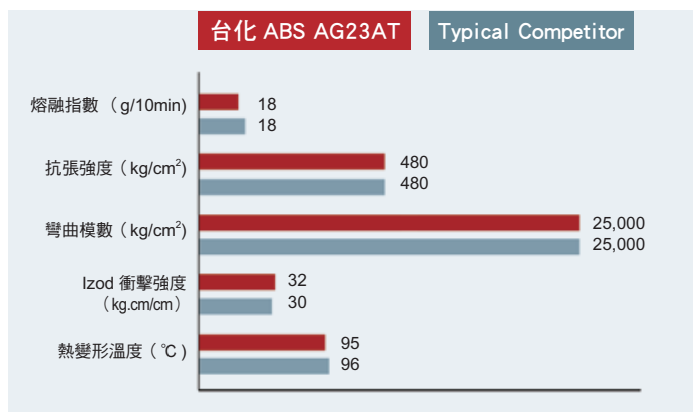
台化電鍍級 ABS (AG22AT、AG23AT) 具極佳成形加工的特性、衝擊強度、剛硬度與傑出的表面光澤度等特點，廣泛應用於汽車零件、電子電氣、日常生活等需要重視外觀表面的產品。台化電鍍級 ABS 產品擁有極佳的電鍍蝕刻能力，電鍍加工條件應用範圍相當寬廣，小可應用於汽車內外門把、後視鏡，大可應用於輪圈蓋、水箱護欄等。

而 AG23AT 經改良橡膠特性，可讓產品表面粗化後，具有電鍍密著性極佳特點，同時也降低加工時所產生的揮發性氣體，減少殘留於產品表面，更有利於電鍍前的脫脂洗淨，強化表面粗化效果。

台化 ABS 已通過認證資料：通過 UL 認證，RoHS 認證。

加工方式：射出成型。

台化 ABS AG23AT 產品與 Typical Competitor 物性比較：



產品規格表：

種類			電鍍級 ABS		
產品型號			AG22AT	AG23AT	
特性			電鍍密著性佳、高耐衝擊性		
應用			水箱護罩、汽車輪圈蓋、門把		
項目	單位	試驗方法	平均值		
熔融指數	g/10min	ASTM D1238	19	18	
抗張強度	kg/cm <sup>2</sup>	ASTM D638	460	480	
彎曲模數	kg/cm <sup>2</sup>	ASTM D790A	24,000	25,000	
Izod 衝擊強度	kg-cm/cm	常溫 (23°C)	ASTM D256	28	32
熱變形溫度	°C	ASTM D648	97	95	

聯繫方式：台灣化學纖維股份有限公司 塑膠部 營業一處

公司電話：886-2-27178405 公司傳真：886-2-27131649

公司地址：10508 台北市松山區敦化北路 201 號前棟二樓

E-mail：kevin.plastic@fcfc.com.tw

# Raw materials for Rearview Mirror Housing



## ABS Resins (FCFC)

### Product Features and Benefits:

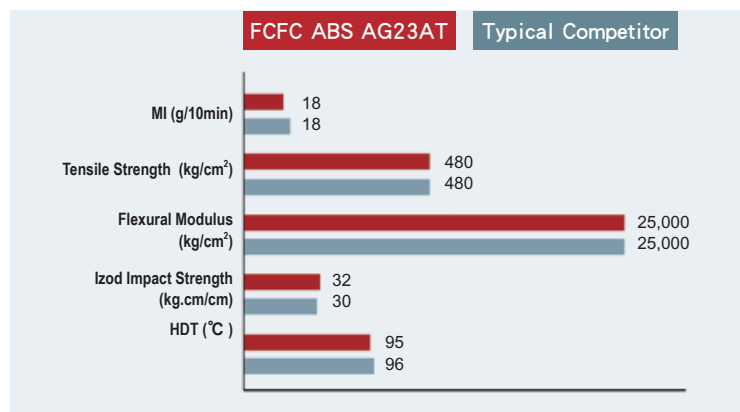
FCFC's plating grade ABS (AG22AT, AG23AT) materials feature excellent properties of moldability, impact strength, rigidity, outstanding surface luster, etc. The materials are widely used in auto parts, electrical and electronics products, and daily consumer products that stress the importance of good surface appearance.

FCFC's plating grade ABS materials have excellent electroplating and etching abilities. The electroplating process can be applied to a wide scope of products, ranging from small objects such as interior/exterior car door handles and rearview mirrors to large objects such as wheel covers, radiator grilles, etc. By modifying the rubber property of AG23AT, the material can make the product surface rougher in order to yield excellent plating adhesion characteristics, while reducing the amount of volatile gas generated during processing and residue on the product surface. This enhances the degreasing process prior to plating and strengthens the surface roughening effect.

**FCFC's ABS materials have received UL and RoHS certification.**

**Processing Methods:** Designed for injection molding.

### Comparison of FCFC ABS AG23AT with a Typical Competitor:



### Products Specifications:

Type			Plating grade ABS	
Grade			AG22AT	AG23AT
Characteristics			Good plating adhesion, High impact strength	
Applications			Radiator grilles, Car wheel covers, Door handles	
Properties	Unit	Test Method	Typical Value	
Melt Index	g/10min	ASTM D1238	19	18
Tensile Strength at Yield	kg/cm <sup>2</sup>	ASTM D638	460	480
Flexural Modulus	kg/cm <sup>2</sup>	ASTM D790A	24,000	25,000
Izod Impact Strength	kg-cm/cm	23°C ASTM D256	28	32
HDT	°C	ASTM D648	97	95

### Contact Information:

**Formosa Chemicals & Fibre Corporation Plastics Div. 1<sup>st</sup> Sales Dept.**

TEL: 886-2-27178405 FAX: 886-2-27131649

ADD.: 2F., No. 201, Tung Hwa N. Road, Songshan Dist., Taipei City 10508, Taiwan (R.O.C.)

E-mail: kevin.plastics@fcfc.com.tw

# 後視鏡外殼原料



## PC/ABS 合膠產品 (台化公司)

### 產品特性及優點：

PC/ABS 合膠具有 ABS 的加工性、低溫韌性及耐應力龜裂，亦具有 PC 的耐衝擊性及耐熱性。

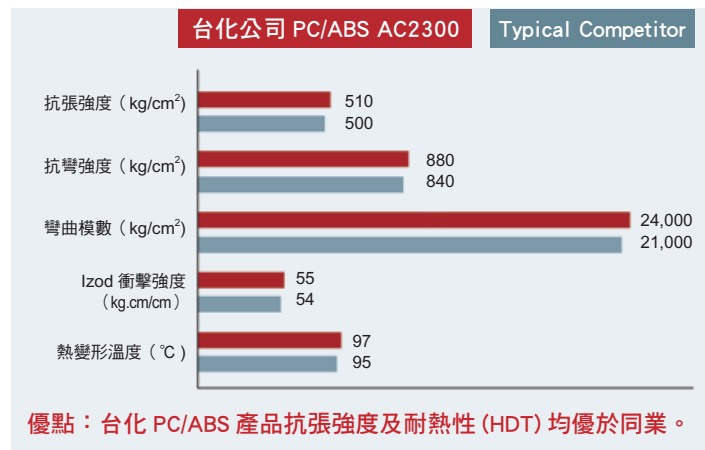
AC2300 是一支電鍍密著性極佳的電鍍級規格，該產品具有優異的成型加工性及耐低溫性，對複雜塑膠配件具有良好的成型性，另外也同時具備良好的電鍍性，使塑膠配件能滿足電鍍要求。

AC2300 之應用範圍廣泛，大可應用於輪圈蓋、汽車儀錶板，小可應用於零組件、汽車車門內外把手等需要電鍍之產品外殼。

**TAIRILOY AC2300 已通過認證資料：通過 UL 認證、RoHS 認證等。**

加工方式：射出成型後再進行電鍍。

台化 PC/ABS AC2300 產品與 Typical Competitor 物性比較：



### 產品規格表：

種類			電鍍級 PC/ABS	
產品型號			AC2300	
特性			電鍍密著性佳、高耐衝擊性	
應用			輪圈蓋、汽車門把、後牌照飾板、後視鏡	
項目	單位	試驗條件	平均值	
熔融指數	g/10min	ASTM D1238	9.0	
抗張強度	kg/cm <sup>2</sup>	ASTM D638	510	
抗彎強度	kg/cm <sup>2</sup>	ASTM D638	880	
彎曲模數	kg/cm <sup>2</sup>	ASTM D790A	24,000	
Izod 衝擊強度	kg.cm/cm	常溫 (23°C)	55	
		低溫 (-30°C)	40	
熱變形溫度	°C	ASTM D648	97	

聯繫方式：台灣化學纖維股份有限公司 塑膠部 營業一處

公司電話：886-2-27178405 公司傳真：886-2-27131649

公司地址：10508 台北市松山區敦化北路 201 號前棟二樓

E-mail：kevin.plastic@fcdc.com.tw

# Raw materials for Rearview Mirror Housing



## PC/ABS Resins (FCFC)

### Product Features and Benefits:

The PC/ABS blended material features the workability, low-temperature toughness, and stress resistance properties of ABS, as well as the impact strength and heat resistance characteristics of PC.

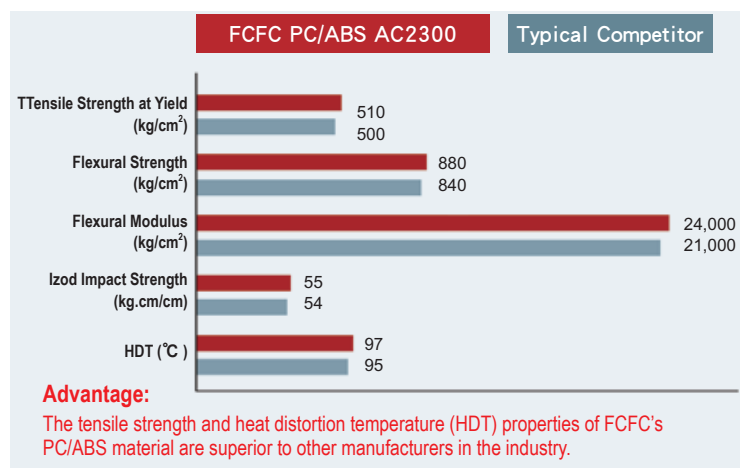
AC2300 is a plating grade material with an excellent plating adhesion property. Its outstanding moldability, low temperature resistance, and good plating characteristics allow it to be molded into complex plastic accessories meeting quality requirements.

AC2300 has been widely applied to large objects such as wheel covers and dashboards and small objects such as car parts and components, interior pull handles, and other product housings that require surface plating.

**TAIRILOY's AC2300 has received UL and RoHS certification.**

**Processing Methods:** Designed for injection and metal plating.

### Comparison of FCFC PC/ABS AC2300 with a Typical Competitor:



### Products Specifications:

Type			Metal Plating Grade PC/ABS
Grade			AC2300
Characteristics			Good plating adhesion, High impact strength
Applications			Wheel covers, Car door handles, Rear number plate panels, Rearview mirror housings
Properties	Unit	Test Method	Typical Value
Melt Index	g/10min	ASTM D1238	9.0
Tensile Strength at Yield	kg/cm <sup>2</sup>	ASTM D638	510
Flexural Strength	kg/cm <sup>2</sup>	ASTM D638	880
Flexural Modulus	kgf/cm <sup>2</sup>	ASTM D790A	24,000
Izod Impact Strength	kg.cm/cm	23°C	55
		-30°C	40
HDT	°C	ASTM D648	97

### Contact Information:

Formosa Chemicals & Fibre Corporation Plastics Div. 1<sup>st</sup> Sales Dept.

TEL: 886-2-271s78405 FAX: 886-2-27131649

ADD.: 2F., No. 201, Tung Hwa N. Road, Songshan Dist., Taipei City 10508, Taiwan (R.O.C.)

E-mail: kevin.plastics@fcfc.com.tw

# 後視鏡外殼原料



## 改性塑膠（工程塑膠）產品（南亞公司）：PBT 複材

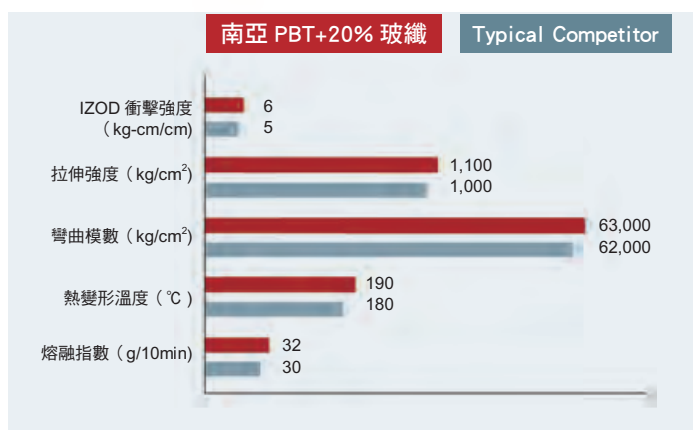
PBT+20% 玻纖 規格：1210G4EBK1

### 產品特性及優點：

南亞改性塑膠（工程塑膠）產品包含 PBT、PET、NYLON6、NYLON66、PC、PP、PPE 等系列產品，玻纖強化、耐燃等規格種類齊全，通過 ISO 9001、ISO14001、TS 16949 認證，品質穩定，成型加工性佳，提供製品優越之機械強度，高熱變形溫度、尺寸安定性、電器性質等，並擁有符合環保要求之非鹵素防火材料，適用於汽車內裝及外裝各種等各種零配件。

加工方式：射出成型。

### 南亞 PBT 複材與 Typical Competitor 物性比較：



### 產品規格表：

種類			PBT 複材
產品型號			1210G4EBK1
特性			高強度、高抗熱變形、高電氣絕緣性、尺寸安定性佳
應用			後視鏡外殼
項目	單位	試驗方法	平均值
熔融指數	g/10min	ASTM D1238	32
拉伸強度	kg/cm <sup>2</sup>	ASTM D638	1,100
彎曲模數	kg/cm <sup>2</sup>	ASTM D790	63,000
Izod 衝擊強度	kg.cm/cm	ASTM D256	6.0
熱變形溫度	°C	ASTM D648	190

### 聯繫方式：南亞塑膠工業股份有限公司 塑三部 產銷四組

公司電話：886-2-27178507、886-2-2712211#5814 公司傳真：886-2-27198661

公司地址：10508 台北市松山區敦化北路 201 號後棟三樓

E-mail：epnanya@npc.com.tw

# Raw materials for Rearview Mirror Housing



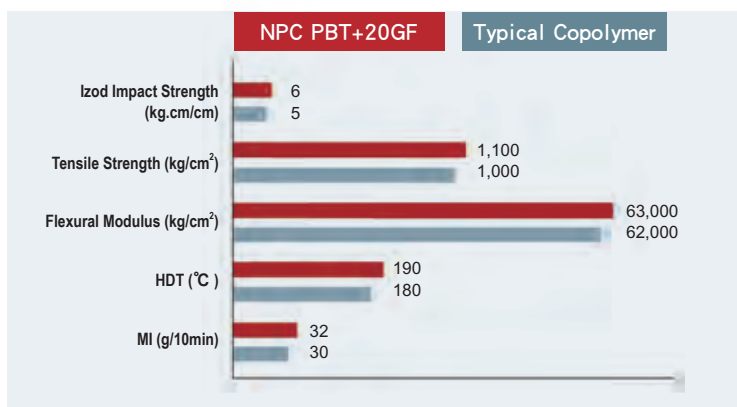
**Modified plastics (engineering plastics) (NPC): PBT composite**  
PBT +20% Glass Fiber Grade: 1210G4EBK1

### Product Features and Benefits:

Nan Ya's modified plastics (engineering plastics) are available in PBT, PET, NYLON 6, NYLON 66, PC, PP, PPE, and other products with a wide range of specifications and properties, including reinforced glass fiber, flame retardant, stable quality, and good moldability, all of which conform to ISO 9001, ISO 14001, and TS 16949 certifications. These materials can help produce products with excellent mechanical strength, high heat distortion temperature, dimensional stability, electrical properties, etc. Environmentally friendly halogen-free flame retardant materials are also available and are suitable for use in car interior/exterior decorations, as well as various parts and accessories.

**Processing Methods:** Designed for injection molding.

### Comparison of NPC PBT Composite with a Typical Competitor:



### Products Specifications:

Type			PBT Composite
Grade			12140G4EBK1
Characteristics			High tenacity, High heat distortion temperature, High electrical insulation, Good dimensional stability
Applications			Rearview mirror housings
Properties	Unit	Test Method	Typical Value
Melt Index	g/10min	ASTM D1238	32
Tensile Strength	kg/cm <sup>2</sup>	ASTM D638	1,100
Flexural Modulus	kg/cm <sup>2</sup>	ASTM D790	63,000
Izod Impact Strength	kg.cm/cm	ASTM D256	6.0
HDT	°C	ASTM D648	190

### Contact Information:

Nan Ya Plastics Corporation Plastics 3<sup>rd</sup> Div. Engineering Plastics Dept.

TEL: 886-2-27178507/ 886-2-27122211# 5814 FAX: 886-2-27198661

ADD.: 3F., No. 201, Tung Hwa N. Road, Songshan Dist., Taipei City 10508, Taiwan (R.O.C.)

E-mail: epanya@npc.com.tw

# 後視鏡底座原料



## POM 產品 (台塑公司)

台塑鋼® FORMOCON® 共聚型聚甲醛樹脂

### 產品特性及優點：

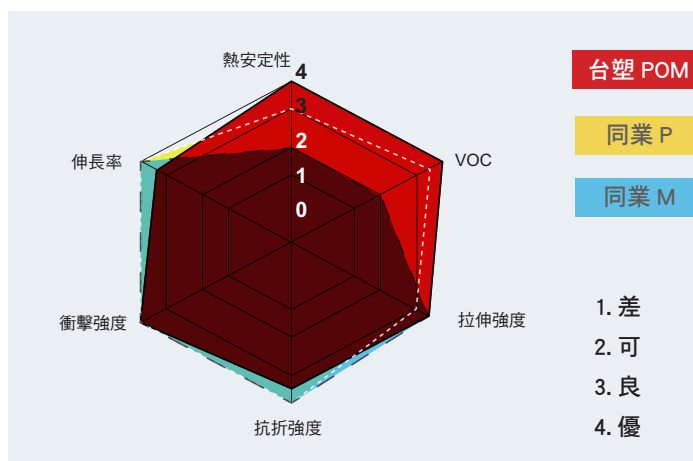
POM 為高結晶性樹脂，有下列特性：

1. 有極佳的剛性、耐蠕變及耐疲勞性；
2. 摩擦係數小，耐磨耗，具自潤性功能；
3. 熱膨脹係數小，有極佳尺寸安定性；
4. 耐油、耐有機溶劑。

主要應用於汽車內需要剛性、潤滑性、耐疲勞性等零件。

加工方式：(1) 射出成型 (2) 押出成型。

台塑 POM 產品與同業廠物性比較：



### 產品規格表：

產品型號			標準級					
			FM025	R6	FM090	FM130	FM270	
特性			高黏度	標準增韌	標準流動	中流動	高流動	
加工方式			押出/射出	射出	射出	射出	射出	
項目	單位	試驗方法	平均值					
熔融指數	g/10min	ASTM D1238	2.5	6	9	13	27	
拉伸強度	kg/cm <sup>2</sup>	ASTM D638	610	620	620	620	620	
抗折強度	kg/cm <sup>2</sup>	ASTM D790	950	950	950	950	950	
硬度	M-scale	ASTM D785	78	80	80	80	80	
耐衝擊強度	kg.cm/cm	常溫 (23°C)	ASTM D256	7.6	7.0	6.5	6.0	5.4
熱變形溫度	°C @18.6kgf/cm <sup>2</sup>	ASTM D648	110	110	110	110	110	

聯繫方式：台灣塑膠工業股份有限公司 聚丙烯部 營業處

公司電話：886-2-27122211 轉 6137 公司傳真：886-2-27181230

公司地址：10508 台北市松山區敦化北路 201 號前棟八樓

E-mail：nico1@fpc.com.tw

# Raw materials for Rearview Mirror Base



## POM (FPC)

FORMOCON®  
POLYOXYMETHYLENE (POM)  
ACETAL COPOLYMER

### Product Features and Benefits:

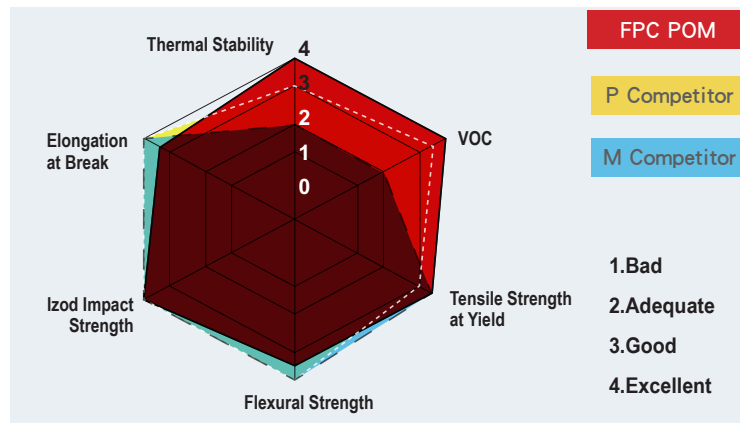
POM is a type of highly crystalline resin that possesses the following characteristics:

1. Excellent rigidity, creep and fatigue resistance.
2. Small coefficient of friction, wear resistance, self-lubricating functions.
3. Small coefficient of thermal expansion, excellent dimensional stability.
4. Oil and organic solvent resistance.

Its main applications are in interior auto parts that require rigidity, lubricity, fatigue resistance, and other such properties.

**Processing Methods:** (1) Designed for injection molding.  
(2) Designed for extrusion molding.

### Comparison of FPC POM with a Typical Competitor:



### Products Specifications:

Grade			General Purpose Grade				
			FM025	R6	FM090	FM130	FM270
Characteristics			High viscosity	Standard Toughening	Standard Fluidity	Medium Fluidity	High Fluidity
Processing methods			Extrusion/ Injection	Injection	Injection	Injection	Injection
Properties	Unit	Test Method	Typical Value				
Melt Index	g/10min	ASTM D1238	2.5	6	9	13	27
Tensile Strength at Yield	kg/cm <sup>2</sup>	ASTM D638	610	620	620	620	620
Flexural Strength	kg/cm <sup>2</sup>	ASTM D790	950	950	950	950	950
Rockwell Hardness	M-scale	ASTM D785	78	80	80	80	80
Izod Impact Strength	kg.cm/cm	23°C ASTM D256	7.6	7.0	6.5	6.0	5.4
HDT	°C @18.6kgf/cm <sup>2</sup>	ASTM D648	110	110	110	110	110

### Contact Information:

Formosa Plastics Corporation Polypropylene Div. Sales Dept.

TEL: 886-2-27122211 EXT. 6137 FAX: 886-2-27181230

ADD.: 8F., No. 201, Tung Hwa N. Road, Songshan Dist., Taipei City 10508, Taiwan (R.O.C.)

E-mail: nico1@fpc.com.tw



台塑企業**汽車部件**使用材料

**車燈底座、車燈反射鏡、車燈外殼及  
日間行車燈**

**Headlight Base, Car Light Reflector,  
Headlight Housing &  
Day Running Light**







## 高耐候、導光性佳，燈光散佈均勻

高耐衝、導光性及尺寸安定性佳，可使燈光散佈更加均勻，提升汽車整體的價值。





HIGH TEMPERATURE RESISTANCE, EXCELLENT  
LIGHT GUIDE, UNIFORM LIGHT DISPERSION

High impact strength, excellent light guide, and dimensional stability will allow the light to evenly disperse and add value to the whole car.



# 車燈底座原料



## PP 產品 (台塑公司)

1124/1600A/3084/3504

### 產品特性及優點：

台塑 PP 產品用於汽車零件有輕量化、低成本、加工性佳優點，並可依其特性進行改質（如：添加滑石粉、玻纖等），以產製各式化汽車零組件。

- A. 原料係以氫調法生產，低 VOC，同時為高結晶產品，高剛性、高耐熱性，長期耐熱老化佳。
- B. 原料配方簡單，混摻均勻性優，品質穩定度佳。
- C. 並經原廠認證，優於現用料，且加工溫度降低，可以降低生產成本。

加工方式：注塑成型。

### 產品規格表：

種類		均聚物				耐衝擊共聚物					
產品型號		1124	對抗品	1600A	對抗品	3084	對抗品	3504	對抗品		
項目	單位	平均值									
熔融指數	g/10min	15	14.5	60	65	8.5	9.0	55	50		
降伏強度	kg/cm <sup>2</sup>	490	400	400	350	290	260	270	240		
剛性係數	kg/cm <sup>2</sup>	22,000	20,000	19,000	14,000	14,000	13,000	12,000	12,500		
Izod 耐衝擊強度	kg-cm/cm	常溫 (23°C)		3	3	3	2	10	15	8.5	10
熱變形溫度	°C	135	122	130	110	130	120	125	115		

建議規格 1124/3084/ 滑石粉或 1600A/3504/ 滑石粉混摻均勻性優。

聯繫方式：台灣塑膠工業股份有限公司 聚丙烯部 營業處

公司電話：886-2-27122211 轉 6169 公司傳真：886-2-27181230

公司地址：10508 台北市松山區敦化北路 201 號前棟八樓

E-mail：eric0602@fpc.com.tw、tbcharles@fpc.com.tw

# Raw materials for Headlight Base



## PP Resins (FPC)

1124/1600A/3084/3504

### Product Features and Benefits:

Using FPC's PP raw materials in auto parts provides lightweight, low cost, and good workability characteristics and can be modified according to their properties (such as adding talc, glass fiber, etc.) to produce a variety of auto parts and components.

- A. Produced using the hydrogen regulation method, the raw material features a low VOC. It is also a highly crystalline material that features high rigidity, high heat resistance, and good long-term heat aging.
- B. The raw material can be easily formulated with excellent mixing uniformity and excellent quality stability.
- C. OEM-certified, it is better than conventional materials and can lower the processing temperature, as well as reduce production costs.

**Processing Methods:** Designed for injection molding.

### Products Specifications:

Type		Homopolymer				Impact copolymers			
Grade		1124	Competitor	1600A	Competitor	3084	Competitor	3504	Competitor
Properties	Unit	Typical Value							
Melt Index	g/10min	15	14.5	60	65	8.5	9.0	55	50
Tensile Strength at Yield	kg/cm <sup>2</sup>	490	400	400	350	290	260	270	240
Flexural Modulus	kg/cm <sup>2</sup>	22,000	20,000	19,000	14,000	14,000	13,000	12,000	12,500
Izod Impact Strength	kg-cm/cm 23°C	3	3	3	2	10	15	8.5	10
HDT	°C	135	122	130	110	130	120	125	115

※ Recommended formula to produce excellent mixing uniformity:  
1124 / 3084 / talc powder or 1600A / 3504 / talcum powder.

### Contact Information:

**Formosa Plastics Corporation Polypropylene Div. Sales Dept.**

TEL: 886-2-27122211 EXT. 6169 FAX: 886-2-27181230

ADD.: 8F., No. 201, Tung Hwa N. Road, Songshan Dist., Taipei City 10508, Taiwan (R.O.C.)

E-mail: eric0602@fpc.com.tw / tbcharles@fpc.com.tw

# 車燈底座原料



## PP 產品 (台化公司)

### 產品特性及優點：

台化發揮 Chisso Know-how 氣相製程，開發出多款高附加價值 Impact Copolymer，供應汽車 Compound 行業使用，K7005 高剛性、耐溫、抗變形及高耐衝的特性。

#### A. 台化 PP 已通過認證資料：

(1)ISO 9001,14001 (2)OHSAS 18001 (3) 環保證明。

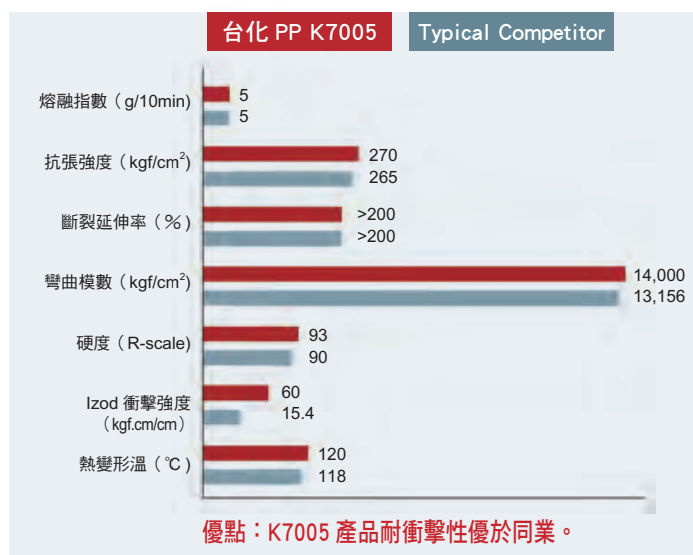
#### B. K7005 取得認證資料：

(1)FDA Compliance (2)UL 94 HB (3)RoHS

(4)REACH SVHC (5)PAHS。

加工方式：射出注塑成型。

### 台化 PP K7005 產品與 Typical Competitor 物性比較：



### 產品規格表：

種類		耐衝擊共聚物		
產品型號		K7005		
特性		高耐衝擊、高剛性		
應用		複合材、車燈底座		
項目	單位	試驗條件	物性表	
熔融指數	g/10min	ASTM D1238	5	
抗張強度	kgf/cm <sup>2</sup>	ASTM D638	270	
斷裂延伸率	%	ASTM D638	> 200	
彎曲模數	kgf/cm <sup>2</sup>	ASTM D790A	14,000	
硬度	R-scale	ASTM D785	93	
Izod 衝擊強度	kgf.cm/cm	常溫 (23°C)	ASTM D256	60
熱變形溫度	°C	ASTM D648	120	

聯繫方式：台灣化學纖維股份有限公司 塑膠部 營業二處

公司電話：886-2-27178355 公司傳真：886-2-27131649

公司地址：10508 台北市松山區敦化北路 201 號前棟二樓

E-mail：anderson.plastics@fcfc.com.tw

# Raw materials for Headlight Base



## PP Resins (FCFC)

### Product Features and Benefits:

FCFC has exhibited the technical know-how of the Chisso gas-phase process to develop a number of high value-added impact copolymers into compound materials and supply them to the auto industry. K9017 features excellent impact strength, such as high impact strength at room temperature and impact resistance at low temperature, as well as anti-UV, low specific gravity, and lightweight properties.

#### A. FCFC's PP has received:

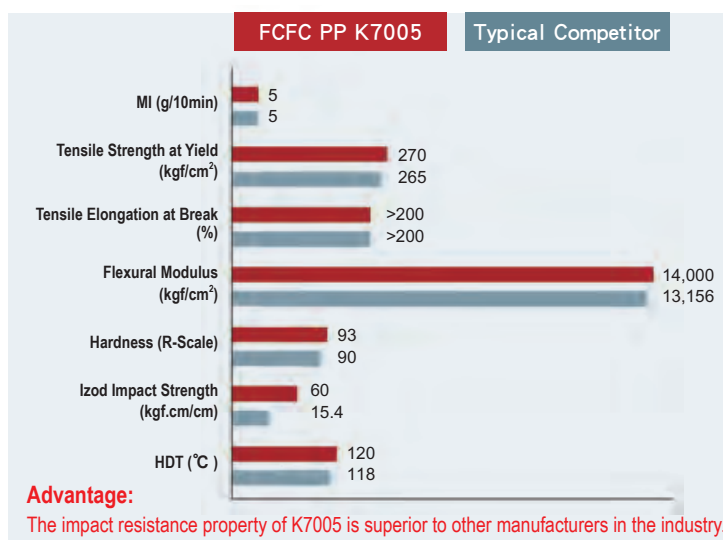
- (1) ISO 9001 & 14001, (2) OHSAS 18001, and
- (3) Environmental protection certification.

#### B. K9017 has obtained certification from:

- (1) FDA, (2) UL 94 HB, (3) RoHS, (4) REACH SVHC, and (5) PAHS.

**Processing Methods:** Designed for injection molding.

### Comparison of FCFC PP K7005 with a Typical Competitor:



### Products Specifications:

Type			Impact Copolymer
Grade			K7005
Characteristics			High impact strength, High rigidity
Applications			Composite materials, Headlight base
Properties	Unit	Test Method	Typical Value
Melt Index	g/10min	ASTM D1238	5
Tensile Strength at Yield	kgf/cm <sup>2</sup>	ASTM D638	270
Tensile Elongation at Break	%	ASTM D638	> 200
Flexural Modulus	kgf/cm <sup>2</sup>	ASTM D790A	14,000
Hardness	R-Scale	ASTM D785	93
Izod Impact Strength	kgf-cm/cm	23°C ASTM D256	60
HDT	°C	ASTM D648	120

### Contact Information:

Formosa Chemicals & Fibre Corporation Plastics Div. 2<sup>nd</sup> Sales Dept.

TEL: 886-2-27178355 FAX: 886-2-27131649

ADD.: 2F., No. 201, Tung Hwa N. Road, Songshan Dist., Taipei City 10508, Taiwan (R.O.C.)

E-mail: anderson.plastics@fcfc.com.tw



# 車燈底座原料



## ABS 產品 (台化公司)

### 產品特性及優點：

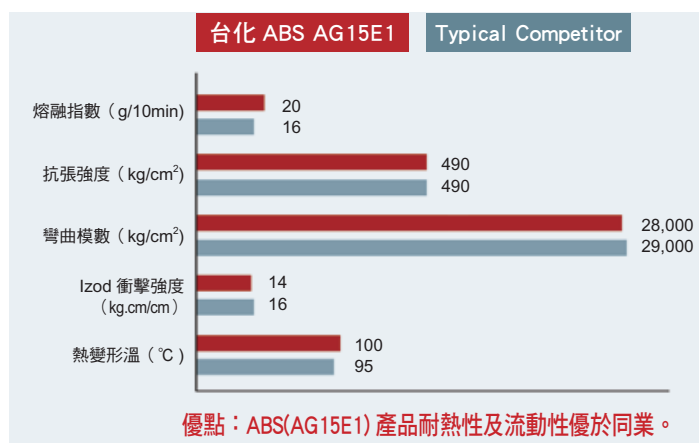
台化一般級 ABS(AG15E1) 具極佳的成形加工特性、高剛性及傑出的表面光澤度特點，廣泛應用於汽車零件、電子電氣、日常生活等需要重視外觀表面的產品。

汽車車燈零件對材料的耐熱要求比汽車內飾件為低，為一特殊零件，須符合耐熱及密封的特點，台化 ABS(AG15E1) 產品兼具車燈之特點，可滿足汽車外飾件的要求，且具有優越的價格競爭性。

台化 ABS 已通過認證資料：通過 UL 認證，RoHS 認證。

加工方式：射出成型。

台化 ABS AG15E1 產品與 Typical Competitor 物性比較：



### 產品規格表：

種類			一般級 ABS	
產品型號			AG15E1	
特性			高光澤性、高剛性	
應用			車燈底座、玩具、家電	
項目	單位	試驗方法	平均值	
熔融指數	g/10min	ASTM D1238	20	
抗張強度	kg/cm <sup>2</sup>	ASTM D638	490	
彎曲模數	kg/cm <sup>2</sup>	ASTM D790A	28,000	
Izod 衝擊強度	kg-cm/cm	常溫 (23°C)	ASTM D256	14
熱變形溫度	°C	ASTM D648	100	

聯繫方式：台灣化學纖維股份有限公司 塑膠部營業一處

公司電話：886-2-27178405 公司傳真：886-2-27131649

公司地址：10508 台北市松山區敦化北路 201 號前棟二樓

E-mail：kevin.plastic@fcdc.com.tw

# Raw materials for Headlight Base



## ABS Resins (FCFC)

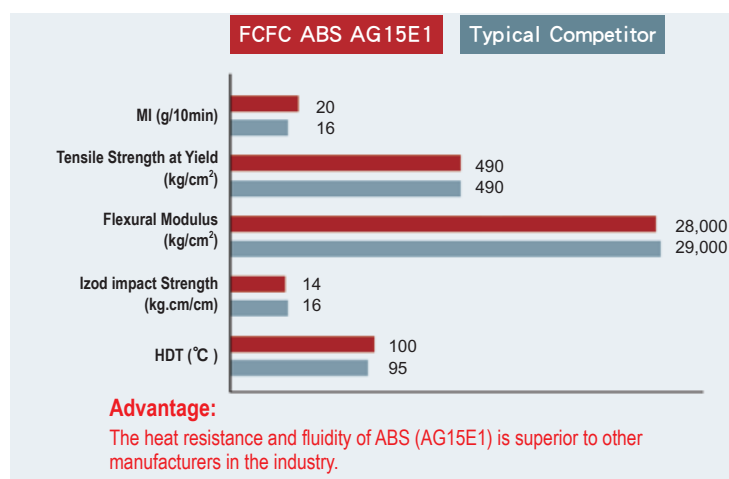
### Product Features and Benefits:

FCFC's general purpose ABS (AG15E1) features excellent properties of formability, high rigidity, and outstanding surface luster. The material is widely used in auto parts, electrical and electronics products, and daily consumer products that stress the importance of good surface appearance. The heat resistance requirement of the ABS material of car lamp parts is higher than that of interior car parts. These special car lamp parts must comply with heat resistance and sealing properties. FCFC's ABS (AG15E1) material can meet the requirements of exterior car parts such as lamps and has the advantage of competitive pricing.

**FCFC's ABS material has received UL and RoHS certification.**

**Processing Methods:** Designed for injection molding.

### Comparison of FCFC ABS AG15E1 with a Typical Competitor:



### Products Specifications:

Type			General purpose ABS
Grade			AG15E1
Characteristics			High luster, High rigidity
Applications			Headlight bases, Toys, Appliances
Properties	Unit	Test Method	Typical Value
Melt Index	g/10min	ASTM D1238	20
Tensile Strength at Yield	kg/cm <sup>2</sup>	ASTM D638	490
Flexural Modulus	kg/cm <sup>2</sup>	ASTM D790A	28,000
Izod Impact Strength	kg-cm/cm	23°C ASTM D256	14
HDT	°C	ASTM D648	100

### Contact Information:

**Formosa Chemicals & Fibre Corporation Plastics Div. 1<sup>st</sup> Sales Dept.**

TEL: 886-2-27178405 FAX: 886-2-27131649

ADD.: 2F., No. 201, Tung Hwa N. Road, Songshan Dist., Taipei City 10508, Taiwan (R.O.C.)

E-mail: kevin.plastics@fcfc.com.tw

# 頭燈底座原料



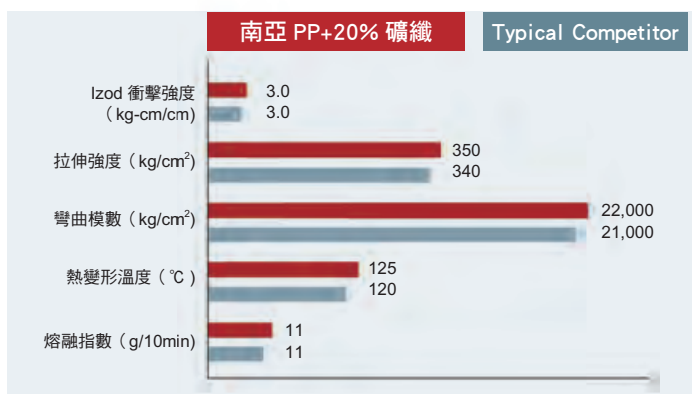
**改性塑膠（工程塑膠）產品（南亞公司）：PP 複材**  
PP+20% 礦纖 規格：3210T4EBK1

## 產品特性及優點：

南亞改性塑膠（工程塑膠）產品包含 PBT、PET、NYLON 6、NYLON 66、PC、PP、PPE 等系列產品，玻纖強化、耐燃等規格種類齊全，通過 ISO 9001、ISO 14001、TS 16949 認證，品質穩定，成型加工性佳，提供製品優越之機械強度，高熱變形溫度、尺寸安定性、電器性質等，並擁有符合環保要求之非鹵素防火材料，適用於汽車內裝及外裝各種等各種零配件。

**加工方式：**射出成型。

## 南亞 PP 複材與 Typical Competitor 物性比較：



## 產品規格表：

種類			PP 複材
產品型號			3210T4EBK1
特性			高韌性、易成型、表面光滑、尺寸安定性佳
應用			頭燈底座
項目	單位	試驗方法	平均值
熔融指數	g/10min	ASTM D1238	11
拉伸強度	kg/cm <sup>2</sup>	ASTM D638	350
彎曲模數	kg/cm <sup>2</sup>	ASTM D790	22,000
Izod 衝擊強度	kg.cm/cm	ASTM D256	3.0
熱變形溫度	°C	ASTM D648	125

**聯繫方式：南亞塑膠工業股份有限公司 塑三部 產銷四組**

公司電話：886-2-27178507、886-2-27122211 轉 5814 公司傳真：886-2-27198661

公司地址：10508 台北市松山區敦化北路 201 號後棟三樓

E-mail：epnanya@npc.com.tw

# Raw materials for Headlight Housing



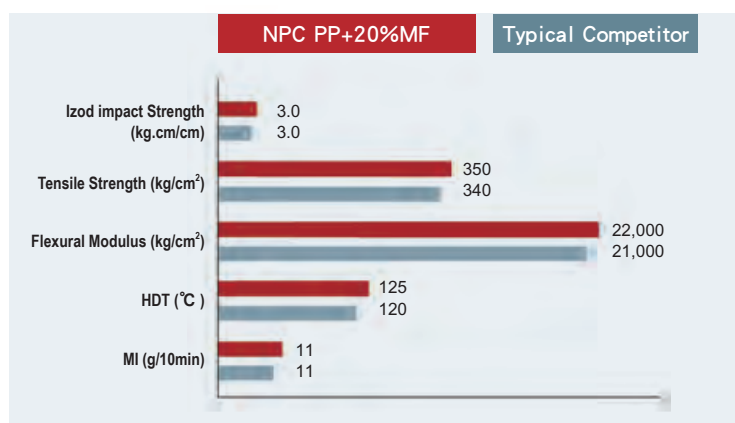
**Modified plastics (engineering plastics) (NPC): PP composite**  
PP + 20% Mineral Fiber Grade: 3210T4EBK1

### Product Features and Benefits:

Nan Ya's modified plastics (engineering plastics) are available in PBT, PET, NYLON 6, NYLON 66, PC, PP, PPE, and other materials with a wide range of specifications and properties, including reinforced glass fiber, flame retardant, stable quality, and good moldability, all of which conform to ISO 9001, ISO 14001, and TS 16949 certifications. These materials can help produce products with excellent mechanical strength, high heat distortion temperature, dimensional stability, electrical properties, etc. Environmentally friendly halogen-free flame retardant materials are also available and are suitable for use in car interior/exterior decorations, as well as various parts and accessories.

**Processing Methods:** Designed for injection molding.

### Comparison of NPC PP Composite with a Typical Competitor:



### Products Specifications:

Type			PP Composite
Grade			3210T4EBK1
Characteristics			High toughness, Good moldability, Smooth surface, Good dimensional stability
Applications			Headlight base
Properties	Unit	Test Method	Typical Value
Melt Index	g/10min	ASTM D1238	11
Tensile Strength at Yield	kg/cm <sup>2</sup>	ASTM D638	350
Flexural Modulus	kg/cm <sup>2</sup>	ASTM D790	22,000
Izod Impact Strength	kg.cm/cm	ASTM D256	3.0
HDT	°C	ASTM D648	125

### Contact Information:

Nan Ya Plastics Corporation Plastics 3<sup>rd</sup> Div. Engineering Plastics Dept.

TEL: 886-2-886-2-27178507/ 886-2-27122211# 5814 FAX: 886-2-27198661

ADD.: 3F., No. 201, Tung Hwa N. Road, Songshan Dist., Taipei City 10508, Taiwan (R.O.C.)

E-mail: epnanya@npc.com.tw

# 車燈反射鏡原料



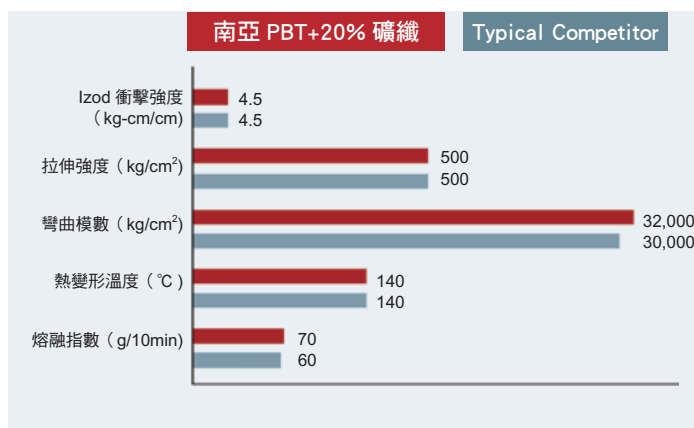
**改性塑膠（工程塑膠）產品（南亞公司）：PBT 複材**  
PBT+20% 礦纖 規格：1210G4MBK1

## 產品特性及優點：

南亞改性塑膠（工程塑膠）產品包含 PBT、PET、NYLON 6、NYLON 66、PC、PP、PPE 等系列產品，玻纖強化、耐燃等規格種類齊全，通過 ISO 9001、ISO 14001、TS 16949 認證，品質穩定，成型加工性佳，提供製品優越之機械強度，高熱變形溫度、尺寸安定性、電器性質等，並擁有符合環保要求之非鹵素防火材料，適用於汽車內裝及外裝各種等各種零配件。

**加工方式：**射出成型。

**南亞 PBT 複材與 Typical Competitor 物性比較：**



**產品規格表：**

種類			PBT 複材
產品型號			1210G4MBK1
特性			表面佳、易成型、尺寸安定性佳
應用			車燈反射鏡
項目	單位	單位	平均值
熔融指數	g/10min	ASTM D1238	70
拉伸強度	kg/cm <sup>2</sup>	ASTM D638	500
彎曲模數	kg/cm <sup>2</sup>	ASTM D790	32,000
Izod 衝擊強度	kg.cm/cm	ASTM D256	4.5
熱變形溫度	°C	ASTM D648	140

**聯繫方式：南亞塑膠工業股份有限公司 塑三部 產銷四組**

公司電話：886-2-27178507、886-2-27122211 轉 5814 公司傳真：886-2-27198661

公司地址：10508 台北市松山區敦化北路 201 號後棟三樓

E-mail：epnanya@npc.com.tw

# Raw materials for Car Light Reflector



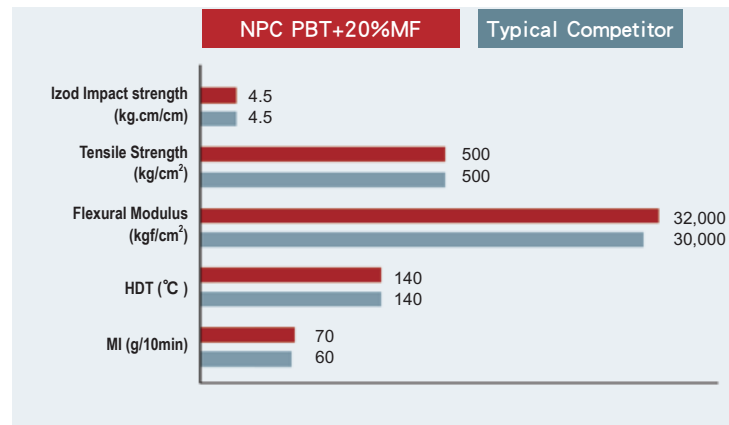
**Modified plastics (engineering plastics) (NPC): PBT composite**  
PBT + 20% Mineral Fiber Grade: 1210G4MBK1

### Product Features and Benefits:

Nan Ya's modified plastics (engineering plastics) are available in PBT, PET, NYLON 6, NYLON 66, PC, PP, PPE, and other materials with a wide range of specifications and properties, including reinforced glass fiber, flame retardant, stable quality, and good moldability, all of which conform to ISO 9001, ISO 14001, and TS 16949 certifications. These materials can help produce products with excellent mechanical strength, high heat distortion temperature, dimensional stability, electrical properties, etc. Environmentally friendly halogen-free flame retardant materials are also available and are suitable for use in car interior/exterior decorations, as well as various parts and accessories.

**Processing Methods:** Designed for injection molding.

### Comparison of NPC PBT Composite with a Typical Competitor:



### Products Specifications:

Type			PBT Composite
Grade			1210G4MBK1
Characteristics			Good surface appearance, Good moldability, Good dimensional stability
Applications			Car light reflectors
Properties	Unit	Test Method	Typical Value
Melt Index	g/10min	ASTM D1238	70
Tensile Strength	kg/cm <sup>2</sup>	ASTM D638	500
Flexural Modulus	kg/cm <sup>2</sup>	ASTM D790	32,000
Izod Impact Strength	kg.cm/cm	ASTM D256	4.5
HDT	°C	ASTM D648	140

### Contact Information:

**Nan Ya Plastics Corporation Plastics 3<sup>rd</sup> Div. Engineering Plastics Dept.**

TEL: 886-2-886-2-27178507/ 886-2-27122211# 5814 FAX: 886-2-27198661

ADD.: 3F., No. 201, Tung Hwa N. Road, Songshan Dist., Taipei City 10508, Taiwan ( R.O.C.)

E-mail: epnanya@npc.com.tw

# 車燈外殼原料



## PC 產品 (台化出光公司)

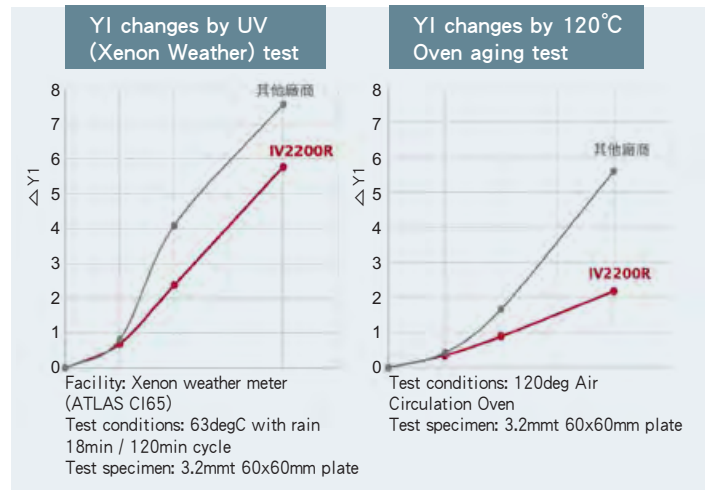
IV1900R、IV2200R 應用於車燈外殼

### 產品特性及優點：

- IV1900R、IV2200R 是出光興產開發能隔絕紫外線，具有非常好的耐候、耐衝擊特性的 PC(聚碳酸酯)。
- 相較於一般 PC，IV1900R、IV2200R 在波長 380nm 遮蔽下，具有更優異的隔絕紫外線穿透的能力，及更優良的成型性質，目前多應用於汽車車燈外殼、燈具相關設備。與戶外產品應用。

※ IV1900R、IV2200R 通過 AMECA 認證。

### IV2200R 抗紫外線和高溫耐久性：



### 產品規格表：

產品			PC		
產品型號			LC1500	IV1900R	IV2200R
應用			日行燈	汽車燈殼	
性質	單位	試驗方法	平均值		
熔融指數	cm <sup>3</sup> /10min	ISO 1183	65	19	11
密度	g/cm <sup>3</sup>	ISO 1183	1.2		
機械性質					
拉伸率	MPa	ISO 527-1,2	65		
拉伸斷裂應變	%	ISO 527-1,2	80	95	
彎曲強度	MPa	ISO 178	90		
彎曲模數	GPa	ISO 178	2.3		
衝擊強度	kJ/m <sup>2</sup>	ISO 179-1 (Notched)	15	70	80
熱學性質					
熱變形溫	1.8 MPa	ISO 75-1,2	125		
耐燃性質					
UL 認證	Class(厚度)	UL94	V-2 (0.42-1.5)	V-2 (0.36-1.8)	V-2 (0.36-2.9)

### 聯繫方式：台化出光石油化學股份有限公司

公司電話：886-2-27122211 轉 6618 公司傳真：886-2-25473133

公司地址：10508 台北市松山區敦化北路 201 號後棟七樓

E-mail：wkli.fipc@fcfc.com.tw

# Raw materials for Headlight Housing



## PC Resins (FIPC)

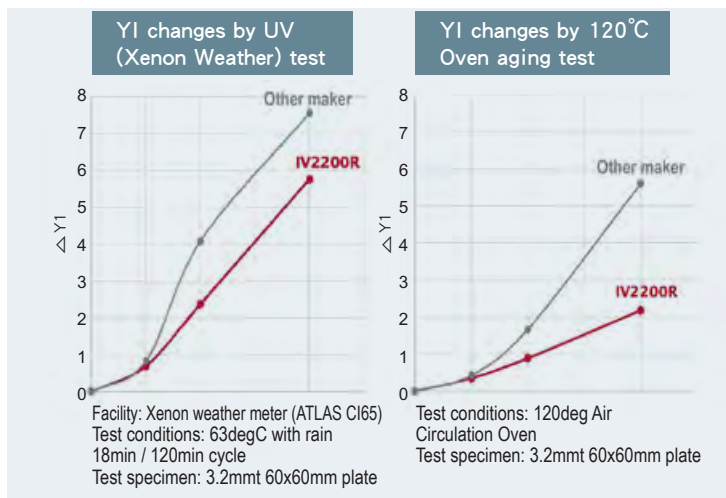
IV1900R & IV2200R applies to Car Headlight Housing.

### Product Features and Benefits:

- A. IV1900R and IV2200R are PC materials developed by Idemitsu Kosan that are capable of isolating UV light and feature very good weather resistance and impact resistance properties.
- B. Compared with general purpose PC, IV1900R and IV2200R feature outstanding UV isolating property to avoid its penetration at wavelengths of 380 nm and a excellent moldability. They are currently widely used in car headlight housings, lighting-related equipment, and outdoor products.

※IV1900R and IV2200R approved by AMECA.

### UV resistance and high-temperature durability properties of IV2200R:



## Products Specifications:

Products			PC		
Grade			LC1500	IV1900R	IV2200R
Applications			DRL	Car Housing	
Properties	Unit	Test Method	Typical Value		
MFR	cm <sup>3</sup> /10min	ISO 1183	65	19	11
Density	g/cm <sup>3</sup>	ISO 1183	1.2		
Mechanical					
Tensile Stress at Yield	MPa	ISO 527-1,2	65		
Tensile Strain at Break	%	ISO 527-1,2	80	95	
Flexural Strength	MPa	ISO 178	90		
Flexural Modulus	GPa	ISO 178	2.3		
Charpy Impact Strength	kJ/m <sup>2</sup>	ISO 179-1 (Notched)	15	70	80
Thermal					
HDT	1.8 MPa	ISO 75-1,2	125		
Flammability					
UL Rating	Class (Thickness)	UL94	V-2 (0.42-1.5)	V-2 (0.36-1.8)	V-2 (0.36-2.9)

## Contact Information:

### Formosa Idemitsu Petrochemical Corporation

TEL: 886-2-27122211 EXT.6618 FAX: 886-2-25473133

ADD.:7F., No. 201, Tung Hwa N. Road, Songshan Dist., Taipei City 10508, Taiwan (R.O.C.)

E-mail: wkli.fipc@fpcf.com.tw



# 日間行車燈原料



## PC 產品 (台化出光公司)

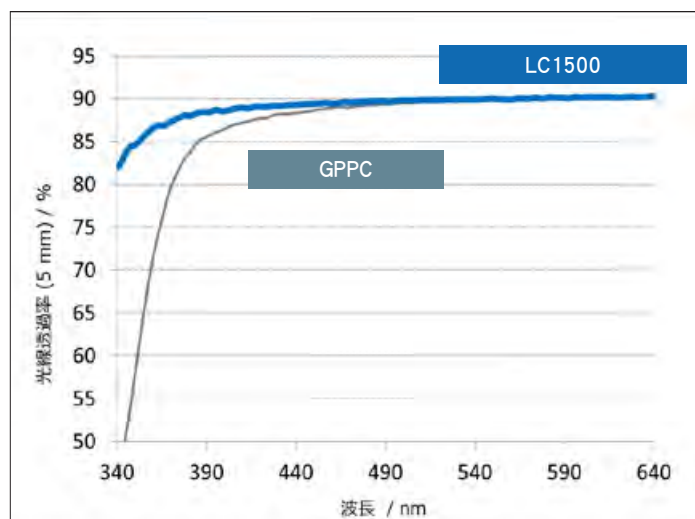
LC1500 應用於日間行車燈 (DRL)

### 產品特性及優點：

- A. LC1500 是出光興產獨自開發特殊技術，將 PC(聚碳酸酯)改良出具有非常好的導光特性。  
相較於一般 PC，LC1500 在短波段藍~紫範圍具有更優異的光穿透率。
- B. 因類白光 LED 發光波長是最有益於 LC1500 穿透光源，因此，是最適合應用在汽車導光部品，如現今汽車大廠常使用於日行燈材料。

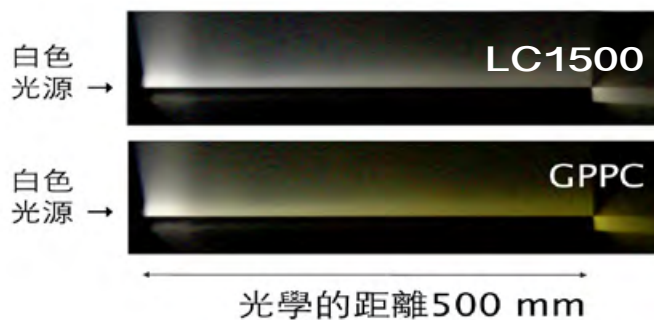
### 分光光線穿透率：

LC1500 在短波長區段具有高光學穿透率



### 光穿透的色度透過光學模擬：

LC1500 光穿透的色度變化小



聯繫方式：台化出光石油化學股份有限公司

公司電話：886-2-27122211 轉 6618 公司傳真：886-2-25473133

公司地址：10508 台北市松山區敦化北路 201 號後棟七樓

E-mail：wkli.fipc@fcfc.com.tw

# Raw materials for Day Running Light



## PC Resins (FIPC)

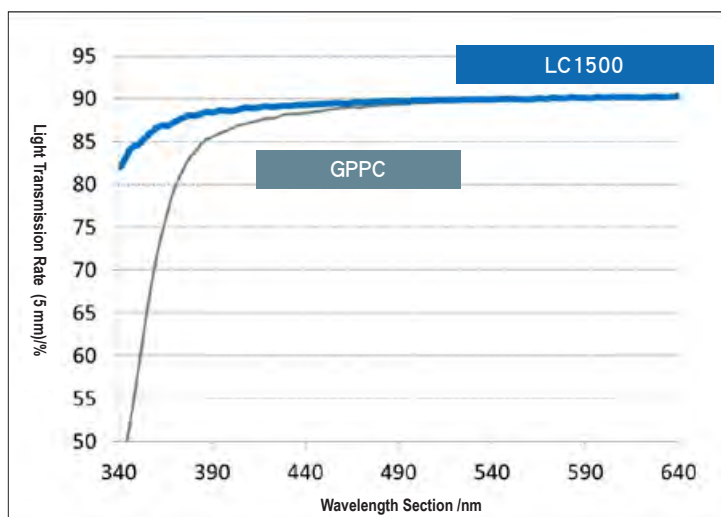
LC1500 applies to Day Running Light (DRL)

### Product Features and Benefits:

- A. LC1500 is a self-developed special technology of Idemitsu Kosan to modify PC in order to yield an excellent light-guiding property. Compared with general purpose PC, LC1500 features a better light transmission rate in the short wavelength range of blue ~ violet.
- B. Since a white LED light emission wavelength is favorable for LC1500 to transmit a light source, it is thus suitable to use in auto parts that require light guiding features, such as the popular day running lights currently produced by large automobile manufacturers.

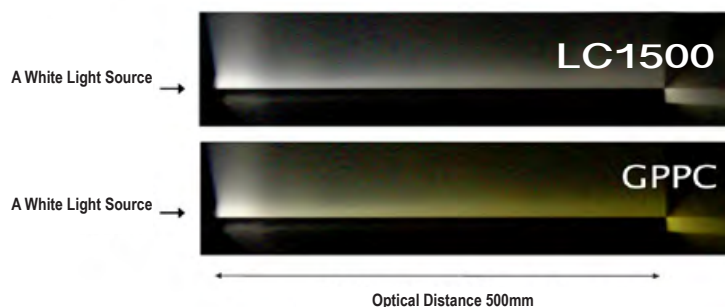
### Spectral Light Transmission Rate:

LC1500 features a high light transmission rate in the short wavelength section.



### The light penetration color through optical simulation:

The light penetration color change of LC1500 is small.



### Contact Information:

#### Formosa Idemitsu Petrochemical Corporation

TEL: 886-2-27122211 EXT.6618 FAX: 886-2-25473133

ADD.: 7F., No. 201, Tung Hwa N. Road, Songshan Dist., Taipei City 10508, Taiwan (R.O.C.)

E-mail: wkli.fipc@fpcf.com.tw

台塑企業**汽車部件**使用材料

**輪圈蓋 Wheel Cover**







## 高耐衝、質輕、極佳成型性能

高耐衝與優異的可電鍍性，透過極佳成型的性能，讓輪圈蓋與輪胎更加適配及耀眼。





## HIGH IMPACT STRENGTH, LIGHTWEIGHT, EXCELLENT FORMABILITY

The high impact strength, outstanding plating adhesion, and excellent formability properties will allow the wheel covers to fit perfectly on tires with a brilliant appearance.



# 輪圈蓋原料



## ABS 產品 (台化公司)

### 產品特性及優點：

台化電鍍級 ABS (AG22AT、AG23AT) 具極佳成形加工的特性、衝擊強度、剛硬度與傑出的表面光澤度等特點，廣泛應用於汽車零件、電子電氣、日常生活等需要重視外觀表面的產品。

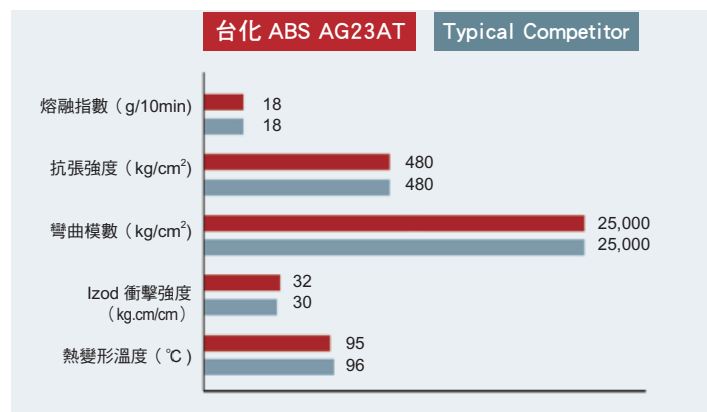
台化電鍍級 ABS 產品擁有極佳的電鍍蝕刻能力，電鍍加工條件應用範圍相當寬廣，小可應用於汽車內外門把、後視鏡，大可應用於輪圈蓋、水箱護欄等。

而 AG23AT 經改良橡膠特性，可讓產品表面粗化後，具有電鍍密著性極佳特點，同時也降低加工時所產生的揮發性氣體，減少殘留於產品表面，更有利於電鍍前的脫脂洗淨，強化表面粗化效果。

台化 ABS 已通過認證資料：通過 UL 認證，RoHS 認證。

加工方式：射出成型。

### 台化 ABS AG23AT 產品與 Typical Competitor 物性比較：



### 產品規格表：

種類			電鍍級 ABS		
產品型號			AG22AT	AG23AT	
特性			電鍍密著性佳、高耐衝擊性		
應用			水箱護罩、汽車輪圈蓋、門把		
項目	單位	試驗方法	平均值		
熔融指數	g/10min	ASTM D1238	19	18	
抗張強度	kg/cm <sup>2</sup>	ASTM D638	460	480	
彎曲模數	kg/cm <sup>2</sup>	ASTM D790A	24,000	25,000	
Izod 衝擊強度	kg-cm/cm	常溫 (23°C)	ASTM D256	28	32
熱變形溫度	°C	ASTM D648	97	95	

聯繫方式：台灣化學纖維股份有限公司 塑膠部 營業一處

公司電話：886-2-27178405 公司傳真：886-2-27131649

公司地址：10508 台北市松山區敦化北路 201 號前棟二樓

E-mail：kevin.plastic@fcfc.com.tw

# Raw materials for Wheel Cover



## ABS Resins (FCFC)

### Product Features and Benefits:

FCFC's plating grade ABS (AG22AT, AG23AT) materials feature excellent properties of moldability, impact strength, rigidity, outstanding surface luster, etc. The materials are widely used in auto parts, electrical and electronics products, and daily consumer products that stress the importance of good surface appearance.

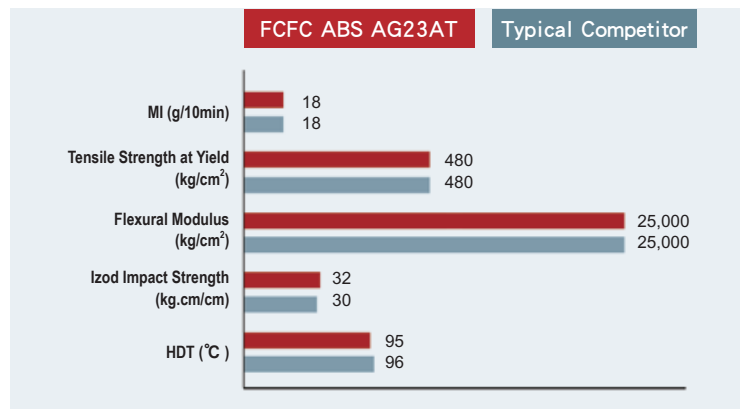
FCFC's plating grade ABS materials have excellent electroplating and etching abilities. The electroplating can be applied to a wide scope of products, ranging from small objects such as interior/exterior car door handles and rear view mirrors to large objects such as wheel covers, radiator grilles, etc.

By modifying the rubber property of AG23AT, the material can make the product surface rougher in order to yield excellent plating adhesion characteristics, while reducing the amount of volatile gas generated during processing and residue on the product surface. This enhances the degreasing process prior to plating and strengthens the surface roughening effect.

**FCFC's ABS materials have received UL and RoHS certification.**

**Processing Methods:** Designed for injection molding.

### Comparison of FCFC ABS AG23AT with a Typical Competitor:



### Products Specifications:

Type			Plating grade ABS	
Grade			AG22AT	AG23AT
Characteristics			Good plating adhesion, High impact strength	
Applications			Radiator grilles, Car wheel covers, Door handles	
Properties	Unit	Test Method	Typical Value	
Melt Index	g/10min	ASTM D1238	19	18
Tensile Strength at Yield	kg/cm <sup>2</sup>	ASTM D638	460	480
Flexural Modulus	kg/cm <sup>2</sup>	ASTM D790A	24,000	25,000
Izod Impact Strength	kg-cm/cm	23°C ASTM D256	28	32
HDT	°C	ASTM D648	97	95

### Contact Information:

Formosa Chemicals & Fibre Corporation Plastics Div. 1<sup>st</sup> Sales Dept.

TEL: 886-2-27178405 FAX: 886-2-27131649

ADD.: 12F., No. 201, Tung Hwa N. Road, Songshan Dist., Taipei City 10508, Taiwan (R.O.C.)

E-mail: kevin.plastics@fcfc.com.tw



# 輪圈蓋原料



## PC/ABS 合膠產品 (台化公司)

### 產品特性及優點：

PC/ABS 合膠具有 ABS 的加工性、低溫韌性及耐應力龜裂，亦具有 PC 的耐衝擊性及耐熱性。

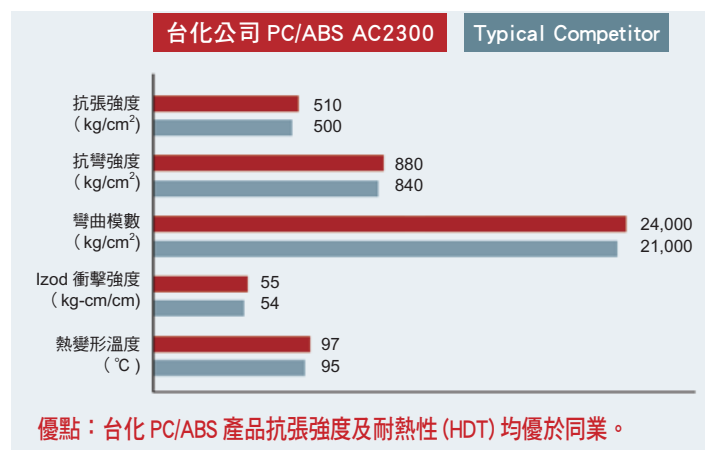
AC2300 是一支電鍍密著性極佳的電鍍級規格，該產品具有優異的成型加工性及耐低溫性，對複雜塑膠配件具有良好的成型性，另外也同時具備良好的電鍍性，使塑膠配件能滿足電鍍要求。

AC2300 之應用範圍廣泛，大可應用於輪圈蓋、汽車儀錶板上，小可應用於零組件、汽車車門內外把手等需要電鍍之產品外殼。

TAIRILOY AC2300 已通過認證資料：通過 UL 認證、RoHS 認證等。

加工方式：射出成型後再進行電鍍。

### 台化 PC/ABS AC2300 產品與 Typical Competitor 物性比較：



### 產品規格表：

種類			電鍍級 PC/ABS
產品型號			AC2300
特性			電鍍密著性佳、高耐衝擊性
應用			輪圈蓋、汽車門把、後牌照飾板、後視鏡外殼
項目	單位	試驗條件	平均值
熔融指數	g/10min	ASTM D1238	9.0
抗張強度	kg/cm <sup>2</sup>	ASTM D638	510
抗彎強度	kg/cm <sup>2</sup>	ASTM D638	880
彎曲模數	kg/cm <sup>2</sup>	ASTM D790A	24,000
Izod 衝擊強度	kg.cm/cm	常溫 (23°C)	55
		低溫 (-30°C)	40
熱變形溫度	°C	ASTM D648	97

聯繫方式：台灣化學纖維股份有限公司 塑膠部 營業一處

公司電話：886-2-27178405 公司傳真：886-2-27131649

公司地址：10508 台北市松山區敦化北路 201 號前棟二樓

E-mail：kevin.plastic@fcfc.com.tw

# Raw materials for Wheel Cover



## PC/ABS Resins (FCFC)

### Product Features and Benefits:

The PC/ABS blended material features the workability, low-temperature toughness, and stress resistance properties of ABS, as well as the impact strength and heat resistance characteristics of PC.

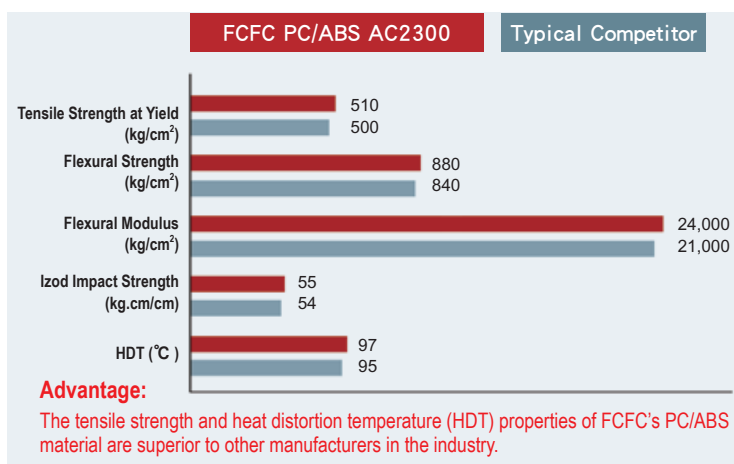
AC2300 is a plating grade material with an excellent plating adhesion property. Its outstanding moldability, low temperature resistance, and good plating characteristics allow it to be molded into complex plastic accessories meeting quality requirements.

AC2300 has been widely applied to use in large objects such as wheel covers and dashboards and small objects such as car parts and components, interior pull handles, and other product housings that require surface plating.

**TAIRLOY's AC2300 material has received UL and RoHS certification.**

**Processing Methods:** Designed for injection molding and metal plating.

### Comparison of FCFC PC/ABS AC2300 with a Typical Competitor:



### Products Specifications:

Type			Metal Plating Grade PC/ABS
Grade			AC2300
Characteristics			Good plating adhesion, High impact strength
Applications			Wheel covers, car door handles, rear number plate panels, rearview mirror housings
Properties	Unit	Test Method	Typical Value
Melt Index	g/10min	ASTM D1238	9.0
Tensile Strength at Yield	kg/cm <sup>2</sup>	ASTM D638	510
Flexural Strength	kg/cm <sup>2</sup>	ASTM D638	880
Flexural Modulus	kg/cm <sup>2</sup>	ASTM D790A	24,000
Izod Impact Strength	kg.cm/cm	ASTM D256	23°C
			-30°C
HDT	°C	ASTM D648	97

### Contact Information:

**Formosa Chemicals & Fibre Corporation Plastics Div. 1<sup>st</sup> Sales Dept.**

TEL: 886-2-27178405 FAX: 886-2-27131649

ADD.: 2F., No. 201, Tung Hwa N. Road, Songshan Dist., Taipei City 10508, Taiwan (R.O.C.)

E-mail: kevin.plastics@fcfc.com.tw

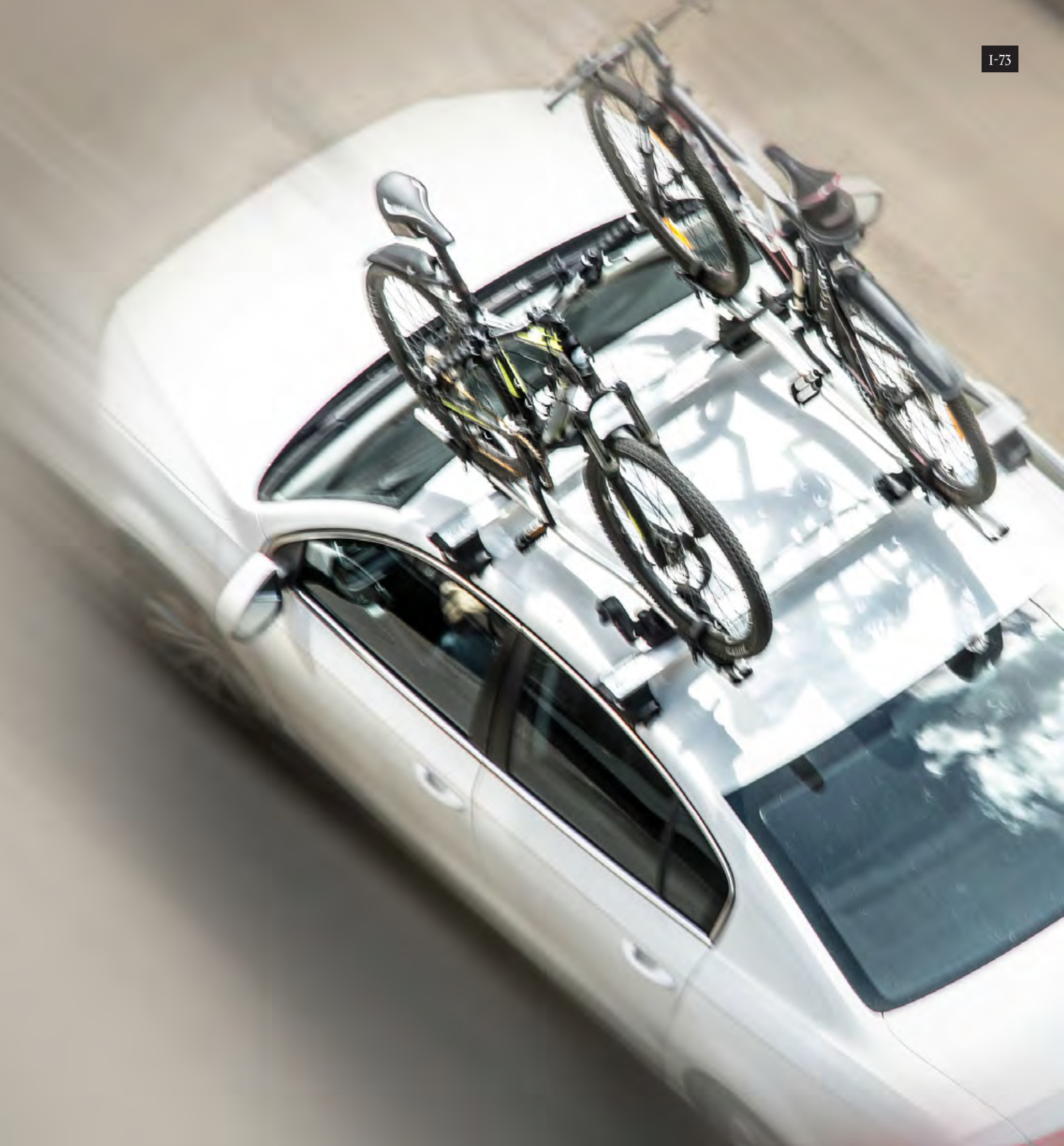
台塑企業**汽車部件** 使用材料

**門把手、行李架、車架**

**Door Handle, Luggage Rack, &  
Car Rack**







## 優異的電鍍密著性及高視覺享受

極佳的電鍍密著性，透過優異的成型性能，讓門把、行李架成為整輛車吸引眾人聚焦的焦點。





## OUTSTANDING PLATING ADHESION PROVIDES A HIGHLY PLEASING APPEARANCE

Excellent plating adhesion and outstanding formability allow the door handles and luggage racks to become the focus of attention of the car.



# 汽車門把手、行李架、車架原料



## ABS 產品（台化公司）

### 產品特性及優點：

台化電鍍級 ABS (AG22AT、AG23AT) 具極佳成形加工的特性、衝擊強度、剛硬度與傑出的表面光澤度等特點，廣泛應用於汽車零件、電子電氣、日常生活等需要重視外觀表面的產品。

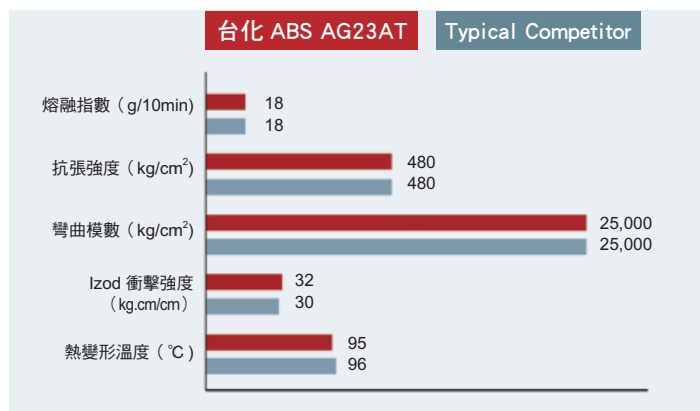
台化電鍍級 ABS 產品擁有極佳的電鍍蝕刻能力，電鍍加工條件應用範圍相當寬廣，小可應用於汽車內外門把、後視鏡，大可應用於輪圈蓋、水箱護欄等。

而 AG23AT 經改良橡膠特性，可讓產品表面粗化後，具有電鍍密著性極佳特點，同時也降低加工時所產生的揮發性氣體，減少殘留於產品表面，更有利於電鍍前的脫脂洗淨，強化表面粗化效果。

台化 ABS 已通過認證資料：通過 UL 認證，RoHS 認證。

加工方式：射出成型。

### 台化 ABS AG23AT 產品與 Typical Competitor 物性比較：



### 產品規格表：

種類			電鍍級 ABS	
產品型號			AG22AT	AG23AT
特性			電鍍密著性佳、高耐衝擊性	
應用			水箱護罩、汽車輪圈蓋、門把	
項目	單位	試驗方法	平均值	
熔融指數	g/10min	ASTM D1238	19	18
抗張強度	kg/cm <sup>2</sup>	ASTM D638	460	480
彎曲模數	kg/cm <sup>2</sup>	ASTM D790A	24,000	25,000
Izod 衝擊強度	kg-cm/cm	ASTM D256	28	32
熱變形溫度	°C	ASTM D648	97	95

聯繫方式：台灣化學纖維股份有限公司 塑膠部 營業一處

公司電話：886-2-27728405 公司傳真：886-2-27131649

公司地址：10508 台北市松山區敦化北路 201 號前棟二樓

E-mail：kevin.plastic@fcdc.com.tw

Raw materials for

# Door Handle, Luggage Rack, & Car Rack



## ABS Resins (FCFC)

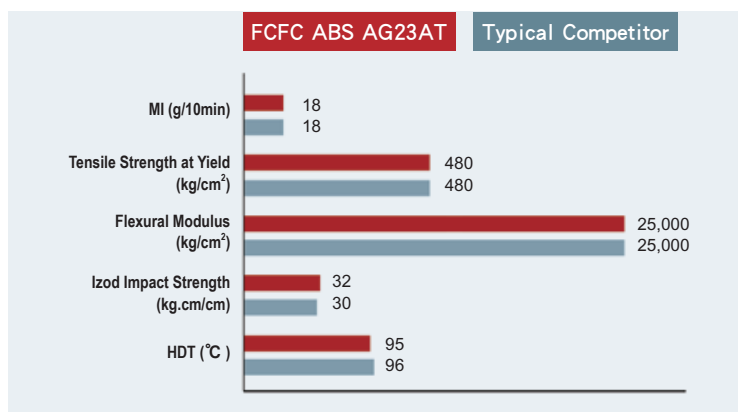
### Product Features and Benefits:

FCFC's plating grade ABS (AG22AT, AG23AT) feature excellent properties of moldability, impact strength, rigidity, outstanding surface luster, etc. The materials are widely used in auto parts, electrical and electronics products, and daily consumer products that stress the importance of good surface appearance. FCFC's plating grade ABS materials have excellent electroplating and etching abilities. The electroplating process can be applied to a wide scope of products, ranging from small objects such as car door handles and rear view mirrors to large objects such as wheel covers, radiator grilles, etc. By modifying the rubber property of AG23AT, the material can make the product surface rougher in order to yield excellent plating adhesion characteristics, while reducing the amount of volatile gas generated during processing and residue on the product surface. This enhances the degreasing process prior to plating and strengthens the surface roughening effect.

FCFC's ABS materials have received UL and RoHS certification.

**Processing Methods:** Designed for injection molding.

### Comparison of FCFC ABS AG23AT with a Typical Competitor:



### Products Specifications:

Type			Plating Grade ABS	
Grade			AG22AT	AG23AT
Characteristics			Good plating adhesion, High impact strength	
Applications			Radiator grilles, Car wheel covers, Door handles	
Properties	Unit	Test Method	Typical Value	
Melt Index	g/10min	ASTM D1238	19	18
Tensile Strength at Yield	kg/cm <sup>2</sup>	ASTM D638	460	480
Flexural Modulus	kg/cm <sup>2</sup>	ASTM D790A	24,000	25,000
Izod Impact Strength	kg-cm/cm	23°C ASTM D256	28	32
HDT	°C	ASTM D648	97	95

### Contact Information:

Formosa Chemicals & Fibre Corporation Plastics Div. 1<sup>st</sup> Sales Dept.

TEL: 886-2-27178405 FAX: 886-2-27131649

ADD.: 2F., No. 201, Tung Hwa N. Road, Songshan Dist., Taipei City 10508, Taiwan (R.O.C.)

E-mail: kevin.plastics@fcfc.com.tw



# 汽車門把、行李架、車架原料



## PC/ABS 合膠產品 (台化公司)

### 產品特性及優點：

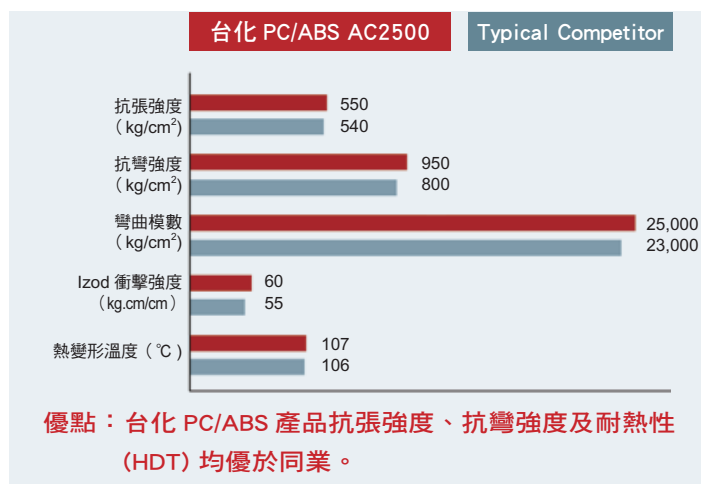
PC/ABS 合膠具有 ABS 的加工性及可電鍍性，亦具有 PC 的耐衝擊性及耐熱性。

AC2300 及 AC2500 具有較高的熱變形溫度，整體機械強度優於耐熱級 ABS，其主要應用於發熱家電用品外殼、成品較薄且需耐較高溫度環境的成型品，可應用於汽車門把、行李架與車架等。

TAIRILOY AC2300、AC2500 已通過認證資料：通過 UL 認證、RoHS 認證等。

加工方式：射出成型後再進行電鍍。

台化 PC/ABS AC2500 產品與 Typical Competitor 物性比較：



### 產品規格表：

種類			電鍍級 PC/ABS	耐熱級 PC/ABS
產品型號			AC2300	AC2500
特性			電鍍密著性佳、高耐衝擊性	
應用			汽車輪圈蓋、汽車門把、後視鏡外殼	
項目	單位	試驗方法	平均值	
熔融指數	g/10min	ASTM D1238	9.0	8.0
抗張強度	kg/cm <sup>2</sup>	ASTM D638	510	550
抗彎強度	kg/cm <sup>2</sup>	ASTM D638	880	950
彎曲模數	kg/cm <sup>2</sup>	ASTM D790A	24,000	25,000
Izod 衝擊強度	kg-cm/cm	常溫 (23°C) ASTM D256	55	60
熱變形溫度	°C	ASTM D648	97	107

備註：AC2500 PC 含量大於 50%，享有 ECFA 早收清單之減免關稅，價格更具競爭力。

聯繫方式：台灣化學纖維股份有限公司 塑膠部 營業一處

公司電話：886-2-27178405 公司傳真：886-2-27131649

公司地址：10508 台北市松山區敦化北路 201 號前棟二樓

E-mail：kevin.plastic@fcdc.com.tw

Raw materials for

# Door Handle, Luggage Rack, & Car Rack



## PC/ABS Resins (FCFC)

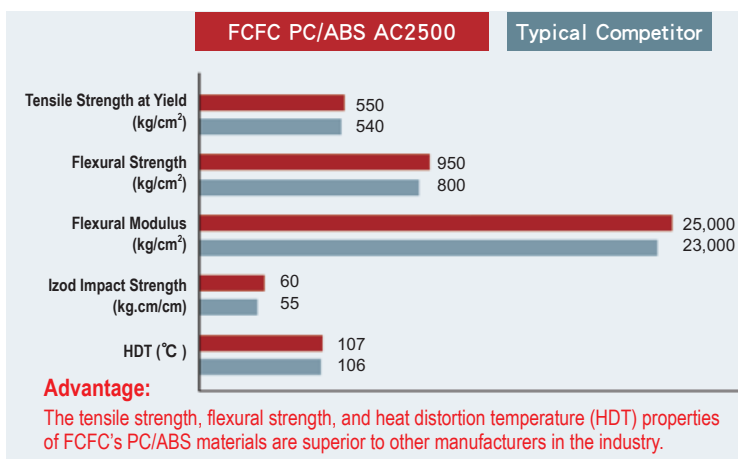
### Product Features and Benefits:

The PC/ABS blended material features the workability and plating ability of ABS, as well as the impact strength and heat resistance characteristics of PC. AC2300 and AC2500 materials feature a higher heat distortion temperature, and their overall mechanical strength is superior to heat resistance grade ABS. They are widely used in the housings of home electrical heating appliances, molded products with a thinner wall suitable for use in environments with higher temperatures, and auto parts such as interior car trims, dashboards, central console trims, etc.

**TAIRLOY's AC2300 and AC2500 materials have received UL and RoHS certification, etc.**

**Processing Methods:** Designed for injection molding and metal plating.

### Comparison of FCFC PC/ABS AC2500 with a Typical Competitor:



### Products Specifications:

Type			Metal Plating Grade PC/ABS	Heat Resistant Grade PC/ABS
Grade			AC2300	AC2500
Characteristics			Good plating adhesion, High impact strength	
Applications			Wheel covers, Door handles, Rearview mirror housings	
Properties	Unit	Test Method	Typical Value	
Melt Index	g/10min	ASTM D1238	9.0	8.0
Tensile Strength at Yield	kg/cm <sup>2</sup>	ASTM D638	510	550
Flexural Strength	kg/cm <sup>2</sup>	ASTM D638	880	950
Flexural Modulus	kg/cm <sup>2</sup>	ASTM D790A	24,000	25,000
Izod Impact Strength	kg-cm/cm	23°C ASTM D256	55	60
HDT	°C	ASTM D648	97	107

Comments: Since the PC content of AC2500 is greater than 50%, it complies with ECFA requirements and thus has such benefits as tax reduction and exemption, faster customs clearance of goods, and competitive pricing.

### Contact Information:

Formosa Chemicals & Fibre Corporation Plastics Div. 1<sup>st</sup> Sales Dept.

TEL: 886-2-27178405 FAX: 886-2-27131649

ADD.: 2F., No. 201, Tung Hwa N. Road, Songshan Dist., Taipei City 10508, Taiwan (R.O.C.)

E-mail: kevin.plastics@fcfc.com.tw

台塑企業**汽車部件**使用材料

**擾流板 Spoiler**







## 質輕，流線造型與穩定性

高耐溫、高黏度特性，結合尺寸安定性，塑造極具流線造型擾流板，讓車身更加穩定，使汽車尾翼增添時尚風格。





## LIGHTWEIGHT, STREAMLINED DESIGN, AND HIGH STABILITY

The high temperature resistance, high bonding strength, and high dimensional stability properties will allow for extremely streamlined and fashionable spoiler designs to enhance the stability of car bodies.



# 擾流板原料



## ABS 產品 (台化公司)

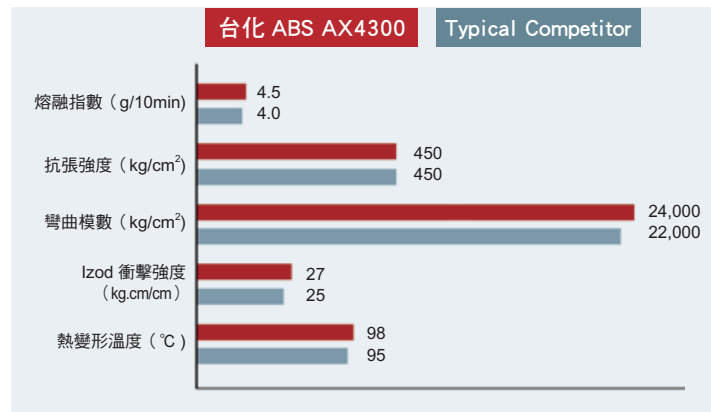
### 產品特性及優點：

台化 ABS (AX4300) 具有高粘度之熔體強度及高熱變形溫度等特性，不僅押出吹塑時成形品厚度穩定易控制，而且所生產之車材耐高溫於炎熱地區使用時，尺寸安定性及強度均佳，使其適用於汽車部件上。

台化 ABS 已通過認證資料：通過 UL 認證，RoHS 認證。

加工方式：射出成型。

### 台化 ABS AX4300 產品與 Typical Competitor 物性比較：



### 產品規格表：

種類			一般級 ABS	
產品型號			AX4300	AG10NP-AH
特性			高粘度熔體強度、高熱變形溫度	
應用			擾流板	
項目	單位	試驗方法	平均值	
熔融指數	g/10min	ASTM D1238	4.5	6.3
抗張強度	kg/cm <sup>2</sup>	ASTM D638	450	470
彎曲模數	kg/cm <sup>2</sup>	ASTM D790A	24,000	25,000
Izod 衝擊強度	kg-cm/cm	ASTM D256	27	44
熱變形溫度	°C	ASTM D648	98	88

聯繫方式：台灣化學纖維股份有限公司 塑膠部 營業一處

公司電話：886-2-27178405 公司傳真：886-2-27131649

公司地址：10508 台北市松山區敦化北路 201 號前棟二樓

E-mail：kevin.plastic@fcfc.com.tw

# Raw materials for Spoiler



## ABS Resins (FCFC)

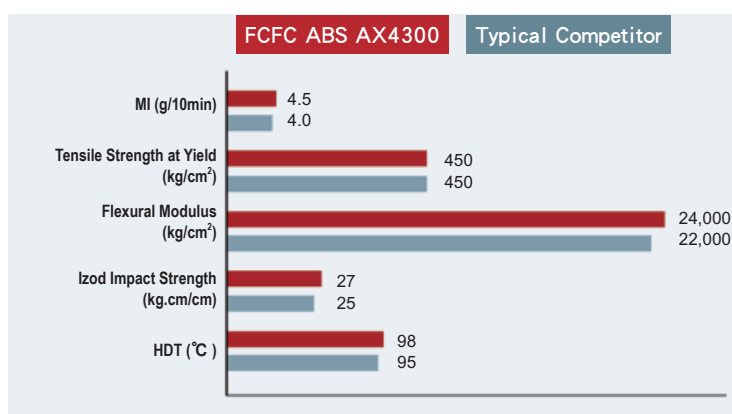
### Product Features and Benefits:

FCFC's ABS (AX4300) features the properties of high viscosity melt strength and high heat distortion temperature. Not only can it easily control the product thickness during the extrusion or blow molding process, but it also has good dimensional stability and strength that are ideal for being made into heat-resistant auto parts to use in areas with high temperatures.

FCFC's ABS materials have received UL and RoHS certifications.

**Processing Methods:** Designed for injection molding.

### Comparison of FCFC ABS AX4300 with a Typical Competitor:



### Products Specifications:

Type			General Purpose ABS	
Grade			AX4300	AG10NP-AH
Characteristics			High viscosity melt strength, High heat distortion temperature	
Applications			Spoilers	
Properties	Unit	Test Method	Typical Value	
Melt Index	g/10min	ASTM D1238	4.5	6.3
Tensile Strength at Yield	kg/cm <sup>2</sup>	ASTM D638	450	470
Flexural Modulus	kg/cm <sup>2</sup>	ASTM D790A	24,000	25,000
Izod Impact Strength	kg-cm/cm	23°C ASTM D256	27	44
HDT	°C	ASTM D648	98	88

### Contact Information:

Formosa Chemicals & Fibre Corporation Plastics Div. 1<sup>st</sup> Sales Dept.

TEL: 886-2-27178405 FAX: 886-2-27131649

ADD.: 2F., No. 201, Tung Hwa N. Road, Songshan Dist., Taipei City 10508, Taiwan (R.O.C.)

E-mail: kevin.plastics@fcdc.com.tw



# 擾流板原料



## PC/ABS 合膠產品 (台化公司)

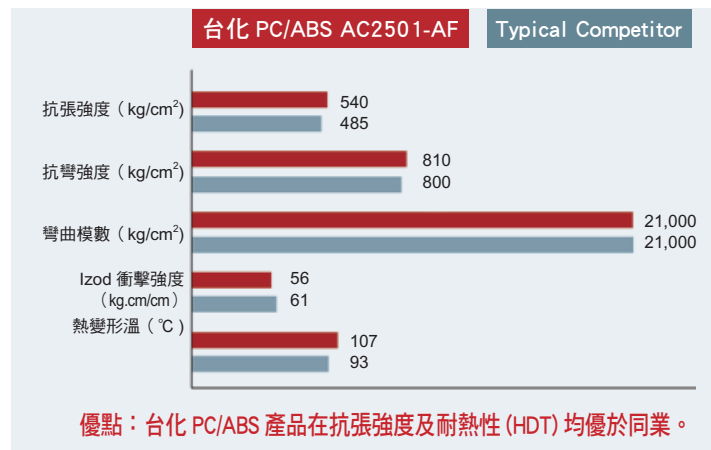
### 產品特性及優點：

PC/ABS 合膠具有 ABS 的加工性、低溫韌性及耐應力龜裂，亦具有 PC 的耐衝擊性及耐熱性。

AC2501-AF 是一支高流動耐熱電鍍級 PC/ABS，具有高電鍍密著性、高耐熱性與高流動性等特性，且適合於噴漆塗裝加工，所生產之車材可耐高溫、良好尺寸安定性及強度佳等特性，適合應用於大型汽車配件上，如汽車擾流板。

加工方式：射出成型。

### 台化 PC/ABS AC2501-AF 產品與 Typical Competitor 物性比較：



### 產品規格表：

種類			電鍍級 PC/ABS	
產品型號			AC2501-AF	
特性			電鍍密著性佳、高耐衝擊性	
應用			水箱護罩、擾流板	
項目	單位	試驗條件	平均值	
熔融指數	g/10min	ASTM D1238	23.0	
抗張強度	kg/cm <sup>2</sup>	ASTM D638	540	
抗彎強度	kg/cm <sup>2</sup>	ASTM D638	810	
彎曲模數	kg/cm <sup>2</sup>	ASTM D790A	21,000	
Izod 衝擊強度	kg.cm/cm	常溫 (23°C)	ASTM D256	56
熱變形溫度	°C	ASTM D648	107	

備註：AC2501-AF PC 含量大於 50%，享有 ECFA 早收清單之減免關稅，價格更具競爭力。

### 聯繫方式：台灣化學纖維股份有限公司 塑膠部 營業一處

公司電話：886-2-27178405 公司傳真：886-2-27131649

公司地址：10508 台北市松山區敦化北路 201 號前棟二樓

E-mail：kevin.plastic@fcdc.com.tw

# Raw materials for Spoiler



## PC/ABS Resins (FCFC)

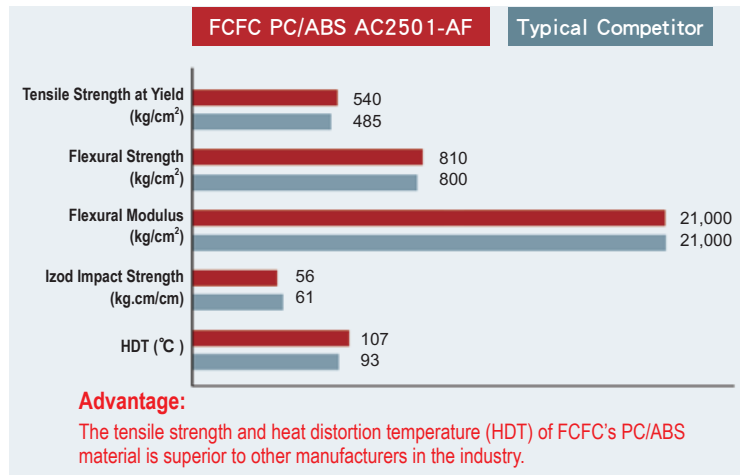
### Product Features and Benefits:

The PC/ABS blended material features the workability, low-temperature toughness, and stress resistance properties of ABS, as well as the impact strength and heat resistance characteristics of PC.

AC2501-AF is a heat-resistant plating grade PC/ABS material with excellent plating adhesion, high temperature resistance, high fluidity, and other properties that can be used with spray painting. The auto parts produced with this material have the characteristics of high temperature resistance, good dimensional stability, and good strength. They are suitable for use in large auto parts, such as spoilers.

**Processing Methods:** Designed for injection molding.

### Comparison of FCFC PC/ABS AC2501-AF with a Typical Competitor:



### Products Specifications:

Type			Metal Plating Grade PC/ABS
Grade			AC2501-AF
Characteristics			Good plating adhesion, High impact strength
Applications			Radiator grilles, Spoilers
Properties	Unit	Test Method	Typical Value
Melt Index	g/10min	ASTM D1238	23.0
Tensile Strength at Yield	kg/cm <sup>2</sup>	ASTM D638	540
Flexural Strength	kg/cm <sup>2</sup>	ASTM D638	810
Flexural Modulus	kgf/cm <sup>2</sup>	ASTM D790A	21,000
Izod Impact Strength	kg.cm/cm	23°C ASTM D256	56
HDT	°C	ASTM D648	107

Comments: As the PC content of AC2501-AF is greater than 50%, it complies with ECFA requirements thus providing such benefits as tax reduction and exemption, faster customs clearance of goods, and competitive pricing.

### Contact Information:

Formosa Chemicals & Fibre Corporation Plastics Div. 1<sup>st</sup> Sales Dept.

TEL: 886-2-27178405 FAX: 886-2-27131649

ADD.: 2F., No. 201, Tung Hwa N. Road, Songshan Dist., Taipei City 10508, Taiwan (R.O.C.)

E-mail: kevin.plastics@fcfc.com.tw

台塑企業**汽車部件**使用材料

**複合材料板件**

**Composite Body Panels**







## 質輕，低油耗及引領時尚

全新的復合材料板件素材，強度大於傳統鋼材，輕量化的設計，應用於各式車型，適配各種車款設計並具備低油耗的優點。





## LIGHTWEIGHT, LOW FUEL CONSUMPTION, AND HIGHLY FASHIONABLE

The brand new composite body panel materials are stronger and lighter in weight than traditional steel sheets, reducing fuel they consumption can be made into various designs for different car models.



# 複合材料板件原料



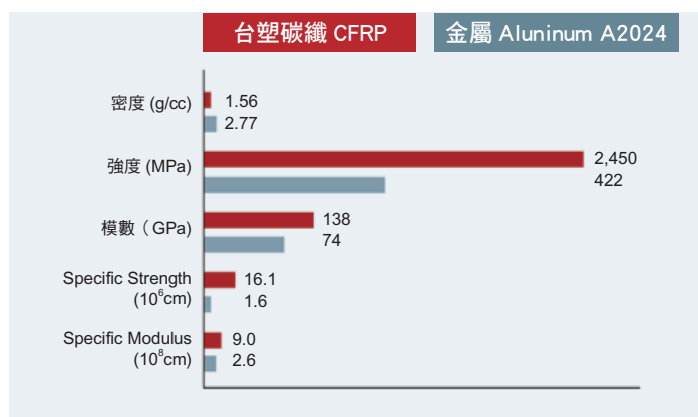
## 碳纖維產品（台塑公司）

### 產品特性及優點：

碳纖維複合材料本身具有及優異的性能，重量密度比鋁還輕，但拉伸強度及耐疲勞特性卻遠大於高強力鋼材，是汽車產業輕量化的最佳選擇。搭配不同的樹脂材料後能具有不同的化學特性，可以達到耐高溫、耐腐蝕、優秀的防火阻燃及無煙無毒特性。

加工方式：真空轉注成型法、片狀模壓成型法、熱壓成型。

### 台塑碳纖複材 CFRP 產品與金屬 Aluminum A2024 物性比較：



### 產品規格表：

種類		複合材料		金屬				
		碳纖複材 CFRP	玻纖複材 GFRP	Steel SS400	HS Steel NiCrMo	Stainless SUS304	Aluminum A2024	Titanium Ti Alloy
項目	單位	平均值						
密度	g/cc	1.56	2.0	7.8	7.8	8.03	2.77	4.5
強度	Mpa (ksi)	2,450 (355)	1,370 (200)	400 (58)	1,470 (215)	980 (142)	422 (61)	1,080 (157)
模數	Gpa (msi)	138 (20)	39 (6)	206 (30)	206 (30)	197 (29)	74 (11)	114 (17)
Specific Strength	10 <sup>6</sup> cm	16.1	7.0	0.5	1.9	1.25	1.6	2.5
Specific Modulus	10 <sup>8</sup> cm	9.0	2.0	2.7	2.7	2.5	2.6	2.6

聯繫方式：台灣塑膠工業股份有限公司 台麗朗事業部 市拓組

公司電話：886-7-371-1411 轉 5519 公司傳真：886-7-3723141

公司地址：81465 高雄市仁武區水管路 100 號

E-mail：dahi30@gmail.com

# Raw materials for Composite Body Panels



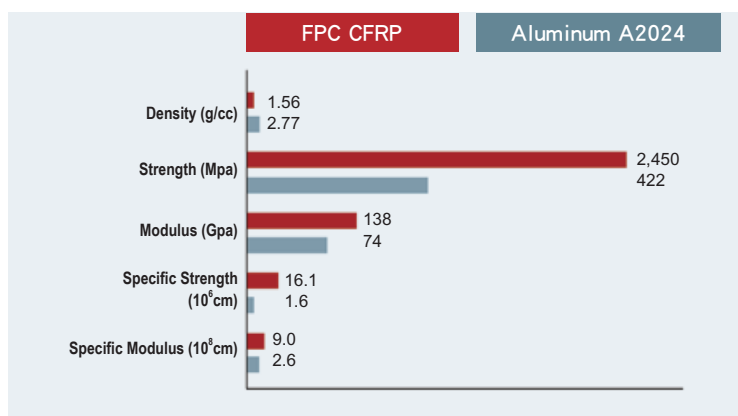
## Carbon Fiber (FPC)

### Product Features and Benefits:

Carbon fiber composite materials possess excellent physical properties; their weight density is lighter than aluminum while its tensile strength and fatigue resistance properties are far greater than those of high-strength steels. They are the best choice in the auto industry to help achieve lightweight goals. When combined with different resin materials, they can feature different chemical properties and achieve high temperature resistance and corrosion resistance, as well as excellent fire retardant, smoke-free, and non-toxic properties.

**Processing Methods:** Designed for RTM, SMC and Thermoforming.

### Comparison of FPC CFRP with Aluminum A2024:



### Products Specifications:

Product Type		Composites		Metal				
		CFRP	GFRP	Steel SS400	HS Steel NiCrMo	Stainless SUS304	Aluminum A2024	Titanium Ti Alloy
Properties	Unit	Typical Value						
Density	g/cc	1.56	2.0	7.8	7.8	8.03	2.77	4.5
Strength	Mpa (ksi)	2,450 (355)	1,370 (200)	400 (58)	1,470 (215)	980 (142)	422 (61)	1,080 (157)
Modulus	Gpa (msi)	138 (20)	39 (6)	206 (30)	206 (30)	197 (29)	74 (11)	114 (17)
Specific Strength	10 <sup>6</sup> cm	16.1	7.0	0.5	1.9	1.25	1.6	2.5
Specific Modulus	10 <sup>8</sup> cm	9.0	2.0	2.7	2.7	2.5	2.6	2.6

### Contact Information:

Formosa Plastics Corporation Tairyln Div. Market & Development Dept.

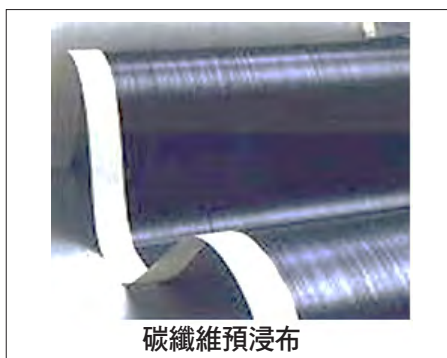
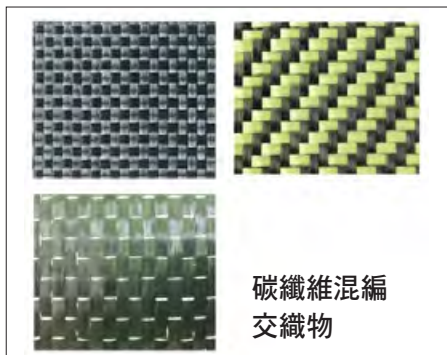
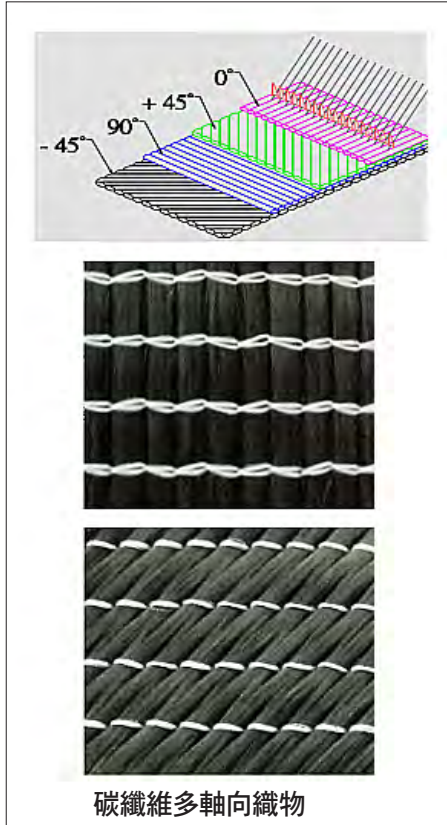
TEL: 886-7-3711411 EXT.5519 FAX: 886-7-3723141

ADD.: No. 100, Shuiguan Rd., Renwu Dist., Kaohsiung City 81465, Taiwan (R.O.C.)

E-mail: dahi30@gmail.com



# 複合材料板件原料



## 碳纖維布產品（福懋公司）

碳纖維具有輕強剛之特性用於車輛上可降低重量達到輕量化節能減碳與增加續航力等優點。

### （一）碳纖維多軸向織物

#### 產品特性及優點：

碳纖維多軸向織物具有多層與多軸方向織物，無交織點織物特性比交織物具有更佳之纖維強度轉換率，多層與多軸向特性可減少複材之疊層生產成本，搭配 VARTM 或 RTM 製程可快速生產與降低投資成本等優點。多軸向碳纖維織物已被廣泛用於大物件複材產品之製造，如船舶飛機及風機葉片等產品。

#### 與同業競爭者比較：

與傳統碳纖維織物比較，福懋之多軸向織物具有展紗擴織之特性，比傳統無擴織之織物更容易使樹脂滲透含浸，多軸向織物不具有交織點，複材之強度與模數更高，又具多軸與多層之特性，可減少疊層之次數而降低生產成本。

#### 加工方式：

- (1) 手工積層 (2) 真空輔助樹脂轉注成型法
- (3) 真空轉注成型法 (4) 預浸。

### （二）碳纖維混編交織物

#### 產品特性及優點：

碳纖維混編交織物產品包括 1.5K, 3K, 12K 等不同 K 數碳纖維及克維拉 (Kevlar) 或玻璃纖維混編之織物，可作平紋或斜紋等不同變化組織，交織物之吸震與耐衝擊性佳，可用於需要大面積或板件結構材，高溫碳化之碳纖維不同角度具有不同之光澤，是複合材料最常用之外觀材。

#### 加工方式：

- (1) 手工積層 (2) 真空輔助樹脂轉注成型法
- (3) 真空轉注成型法 (4) 熱壓成型。

### （三）碳纖維預浸布

#### 產品特性及優點：

福懋碳纖維預浸布是以高精密製程及熱熔膠式含浸機塗佈環氧樹脂而成型，具有不沾手易操作疊層之預浸料，預浸布是碳纖維複材可作最佳化結構設計與最佳材料強度與剛性之加工材料，預浸布已大量用於航太運動器材與腳踏車等各種碳纖維複材產品。

#### 加工方式：

- (1) 熱壓成型 (2) 壓力釜。

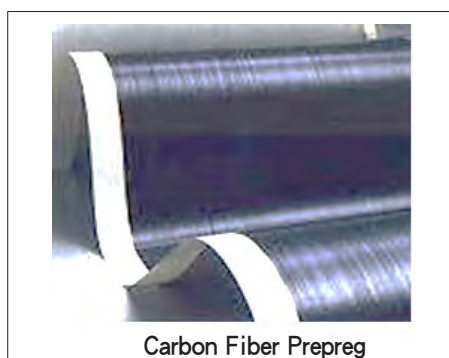
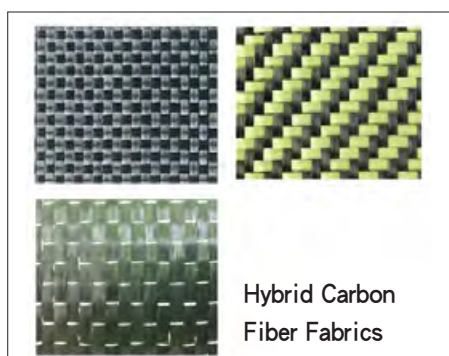
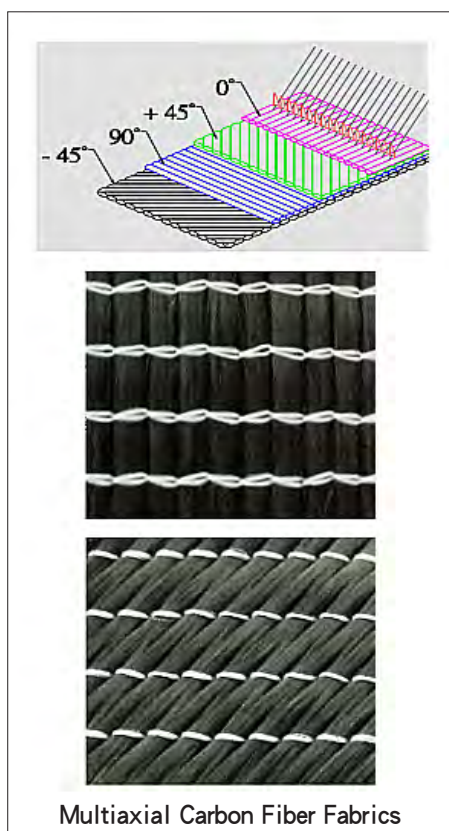
聯繫方式：福懋興業股份有限公司

公司電話：886-5-5577465 公司傳真：886-5-5577450

公司地址：64060 雲林縣斗六市石榴路 317 號

E-mail：u125895@ftc.com.tw

# Raw materials for Composite Body Panels



## Carbon Fiber Fabrics (FTC)

Carbon fiber fabrics feature lightweight and durable characteristics. When used in vehicles, they can reduce weight to achieve the advantages of lightweight, energy saving, and carbon reduction, as well as increase cruising endurance, etc.

### ( I ) Multiaxial Carbon Fiber Fabrics

#### Product Features and Benefits:

Multiaxial carbon fiber fabrics are composed of a fabric woven in multilayer and multi-axis directions without cross-woven points. As a result, they feature a better fiber strength conversion rate than cross-woven fabrics, and the multilayer and multi-axis laminate characteristics can reduce production costs when compared with multi-laminated composite materials. Coupled with a VARTM or RTM process, they can be produced rapidly to lower investment costs. Multi-axial carbon fiber fabrics have already been widely used in manufacturing large composite objects such as wind blades, ships and aircraft, among other products.

#### Comparison of FTC product with General Carbon Fiber Fabrics:

Compared with conventional carbon fiber fabrics, FTC's multiaxial carbon fiber fabrics feature the characteristic of well-spread carbon filaments to help the easy infiltration and impregnation of resin. Since multiaxial fabrics do not have cross-woven points, their composite strength and modulus value are much higher, and the multi-axis and multilayer characteristics can reduce the amount of lamination to lower production costs.

#### Processing Methods:

(1) Hand lamination (2) Vacuum Assisted resin transfer molding (VARTM)  
(3) Resin transfer molding (RTM) (4) Pre-impregnation (PREPREG)

### ( II ) Hybrid Carbon Fiber Fabrics

#### Product Features and Benefits:

Hybrid carbon fiber fabrics cover fabrics of different K numbers, such as 1.5K, 3K, and 12K, Kevlar or fiberglass mixed woven fabrics. They can be woven in plain, twill, or a variety of designs. Hybrid fabrics feature good shock-absorbing and impact strength and are suitable for use in large body panels or structural parts. Since the high-temperature carbonized filaments feature different lustrous surface appearances when viewed from different angles, they are widely used in composite materials to enhance appearance.

#### Processing Methods:

(1) Hand lamination (2) Vacuum Assisted resin transfer molding (VARTM)  
(3) Resin transfer molding (RTM) (4) Hot press molding

### ( III ) Carbon Fiber Prepreg

#### Product Features and Benefits:

FTC's carbon fiber prepreg are made with a high precision process and hot melt method by coating the carbon fiber filaments with epoxy using an impregnating machine. Because they consist of non-sticky B-stage material to help easily carry out the lamination process, prepreg carbon fiber fabrics are commonly used as the best processing material to optimize the structural designs, strength, and rigidity of composite products. They are widely used in sports equipment, bicycles, aerospace, and various kinds of carbon composite products.

#### Processing Methods:

(1) Hot Press (2) Autoclave

#### Contact Information:

Formosa Taffeta Corporation Ltd.

TEL: 886-5-5577465 FAX: 886-5-5577450

ADD.: No. 317, Shu Liu Road, Touliu City, Yunlin County 64060, Taiwan (R.O.C.)

E-mail: u125895@ftc.com.tw

台塑企業**汽車部件** 使用材料

**汽車隔熱紙 Car Window Film**







## 易施工、不殘膠

使用特殊配方黏膠製程，無雜質、無刮痕、無氣泡、不退色，耐候性優良，易於施工特性。



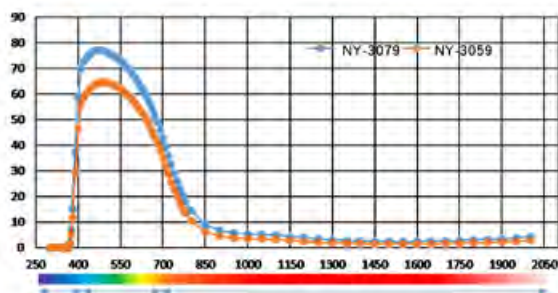


## EASY TO INSTALL WITH NO ADHESIVE RESIDUE

Made with a special formulation, the adhesive films feature such benefits as no impurities, no scratches, no bubbles, non-color fading, excellent weather resistance, and can be easily installed.



# 汽車隔熱紙



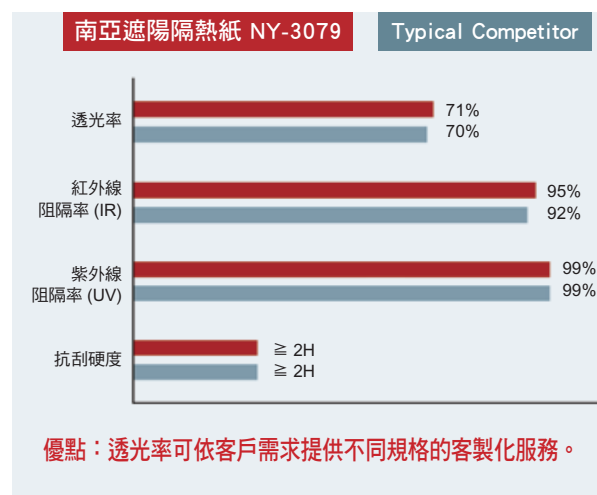
## 汽車隔熱紙（南亞公司）

### 產品特性及優點：

- (1) 高透明性及高 IR 阻隔功能，超低內反射，效果持久不衰退。
- (2) 具有防爆、節能效果。
- (3) 成品不退色、不阻隔電磁波。

加工方式：熱烘手工貼合。

### 南亞汽車隔熱紙與 Typical Competitor 物性比較：



### 產品規格表：

產品型號 / 適合應用部位	H ← IR → L		
	冰炫系列	水漾系列	捲雲系列
汽車前檔	NY-3079 冰冷藍色	NY-3078 高透光灰色	NY-3076 高透光淡黃色
	NY-3059 冷銀色	NY-3058 水漾藍色	NY-3056 天空藍色
汽車前檔與側檔	NY-3039 鐵黑色	NY-3038 藍灰色	NY-3036 黃灰色
汽車側檔	NY-3019 隱密黑		

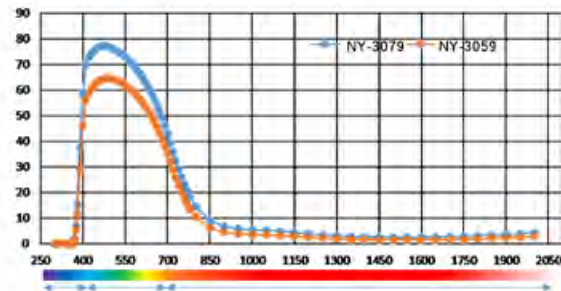
聯繫方式：南亞塑膠工業股份有限公司 塑膠第一事業部 營業二處

公司電話：886-2-27178212 公司傳真：886-2-227178393

公司地址：10508 台北市松山區敦化北路 201 號後棟三樓

E-mail：hwang5830@npc.com.tw

# Raw materials for Car Window Film



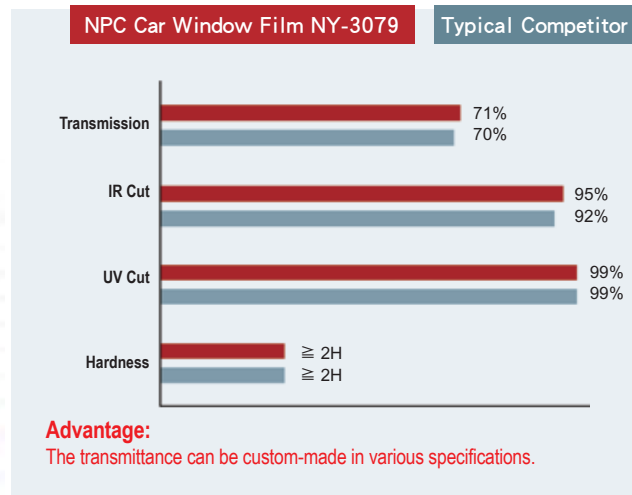
## Car Window Film (NPC)

### Product Features and Benefits:

- (1) The properties of high transparency, high IR shielding, low internal reflection, long-lasting effect, and non-degradation.
- (2) Explosion-proof and energy-saving effects.
- (3) The finished products are non-color fading and non-electromagnetic shielding.

**Processing Methods:** Designed manual heat lamination.

### Comparison of NPC Window Film with a Typical Competitor:



## Products Specifications:

Grades/ Applicable Area	H ← IR → L		
	Dazzling Ice Series	Aquatic Series	Cirrus Series
Windshield	NY-3079 Icy blue	NY-3078 High-transmittance Grey	NY-3076 High-transmittance Lemon Yellow
	NY-3059 Cold Silver	NY-3058 Aquatic Blue	NY-3056 Sky Blue
Windshield & Door Window	NY-3039 Metallic Black	NY-3038 Bluish Grey	NY-3036 Bluish Yellow
Door Window	NY-3019 Privacy Black		

### Contact Information:

Nan Ya Plastics Corporation Plastics 1<sup>ST</sup> Div. 2<sup>nd</sup> Sales Dept.

TEL: 886-2-27178212 FAX: 886-2-27178393

ADD.: 3F., No. 201, Tung Hwa N. Road, Songshan Dist., Taipei City 10508, Taiwan (R.O.C.)

E-mail: hwang5830@npc.com.tw



台塑企業**汽車部件** 使用材料

**水箱護罩 Radiator Grille**







## 極佳成型性能引領時尚風潮

優異的成型加工及電鍍密著性的特點，使得水箱護罩與車款造型更具時尚及流行性。





## EXCELLENT FORMABILITY TO LEAD DESIGN TRENDS

The excellent molding and plating adhesion properties will allow the radiator grilles to match current car designs and enhance their style.



# 水箱護罩原料



## ABS 產品 (台化公司)

### 產品特性及優點：

台化電鍍級 ABS (AG22AT、AG23AT) 具極佳成形加工的特性、衝擊強度、剛硬度與傑出的表面光澤度等特點，廣泛應用於汽車零件、電子電氣、日常生活等需要重視外觀表面的產品。

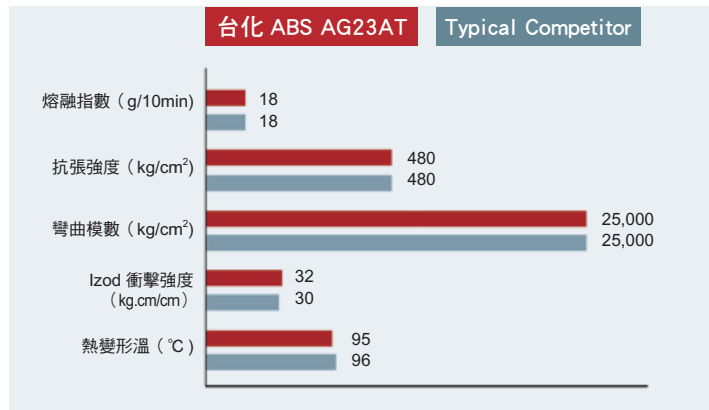
台化電鍍級 ABS 產品擁有極佳的電鍍蝕刻能力，電鍍加工條件應用範圍相當寬廣，小可應用於汽車內外門把、後視鏡，大可應用於輪圈蓋、水箱護欄等。

而 AG23AT 經改良橡膠特性，可讓產品表面粗化後，具有電鍍密著性極佳特點，同時也降低加工時所產生的揮發性氣體，減少殘留於產品表面，更有利於電鍍前的脫脂洗淨，強化表面粗化效果。

台化 ABS 已通過認證資料：通過 UL 認證，RoHS 認證。

加工方式：射出成型。

### 台化 ABS AG23AT 產品與 Typical Competitor 物性比較：



### 產品規格表：

種類			電鍍級 ABS	
產品型號			AG22AT	AG23AT
特性			電鍍密著性佳、高耐衝擊性	
應用			水箱護罩、汽車輪圈蓋、門把	
項目	單位	試驗方法	平均值	
熔融指數	g/10min	ASTM D1238	19	18
抗張強度	kg/cm <sup>2</sup>	ASTM D638	460	480
彎曲模數	kg/cm <sup>2</sup>	ASTM D790A	24,000	25,000
Izod 衝擊強度	kg-cm/cm 常溫 (23°C)	ASTM D256	28	32
熱變形溫度	°C	ASTM D648	97	95

聯繫方式：台灣化學纖維股份有限公司 塑膠部 營業一處

公司電話：886-2-27178405 公司傳真：886-2-27131649

公司地址：10508 台北市松山區敦化北路 201 號前棟二樓

E-mail：kevin.plastic@fcfc.com.tw

# Raw materials for Radiator Grille



## ABS Resins (FCFC)

### Product Features and Benefits:

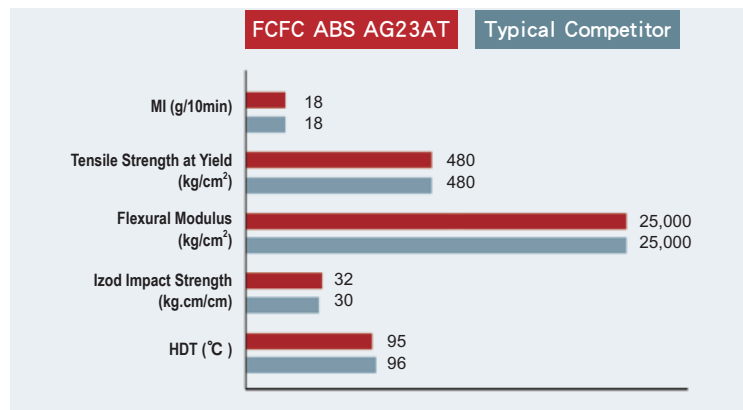
FCFC's plating grade ABS (AG22AT, AG23AT) feature excellent properties of moldability, impact strength, rigidity, outstanding surface luster, etc. The materials are widely used in auto parts, electrical and electronics products, and daily consumer products that stress the importance of good surface appearance. FCFC's plating grade ABS materials have excellent electroplating and etching abilities. The electroplating process can be applied to a wide scope of products, ranging from small objects such as car door handles and rear view mirrors to large objects such as wheel covers, radiator grilles, etc.

By modifying the rubber property of AG23AT, the material can make the product surface rougher in order to yield excellent plating adhesion characteristics, while reducing the amount of volatile gas generated during processing and residue on the product surface. This enhances the degreasing process prior to plating and strengthens the surface roughening effect.

**FCFC's ABS materials have received UL and RoHS certification.**

**Processing Methods:** Designed for injection molding.

### Comparison of FCFC ABS AG23AT with a Typical Competitor:



### Products Specification:

Type			Plating Grade ABS	
Grade			AG22AT	AG23AT
Characteristic			Good plating adhesion, High impact strength	
Application			Radiator grilles, Car wheel covers, Door handles	
Properties	Unit	Test Method	Typical Value	
Melt Index	g/10min	ASTM D1238	19	18
Tensile Strength at Yield	kg/cm <sup>2</sup>	ASTM D638	460	480
Flexural Modulus	kg/cm <sup>2</sup>	ASTM D790A	24,000	25,000
Izod Impact Strength	kg-cm/cm	23°C ASTM D256	28	32
HDT	°C	ASTM D648	97	95

### Contact Information:

Formosa Chemicals & Fibre Corporation Plastics Div. 1<sup>st</sup> Sales Dept.

TEL: 886-2-27178405 FAX: 886-2-27131649

ADD.: 2F., No. 201, Tung Hwa N. Road, Songshan Dist., Taipei City 10508, Taiwan (R.O.C.)

E-mail: kevin.plastics@fcfc.com.tw

# 水箱護罩原料



## PC/ABS 合膠產品 (台化公司)

### 產品特性及優點：

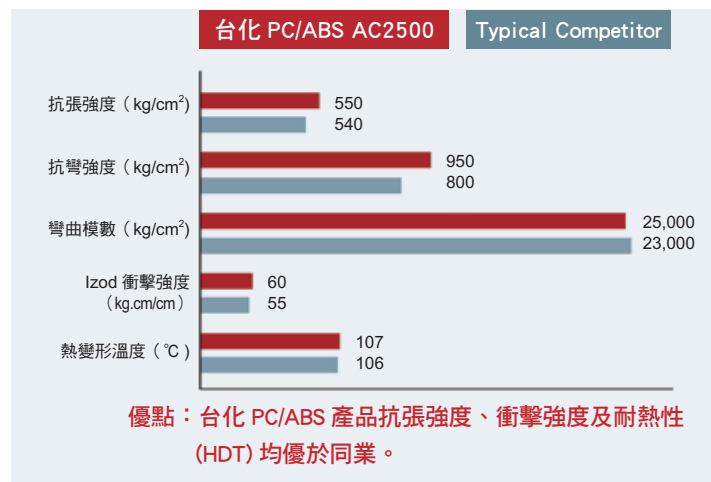
PC/ABS 合膠具有 ABS 的加工性、低溫韌性及耐應力龜裂，亦具有 PC 的耐衝擊性及耐熱性。

AC2500 具有較高的熱變形溫度，整體機械強度優於耐熱級 ABS，其主要應用於發熱家電用品外殼、成品較薄且需耐較高溫度環境的成型品，可應用於汽車內裝、儀表板、中控板等產品。

TAIRILOY AC2500 已通過認證資料：通過 UL 認證、RoHS 認證等。

加工方式：射出成型。

台化 PC/ABS AC2500 產品與 Typical Competitor 物性比較：



產品規格表：

種類			耐熱級 PC/ABS	
產品型號			AC2500	
特性			電鍍密著性佳、高耐衝擊性	
應用			水箱護罩、儀表板飾框	
項目	單位	試驗條件	平均值	
熔融指數	g/10min	ASTM D1238	8.0	
抗張強度	kg/cm <sup>2</sup>	ASTM D638	550	
抗彎強度	kg/cm <sup>2</sup>	ASTM D638	950	
彎曲模數	kgf/cm <sup>2</sup>	ASTM D790A	25,000	
Izod 衝擊強度	kg.cm/cm	常溫 (23°C)	ASTM D256	60
熱變形溫度	°C	ASTM D648	107	

備註：AC2500 PC 含量大於 50%，享有 ECFA 早收清單之減免關稅，價格更具競爭力。

聯繫方式：台灣化學纖維股份有限公司 塑膠部 營業一處

公司電話：886-2-27178405 公司傳真：886-2-27131649

公司地址：10508 台北市松山區敦化北路 201 號前棟二樓

E-mail：kevin.plastic@fcfc.com.tw

# Raw materials for Radiator Grille



## PC/ABS Resins (FCFC)

### Product Features and Benefits:

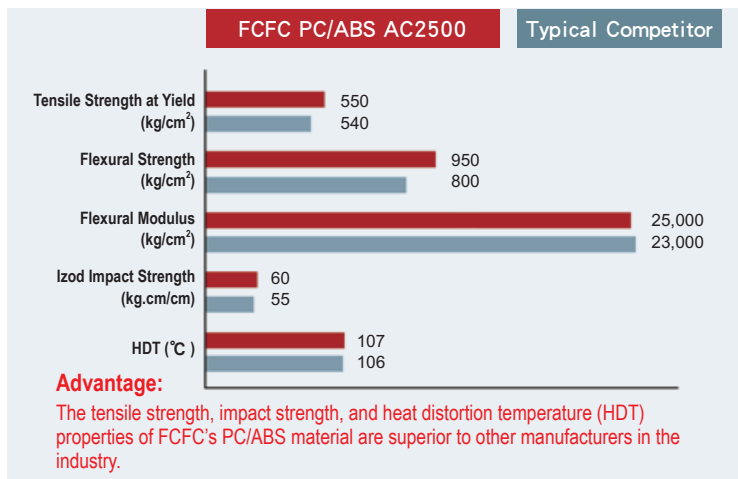
The PC/ABS blended material features the workability, low-temperature toughness, and stress resistance properties of ABS, as well as the impact strength and heat resistance characteristics of PC.

AC2500 features a higher heat distortion temperature, and its overall mechanical strength is superior to heat resistance grade ABS. It is mainly used in the housing of home electrical heating appliances, molded products with a thinner wall suitable for use in environments with higher temperatures, and auto parts such as car interior trims, dashboards, central console trims, etc.

**TAIRLOY's AC2500 material has received UL and RoHS certification.**

**Processing Methods:** Designed for injection molding.

### Comparison of FCFC PC/ABS AC2500 with a Typical Competitor:



### Products Specifications:

Type			Heat Resistant Grade PC/ABS
Grade			AC2500
Characteristics			Good plating adhesion, High impact strength
Applications			Radiator grilles, Dashboard trims
Properties	Unit	Test Method	Typical Value
Melt Index	g/10min	ASTM D1238	8.0
Tensile Strength at Yield	kg/cm <sup>2</sup>	ASTM D638	550
Flexural Strength	kg/cm <sup>2</sup>	ASTM D638	950
Flexural Modulus	kg/cm <sup>2</sup>	ASTM D790A	25,000
Izod Impact Strength	kg.cm/cm	23°C ASTM D256	60
HDT	°C	ASTM D648	107

Comments: As the PC content of AC2500 PC is greater than 50%, it complies with ECFA requirements, which thus provides such benefits as tax reduction and exemption, faster customs clearance of goods, and competitive pricing.

### Contact Information:

Formosa Chemicals & Fibre Corporation Plastics Div. 1<sup>st</sup> Sales Dept.

TEL: 886-2-27178405 FAX: 886-2-27131649

ADD.: 2F., No. 201, Tung Hwa N. Road, Songshan Dist., Taipei City 10508, Taiwan (R.O.C.)

E-mail: kevin.plastics@fcfc.com.tw



台塑企業**汽車部件** 使用材料

**輪胎內層** Tire Inner Liner







## 高強度、尺寸安定性佳

高強度及尺寸安定性佳的簾布用絲，讓輪胎行進間不易變形及良好的吸震效果，擁有絕佳的乘車環境。





## HIGH STRENGTH AND EXCELLENT DIMENSIONAL STABILITY

The high strength and dimensional stability of the tire cord fabrics will help prevent the tires from deforming and increase the shock absorption effect while driving to enhance the comfort of your ride.



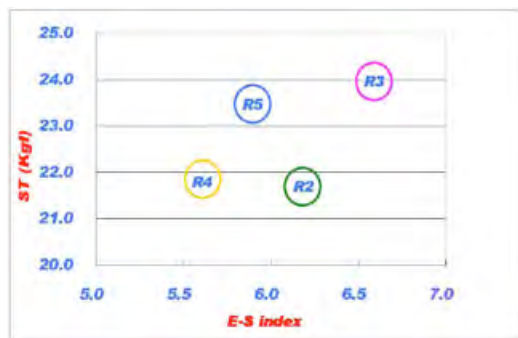
# 輪胎內層簾布絲原料



E : 伸度 (@6.8kg)

S : 收縮度 (177°C \*2min 150g preload)

ST : 斷裂強度 (selvage cord)



## 高模低縮聚酯簾布絲產品 (南亞公司)

### 產品特性及優點：

為減少輪胎運轉時之跳動，降低弛緩伸長反覆應力所造成之溫升，並改善耐疲勞度，高模量低收縮型聚酯工業纖維 (High Modulus Low Shrinkage PET Industrial Yarn) 已取代傳統高強度型或低收縮型的工業絲產品，廣泛的被使用在輪胎簾布用途；亦可被使用於橡膠貼合補強材用途，例如傳動皮帶、橡膠管、輸送帶等。

本公司產品優異如下：

- (1) 尺寸安定性佳。
- (2) 強度高，中間伸度 + 熱縮較低，讓輪胎不易變形，汽車行進中輪胎變異小，乘坐舒適度佳，在低噪音下，可擁有絕佳乘車環境。
- (3) 規格多，可提供客戶不同需求。
- (4) 模數高可應用於汽車高速輪胎。

**加工方式：**撚絲、織布、浸漬上活化劑。

### 南亞高模低縮聚酯簾布絲發展趨勢及性能比較：

南亞新一代 R4 Type 高模低縮型工業絲，因 E-S index 極低，輪胎補強材的 SWI(Side Wall Indentation) 值能夠最小化，可降低輪胎跳動所產生之反覆應力及熱量，可提高輪胎的耐疲勞性。

新一代 R5 Type 高模低縮型工業絲，於低 E-S index 下，強度較 R2 Type 提高 8%，簾布用絲量可減少，對降低成本有明顯效益。

### 產品規格表：

型號	R2 Type	R3 Type	R4 Type	R5 Type
規格	1000/246、 1300/384、 1500/369、 2000/576	1000/246、 1300/384、 1500/369	1000/344、 1300/450、 1500/516、 2000/576	1000/344、 1300/450、 1500/516

聯繫方式：南亞塑膠工業股份有限公司 纖維事業部 營業一處

公司電話：886-2-27178324 公司傳真：886-2-25454065

公司地址：10508 台北市松山區敦化北路 201 號後棟五樓

E-mail：656565@npc.com.tw

# Raw materials for Tire Inner Liner



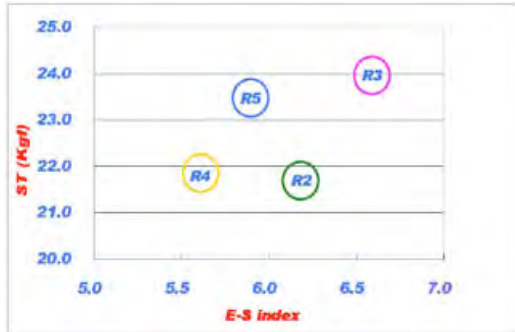
## High-modulus low-shrinkage (HMLS) PET Tire Cord Yarn (NPC)

### Product Features and Benefits:

To reduce the shaking of tires during cruising, lower the temperature rise caused by flaccid elongation due to repeated stress, and improve fatigue resistance, HMLS PET industrial yarns have been used to replace traditional high-strength type or low-shrinkage type industrial yarn and have been employed extensively in tire cord fabrics. They can also be laminated with rubber for additional strength and used in transmission belts, rubber hoses, conveyor belts, etc.

- (1) Good dimensional stability.
- (2) High strength, lower intermediate elongation and heat shrinkage, and good dimensional stability to reduce tire distortion, minimize tire variation, and lower noise during cruising to ensure excellent riding comfort.
- (3) Wide range of specifications to meet various customer needs.
- (4) The high-modulus feature is suitable for use in high-speed vehicle tires.

E: Elongation at load @6.8kg is greater than 50%  
 S: Shrinkage (177°C \*2min 150g preload)  
 ST: Breaking Strength (selvage cord)



### Processing Methods:

Designed for Twisting, Weaving, and Dipping in an activating agent.

### Comparison of HMLS PET with Different Grades:

Due to the extremely low E-S index and minimal Side Wall Indentation (SWI) value, Nan Ya's new-generation R4 Type HMLS industrial yarn can reduce repetitive stress and heat energy caused by shaking tires, as well as improve the fatigue resistance of tires. The strength of the new-generation R5 Type HMLS industrial yarn is 8% greater than the R2 Type due to its lower E-S value. A reduction in the amount of tire cord used can lead to a significant cut in production costs.

### Products Specifications:

Type	R2 Type	R3 Type	R4 Type	R5 Type
Grade	1000/246, 1300/384, 1500/369, 2000/576	1000/246, 1300/384, 1500/369	1000/344, 1300/450, 1500/516, 2000/576	1000/344, 1300/450, 1500/516

### Contact Information:

Nan Ya Plastic Corporation Polyester Fiber Div. Sales Dept. 1<sup>st</sup> Sales Dept.

TEL: 886-2-27178324 FAX: 886-2-25454065

ADD.: 5F., No. 201, Tung Hwa N. Road, Songshan Dist., Taipei City 10508, Taiwan (R.O.C.)

E-mail: 656565@npc.com.tw

# 輪胎內層簾布原料



## 耐隆簾布絲產品 (台化公司)

### 產品特性及優點：

本部耐隆 6 簾布絲，供織造廠織成簾布，再和各輪胎廠之橡膠貼合，生產車用輪胎。

\* 台化是台灣輪胎簾布廠商認定，耐隆 6 簾布絲市場最主要供應者。

### 各車種適用規格別：

種類	規格
大卡車	2520D/420f、1890D/310f、1680D/280f
汽車	2520D/420、1680D/280f、1260D/210f、
機車	1260D/210f、840D/140f
腳踏車	630D/96f、420D/48f、420D/14f、210D/24f、105D/12f

### 產品規格表：

規格	丹尼 (D)	強力 (Kg)	強度 (g/D)	伸率 (%)	中間伸率 (%)	熱收縮 (%)	熱安定性 (%)	油份 (%)	結數 (K/M)
105/12 BR	105±3	≥ 0.9	≥ 8.57	23±3.0	10.0±1.0	9.0±1.5	≥ 90	1.0±0.2	10±4
210/24 BR	210±4	≥ 1.7	≥ 8.10	24±3.0	11.0±1.0	9.5±1.5	≥ 90	0.9±0.2	10±4
420/14 BR	420±7	≥ 3.2	≥ 7.5	25±3.0	11.5±1.0	10.5±1.5	≥ 93	0.9±0.2	8±4
420/4B BR	420±7	≥ 3.7	≥ 8.81	25±3.0	11.5±1.0	9.5±1.5	≥ 93	0.9±0.2	10±4
630/96 BR	630±10	≥ 5.8	≥ 9.21	25±3.0	11.5±1.0	9.0±1.5	≥ 93	0.9±0.2	10±4
840/140 BR	630±14	≥ 7.9	≥ 9.50	23±3.0	11.5±1.0	8.0±1.5	≥ 93	0.9±0.2	10±4
2520/420 BR	1,245±20	≥ 12.2	≥ 9.80	23±3.0	11.5±1.0	8.0±1.5	≥ 93	1.1±0.2	10±4
1680/280 BR	1,655±20	≥ 16.0	≥ 9.64	24±3.0	12.0±1.0	8.0±1.5	≥ 93	1.1±0.2	10±4
1890/310 BR	1,890±30	≥ 19.8	≥ 10.5	24±3.0	12.0±1.0	8.5±1.5	≥ 93	0.9±0.2	10±4
	1,890±30	≥ 18.1	≥ 9.58	23±3.0	13.0±1.0	8.0±1.5	≥ 93	1.1±0.2	10±4
2520/420 BR	2,550±40	≥ 23.8	≥ 9.33	26.5±3.0	14.0±2.0	7.0±1.0	≥ 93	0.9±0.2	10±4

聯繫方式：台灣化學纖維股份有限公司 纖維二部

公司電話：886-2-27178368 公司傳真：886-2-27175285

公司地址：10508 台北市松山區敦化北路 201 號後棟二樓

E-mail：sales.nylon@cfcc.com.tw

# Raw materials for Tire Inner Liner



## Nylon Tire Cord Yarn (FCFC)

### Product Features and Benefits:

Nylon 6 tire cord yarn produced by our company are supplied to textile factories to be made into tire cord fabrics and then further laminated with rubber by tire manufacturers to be made into vehicle tires.

\* FCFC is acknowledged by Taiwan manufacturers of tire cord fabrics as a primary supplier of nylon 6 tire cord yarn in the market.

### Applicable Specifications for Vehicle Types:

Vehicle Types	Grade
Big trucks	2520D/420f, 1890D/310f, 1680D/280f
Cars	2520D/420, 1680D/280f, 1260D/210f
Motorcycles	1260D/210f, 840D/140f
Bicycles	630D/96f, 420D/48f, 420D/14f, 210D/24f, 105D/12f

### Products Specifications:

Grade	Denier (D)	Strength (Kg)	Tensile Strength (g/D)	Elongation (%)	Intermediate Elongation (%)	Thermal Shrinkage (%)	Thermal Stability (%)	Oil Content (%)	No. of Knots (K/M)
105/12 BR	105±3	≥ 0.9	≥ 8.57	23±3.0	10.0±1.0	9.0±1.5	≥ 90	1.0±0.2	10±4
210/24 BR	210±4	≥ 1.7	≥ 8.10	24±3.0	11.0±1.0	9.5±1.5	≥ 90	0.9±0.2	10±4
420/14 BR	420±7	≥ 3.2	≥ 7.5	25±3.0	11.5±1.0	10.5±1.5	≥ 93	0.9±0.2	8±4
420/4B BR	420±7	≥ 3.7	≥ 8.81	25±3.0	11.5±1.0	9.5±1.5	≥ 93	0.9±0.2	10±4
630/96 BR	630±10	≥ 5.8	≥ 9.21	25±3.0	11.5±1.0	9.0±1.5	≥ 93	0.9±0.2	10±4
840/140 BR	630±14	≥ 7.9	≥ 9.50	23±3.0	11.5±1.0	8.0±1.5	≥ 93	0.9±0.2	10±4
2520/420 BR	1,245±20	≥ 12.2	≥ 9.80	23±3.0	11.5±1.0	8.0±1.5	≥ 93	1.1±0.2	10±4
1680/280 BR	1,655±20	≥ 16.0	≥ 9.64	24±3.0	12.0±1.0	8.0±1.5	≥ 93	1.1±0.2	10±4
1890/310 BR	1,890±30	≥ 19.8	≥ 10.5	24±3.0	12.0±1.0	8.5±1.5	≥ 93	0.9±0.2	10±4
	1,890±30	≥ 18.1	≥ 9.58	23±3.0	13.0±1.0	8.0±1.5	≥ 93	1.1±0.2	10±4
2520/420 BR	2,550±40	≥ 23.8	≥ 9.33	26.5±3.0	14.0±2.0	7.0±1.0	≥ 93	0.9±0.2	10±4

### Contact Information:

Formosa Chemicals & Fibre Corporation Nylon Div.

TEL: 886-2-27178368 FAX: 886-2-27175285

ADD.: 2F., No. 201, Tung Hwa N. Road, Songshan Dist., Taipei City 10508, Taiwan (R.O.C.)

E-mail: sales.nylon@fcfc.com.tw



# 輪胎內層材料



## 輪胎簾布產品（福懋公司）

### 產品特性及優點：

本公司原料使用南亞公司聚酯簾布絲、耐隆簾布絲則採用台化公司及國際知名品牌原絲，生產製造設備採用德國等國外最先進的製造設備，確保產品精實耐用品質優良，產品主要銷售給亞太與全球其他地區之知名輪胎廠。

簾布主要特性是提供充氣輪胎足夠的強度及模量，限制輪胎變形量以保持輪胎的尺寸穩定性。

本公司具 35 年的輪胎簾布生產經驗，產品品質穩定且產品線完整，除台灣廠外在越南也有生產基地，可確保供貨穩定，滿足客戶對輪胎簾布的需求。

### 簾布產品規格表：

規 格		尼龍 6 浸漬簾布				
項目	單位	1260D/2 1400DTEX/2	1680D/2 1880DTEX/2	1260D/3 1400DTEX/3	1890D/2 2100DTEX/2	2520D/2 2800DTEX/2
撚度，Z	T/M	380±20	330±20	310±20	310±20	310±20
撚度，S	T/M	370±20	320±20	300±20	300±20	300±20
斷裂強度	KG	MIN 21.0	MIN 27.5	MIN 30.5	MIN 31.0	MIN 41.0
斷裂伸度	%	26±4	26±4	26±4	26±4	26±4
中間伸度	%	9.5±2.0	9.5±2.0	9.5±2.0	9.5±2.0	9.5±2.0
熱氣縮率	%	MAX 6.0	MAX 6.0	MAX 6.0	MAX 6.0	MAX 6.0
厚度	MM	0.66±0.03	0.76±0.03	0.82±0.03	0.82±0.03	0.95±0.03
黏著力	KG	MIN 16.0	MIN 17.0	MIN 17.0	MIN 17.0	MIN 18.0

規 格		尼龍 66 浸漬簾布				
項目	單位	840D/2 940DTEX/2	1260D/2 1400DTEX/2	1680D/2 1880DTEX/2	1260D/3 1400DTEX/3	1890D/2 2100DTEX/2
撚度，Z	T/M	470±20	380±20	330±20	310±20	310±20
撚度，S	T/M	460±20	370±20	320±20	300±20	300±20
斷裂強度	KG	MIN 14.0	MIN 21.0	MIN 27.5	MIN 30.5	MIN 31.0
斷裂伸度	%	23±4	23±4	23±4	23±4	23±4
中間伸度	%	9.0±2.0	9.0±2.0	9.0±2.0	9.0±2.0	9.0±2.0
熱氣縮率	%	MAX 4.5	MAX 4.5	MAX 4.5	MAX 4.5	MAX 4.5
厚度	MM	0.55±0.03	0.66±0.03	0.76±0.03	0.82±0.03	0.82±0.03
黏著力	KG	MIN 11.0	MIN 16.0	MIN 17.0	MIN 17.0	MIN 17.0

# Raw materials for Tire Inner Liner



## Tire cord fabrics (FTC)

### Product Features and Benefits:

Our company uses the raw materials of polyester yarn from Nan Ya Plastics, nylon yarn from Formosa Chemicals & Fibre, and raw filaments from world-famous manufacturers. Production involves using advanced machinery from Germany and other countries to ensure product quality and durability. Products are exported to tire manufacturers in worldwide.

The main characteristics of tire cord fabrics are that they can provide sufficient strength and modulus value to inflated tires, limit the amount of distortion, and maintain the dimensional stability of tires.

With over 35 years of experience in manufacturing tire cords, our company runs a complete production line to offer products with stable quality. Our manufacturing bases in Taiwan and Vietnam offer a stable supply of tire cord fabrics to meet customer demands.

## Tire Cord Fabrics Products Specifications:

Grade		Nylon 6 - Dipped Tire Cord Fabrics				
Properties	Unit	1260D/2 1400DTEX/2	1680D/2 1880DTEX/2	1260D/3 1400DTEX/3	1890D/2 2100DTEX/2	2520D/2 2800DTEX/2
Z-twist	T/M	380±20	330±20	310±20	310±20	310±20
S-twist	T/M	370±20	320±20	300±20	300±20	300±20
Breaking Strength	KG	MIN 21.0	MIN 27.5	MIN 30.5	MIN 31.0	MIN 41.0
Breaking Elongation	%	26±4	26±4	26±4	26±4	26±4
Intermediate Elongation	%	9.5±2.0	9.5±2.0	9.5±2.0	9.5±2.0	9.5±2.0
Hot Air Shrinkage	%	MAX 6.0	MAX 6.0	MAX 6.0	MAX 6.0	MAX 6.0
Thickness	MM	0.66±0.03	0.76±0.03	0.82±0.03	0.82±0.03	0.95±0.03
Adhesion Strength	KG	MIN 16.0	MIN 17.0	MIN 17.0	MIN 17.0	MIN 18.0

Grade		Nylon 66 - Dipped Tire Cord Fabrics				
Properties	Unit	840D/2 940DTEX/2	1260D/2 1400DTEX/2	1680D/2 1880DTEX/2	1260D/3 1400DTEX/3	1890D/2 2100DTEX/2
Z- twist	T/M	470±20	380±20	330±20	310±20	310±20
S- twist	T/M	460±20	370±20	320±20	300±20	300±20
Breaking Strength	KG	MIN 14.0	MIN 21.0	MIN 27.5	MIN 30.5	MIN 31.0
Breaking Elongation	%	23±4	23±4	23±4	23±4	23±4
Intermediate Elongation	%	9.0±2.0	9.0±2.0	9.0±2.0	9.0±2.0	9.0±2.0
Hot Air Shrinkage	%	MAX 4.5	MAX 4.5	MAX 4.5	MAX 4.5	MAX 4.5
Thickness	MM	0.55±0.03	0.66±0.03	0.76±0.03	0.82±0.03	0.82±0.03
Adhesion Strength	KG	MIN 11.0	MIN 16.0	MIN 17.0	MIN 17.0	MIN 17.0

簾布產品規格表：

規 格		聚酯浸漬簾布				
項目	單位	1000D/2 1100DTEX/2	1000D/3 1100DTEX/3	1500D/2 1670DTEX/2	1300D/2 1440DTEX/2	2000D/2 2200DTEX/2
撚度, Z	T/M	470±20	400±20	400±20	390±20	335±20
撚度, S	T/M	460±20	400±20	400±20	390±20	335±20
斷裂強度	KG	MIN 13.5	MIN 19.5	MIN 20.5	MIN 18.0	MIN 27.0
斷裂伸度	%	MIN 12.0	MIN 12.0	MIN 12.0	MIN 12.0	MIN 12.0
中間伸度	%	4.5±1.0	4.5±1.0	4.5±1.0	4.5±1.0	4.5±1.0
熱氣縮率	%	MAX 3.5	MAX 3.5	MAX 3.5	MAX 3.5	MAX 3.5
厚度	MM	0.58±0.03	0.68±0.03	0.68±0.03	0.63±0.03	0.79±0.03
黏著力	KG	MIN 11.0	MIN 13.0	MIN 13.0	MIN 12.0	MIN 14.0

聯繫方式：福懋興業股份有限公司

公司電話：886-5-5577567 公司傳真：886-5-5573574

公司地址：64060 雲林縣斗六市石榴路 317 號

E-mail：u100920@ftc.com.tw

**Tire Cord Fabrics Products Specifications:**

Grade		Polyester Dipped Tire Cord Fabrics				
Properties	Unit	1000D/2 1100DTEX/2	1000D/3 1100DTEX/3	1500D/2 1670DTEX/2	1300D/2 1440DTEX/2	2000D/2 2200DTEX/2
Z-twist	T/M	470±20	400±20	400±20	390±20	335±20
S-twist	T/M	460±20	400±20	400±20	390±20	335±20
Breaking Strength	KG	MIN 13.5	MIN 19.5	MIN 20.5	MIN 18.0	MIN 27.0
Breaking Elongation	%	MIN 12.0	MIN 12.0	MIN 12.0	MIN 12.0	MIN 12.0
Intermediate Elongation	%	4.5±1.0	4.5±1.0	4.5±1.0	4.5±1.0	4.5±1.0
Hot Air Shrinkage	%	MAX 3.5	MAX 3.5	MAX 3.5	MAX 3.5	MAX 3.5
Thickness	MM	0.58±0.03	0.68±0.03	0.68±0.03	0.68±0.03	0.79±0.03
Adhesion Strength	KG	MIN 11.0	MIN 13.0	MIN 13.0	MIN 12.0	MIN 14.0

**Contact Information:****Formosa Taffeta Corporation Ltd.**

TEL: 886-5-5577567 FAX: 886-5-5573574

ADD.: No. 317, Shu Liu Road, Touliu City, Yunlin County 64060, Taiwan (R.O.C.)

E-mail: u100920@ftc.com.tw

台塑企業**汽車部件**使用材料

**雨刷臂 Wiper Arm**







## 極佳成型與車窗玻璃更加密合

高剛性及高韌性的優點，射出成型的雨刷臂不僅外觀流暢，使雨刷及玻璃接觸更加密合，經空氣力學的導流加壓，可刮除每一滴的雨水。





## THE EXCELLENT FORMABILITY WILL ALLOW THE WIPER ARMS TO CLING TO THE GLASS FIRMLY

The high rigidity and high toughness properties are ideal for producing streamlined injection molded wiper arms that allow the wiper blades to cling to the glass firmly, thereby wiping off every drop of rain with the help of aerodynamic pressurized air deflection.





# 雨刷臂原料



## 改性塑膠(工程塑膠)產品(南亞公司): PBT 複材

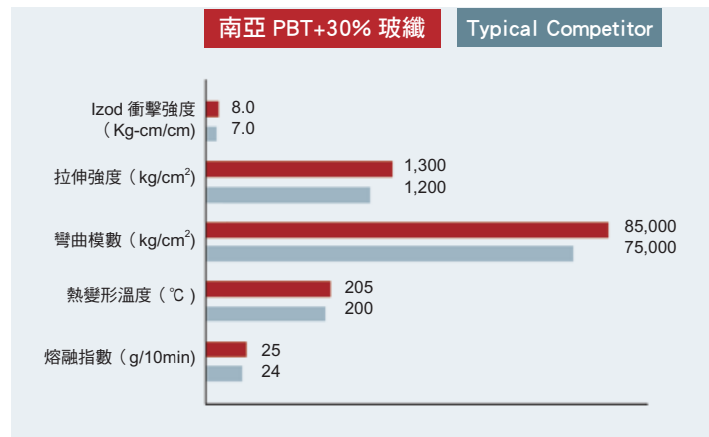
PBT+30% 玻纖 規格: 1210G6EBK2

### 產品特性及優點:

南亞改性塑膠(工程塑膠)產品包含 PBT、PET、NYLON 6、NYLON 66、PC、PP、PPE 等系列產品, 玻纖強化、耐燃等規格種類齊全, 通過 ISO 9001、ISO 14001、TS 16949 認證, 品質穩定, 成型加工性佳, 提供製品優越之機械強度, 高熱變形溫度、尺寸安定性、電器性質等, 並擁有符合環保要求之非鹵素防火材料, 適用於汽車內裝及外裝各種等各種零配件。

加工方式: 射出成型。

### 南亞 PBT 複材與 Typical Competitor 物性比較:



### 產品規格表:

種類			PBT 複材
產品型號			1210G6EBK2
特性			高剛性、高韌性、成型性佳
應用			雨刷臂
項目	單位	試驗方法	平均值
熔融指數	g/10min	ASTM D1238	25
拉伸強度	kg/cm <sup>2</sup>	ASTM D638	1,300
彎曲模數	kg/cm <sup>2</sup>	ASTM D790	85,000
Izod 衝擊強度	kg.cm/cm	ASTM D256	8.0
熱變形溫度	°C	ASTM D648	205

### 聯繫方式: 南亞塑膠工業股份有限公司 塑三部 產銷四組

公司電話: 886-2-27178507、886-2-2712211#5814 公司傳真: 886-2-27198661

公司地址: 10508 台北市松山區敦化北路 201 號後棟三樓

E-mail: epanya@npc.com.tw

# Raw materials for Wiper Arm



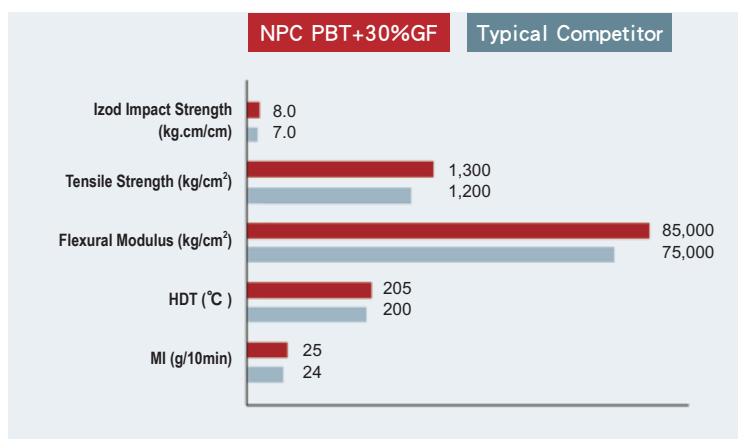
**Modified plastics (engineering plastics) (NPC): PBT composite**  
 PBT + 30% Glass Fiber Grade: 1210G6EBK2

### Product Features and Benefits:

Nan Ya's modified plastics (engineering plastics) are available in PBT, PET, NYLON 6, NYLON 66, PC, PP, PPE, and other products with a wide range of specifications and properties, including reinforced glass fiber, flame retardant, stable quality, and good moldability, all of which conform to ISO 9001, ISO 14001, and TS 16949 certifications. These materials can help produce products with excellent mechanical strength, high heat distortion temperature, dimensional stability, and electrical properties. Environmentally friendly halogen-free flame retardant materials are also available and are suitable for use in car interior/ exterior decorations, as well as various parts and accessories.

**Processing Methods:** Designed for injection molding.

### Comparison of NPC PBT Composite with a Typical Competitor:



### Products Specifications:

Type			PBT Composite
Grade			1210G6EBK2
Characteristics			High rigidity, High toughness, Good moldability
Applications			Wiper Arms
Properties	Unit	Test Method	Typical Value
Melt Index	g/10min	ASTM D1238	25
Tensile Strength	kg/cm <sup>2</sup>	ASTM D638	1,300
Flexural Modulus	kg/cm <sup>2</sup>	ASTM D790	85,000
Izod Impact Strength	kg.cm/cm	ASTM D256	8.0
HDT	°C	ASTM D648	205

### Contact Information:

**Nan Ya Plastics Corporation Plastics 3<sup>rd</sup> Div. Engineering Plastics Dept.**

TEL: 886-2-27178507/ 886-2-27122211# 5814 FAX: 886-2-27198661

ADD.: 3F., No. 201, Tung Hwa N. Road, Songshan Dist., Taipei City 10508, Taiwan (R.O.C.)

E-mail: epnanya@npc.com.tw

台塑企業**汽車部件**使用材料

**天線 Antenna**







## 高韌性，成型性佳

高韌性與成型性佳特性，不僅可作為行車時擾流空氣配件，亦能塑造適配車體的造型的汽車天線。





## HIGH TOUGHNESS, EXCELLENT FORMABILITY

The high toughness and good formability are ideal for making air spoiler accessories and antennas that match with the designs of car bodies



# 天線原料



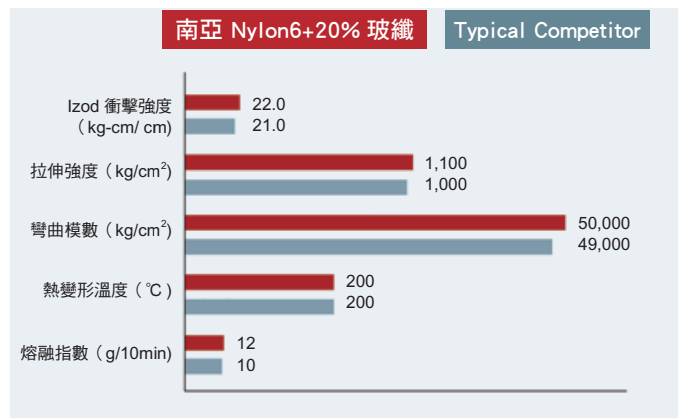
**改性塑膠(工程塑膠)產品(南亞公司): Nylon 6 複材**  
Nylon 6+20% 玻纖 規格: 2212G4ABK1

### 產品特性及優點:

南亞改性塑膠(工程塑膠)產品包含 PBT、PET、NYLON 6、NYLON 66、PC、PP、PPE 等系列產品, 玻纖強化、耐燃等規格種類齊全, 通過 ISO 9001、ISO 14001、TS 16949 認證, 品質穩定, 成型加工性佳, 提供製品優越之機械強度, 高熱變形溫度、尺寸安定性、電器性質等, 並擁有符合環保要求之非鹵素防火材料, 適用於汽車內裝及外裝各種等各種零配件。

**加工方式:** 射出成型。

**南亞 Nylon 6 複材與 Typical Competitor 物性比較:**



**產品規格表:**

種類			Nylon 6 複材
產品型號			2212G4ABK1
特性			高剛性、高韌性、成型性佳
應用			天線
項目	單位	試驗方法	平均值
熔融指數	g/10min	ASTM D1238	12
拉伸強度	kg/cm <sup>2</sup>	ASTM D638	1,100
彎曲模數	kg/cm <sup>2</sup>	ASTM D790	50,000
Izod 衝擊強度	kg.cm/cm	ASTM D256	22
熱變形溫度	°C	ASTM D648	200

**聯繫方式:** 南亞塑膠工業股份有限公司 塑三部 產銷四組

公司電話: 886-2-27178507、886-2-2712211 轉 5814 公司傳真: 886-2-27198661

公司地址: 10508 台北市松山區敦化北路 201 號後棟三樓

E-mail: epnanya@npc.com.tw

# Raw materials for Antenna



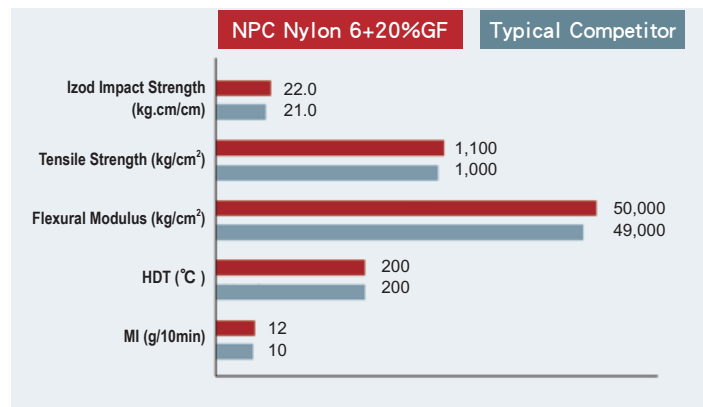
**Modified plastics (engineering plastics) (NPC): Nylon 6 composite**  
Nylon 6 + 20% Glass Fiber Grade: 2212G4ABK1

### Product Features and Benefits:

Nan Ya's modified plastics (engineering plastics) are available in PBT, PET, NYLON 6, NYLON 66, PC, PP, PPE, and other products with a wide range of specifications and properties, including reinforced glass fiber, flame retardant, stable quality, and good moldability, all of which conform to ISO 9001, ISO 14001, and TS 16949 certifications. These materials can help produce products with excellent mechanical strength, high heat distortion temperature, dimensional stability, electrical properties, etc. Environmentally friendly halogen-free flame retardant materials are also available and are suitable for use in car interior/exterior decorations, as well as various parts and accessories.

**Processing Methods:** Designed for injection molding.

### Comparison of NPC Nylon 6 Composite with a Typical Competitor:



### Products Specifications:

Type			Nylon 6 Composite
Grade			2212G4ABK1
Characteristics			High rigidity, High toughness, Good moldability
Applications			Antennas
Properties	Unit	Test Method	Typical Value
Melt Index	g/10min	ASTM D1238	12
Tensile Strength	kg/cm <sup>2</sup>	ASTM D638	1,100
Flexural Modulus	kg/cm <sup>2</sup>	ASTM D790	50,000
Izod Impact Strength	kg.cm/cm	ASTM D256	22
HDT	°C	ASTM D648	200

### Contact Information:

**Nan Ya Plastics Corporation Plastics 3<sup>rd</sup> Div. Engineering Plastics Dept.**

TEL: 886-2-27178507/ 886-2-27122211# 5814 FAX: 886-2-27198661

ADD.: 3F., No. 201, Tung Hwa N. Road, Songshan Dist., Taipei City 10508, Taiwan (R.O.C.)

E-mail: epnanya@npc.com.tw