聚丙烯纖維未來的發展趨勢

資料來源：三洋紡織　張正建協理

《2017織布公會第六期活力成長營研討會》

dreamfel®

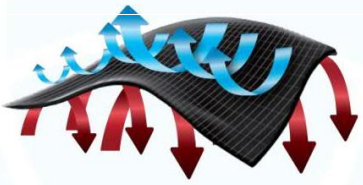
功能簡析

汗氣轉移(Moisture Transfer)

PP不吸水，所以不會濕潤，易於傳輸汗氣。

在汗氣凝結前，將汗氣移離肌膚，不會有濕黏的感覺。

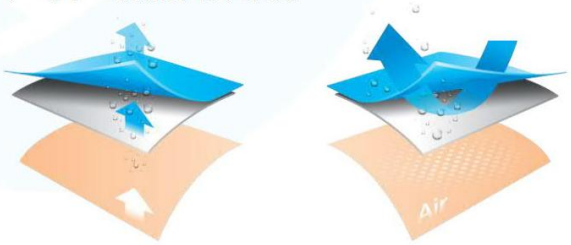
PP是讓汗氣移動，經由織物而到達織物之外面；而不像其他合纖是將汗氣封閉而使其與肌膚接觸。



快乾(Quick Dry)

PP不吸水，故水氣無法進入纖維內，乾燥時間最短。

由於水分沒有被吸入纖維中，故只要抖一抖，就能抖掉水分。



dreamfel 功能簡析

輕量(Lightweight)

PP是所有衣料用纖維中最輕的，比水還輕， 是唯一能浮於水面上的纖維。比尼龍輕20%、比PET輕35%、比棉輕40%。

對運動員而言，重量的減輕即等於能量的節省及距離的縮短。

熱傳導性低(Thermal Conductivity)

PP的熱傳導性是所有合成及天然纖維中最低的。

因熱傳導率低，所以纖維傳導熱量的速率很慢，而熱量的流失就變得很慢。

保溫的性能優於其他纖維。

PP FIBER
22.2˚

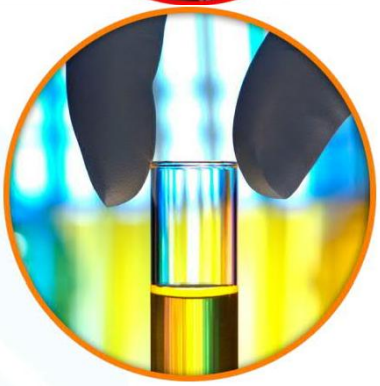
After: 10 Minutes
28.8˚

耐化學性佳(Chemical Resistant)

PP與一般化學藥劑不會反應。

體液所產生的鹽類或汗液也不會使PP裂解。

當使用漂白水和效果強勁的清潔劑時，也不會傷害到纖維。



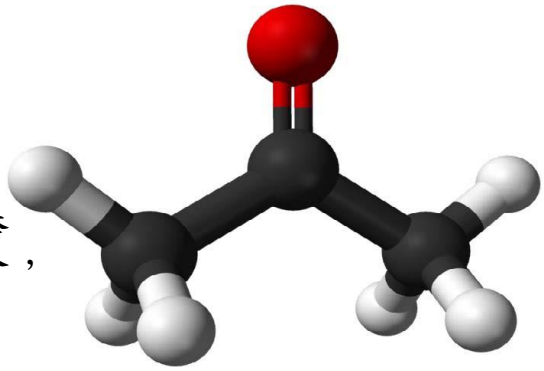
色牢度佳(Colorfastness)

PP是原液染色，而非後染之纖維染色，因此顏料是均勻分布於纖維中，而不像其他後染纖維只分布在纖維表面。

PP沒有褪色及滲透昇華的問題，因此深色及淺色衣物可以放在一起洗滌，不會有沾染的問題。各種色牢度優於其他纖維。

dreamfel 環保

環保Environmentally



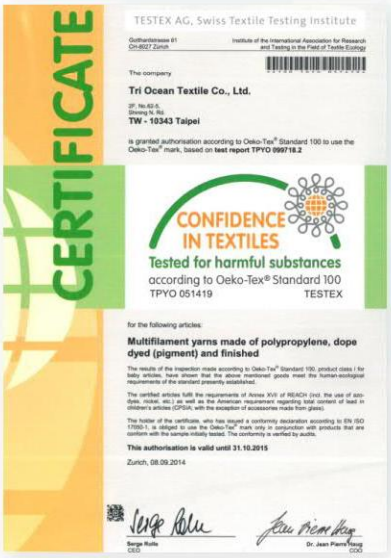
PP是由氫和碳的結合，無共架鍵及關能基若不加UV CUT，埋在土裡與有機分子結合，3~5年可自動裂解。

PP紗是使用低溫紡絲(約200度C) 不同於POLYESTER和NYLON需要280度C以上的溫度。

PP為原抽紗，無染整製程，
大量減少染整排放出的廢水汙染。

環保性(Environmentally)

- 100%PP製成的成衣，可以回收使用。
- PP纖維獲得“Oeko-Tex Stanrd 100”的認證，通過環境安全及有害物質的測試。
- PP由碳及氫元素所組成，燃燒後不會產生任何有毒氣體，不會產生任何公害。PET及Nylon燃燒後會有戴奧辛的問題。
- 未添加光穩定劑PP拋棄後，約半年即可脆化裂解。



TESTEX AG, Swiss Textile Testing Institute

Gotthardstrasse 61
CH-8027 Zürich

Institute of the International Association for Research and Testing in the Field of Textile Ecology

CERTIFICATE

The company

Tri Ocean Textile Co., Ltd.

2F, No.62-5,
Sining N. Rd.
TW - 10343 Taipei

is granted authorisation according to Oeko-Tex® Standard 100 to use the Oeko-Tex® mark, based on **test report TPYO 099718.2**

CONFIDENCE IN TEXTILES
Tested for harmful substances
according to Oeko-Tex® Standard 100
TPYO 051419 TESTEX

for the following articles:

Multifilament yarns made of polypropylene, dope dyed (pigment) and finished

The results of the inspection made according to Oeko-Tex® Standard 100, product class I for baby articles, have shown that the above mentioned goods meet the human-ecological requirements of the standard presently established.

The certified articles fulfil the requirements of Annex XVII of REACH (incl. the use of azo-dyes, nickel, etc.) as well as the American requirement regarding total content of lead in children's articles (CPSIA, with the exception of accessories made from glass).

The holder of the certificate, who has issued a conformity declaration according to EN ISO 17050-1, is obliged to use the Oeko-Tex® mark only in conjunction with products that are conform with the sample initially tested. The conformity is verified by audits.

This authorisation is valid until 31.10.2015

Zurich, 08.09.2014

Serge Rolle
CEO

Dr. Jean Pierre Hang
COO

bluesign

Awarded to bluesign® system partner

Tri Ocean Textile Co., Ltd.

2F., 62-5 Sining N. Road, Taipei 103, Taiwan

The bluesign® certificate attests that

Range

Polypropylene yarns without flame retardant types

(for exact article numbers or article identification see "bluesign® approved fabric list 020.198.002")

manufactured in

No 28, Shing Bang Rd., Taoyuan City, Taoyuan County 330, Taiwan

is/are in all aspects in accordance with the bluesign® standard, namely regarding the production processes and the components used. Furthermore, above company is granted authorisation to use the bluesign® trademark

bluesign® approved fabric

for above product(s) according to the bluesign® trademark guidelines.

Certificate number:	020.198.002
Certificate issued on:	January 28, 2013
Certificate valid until:	November 9, 2015

Peter Waeber, CEO
bluesign technologies ag

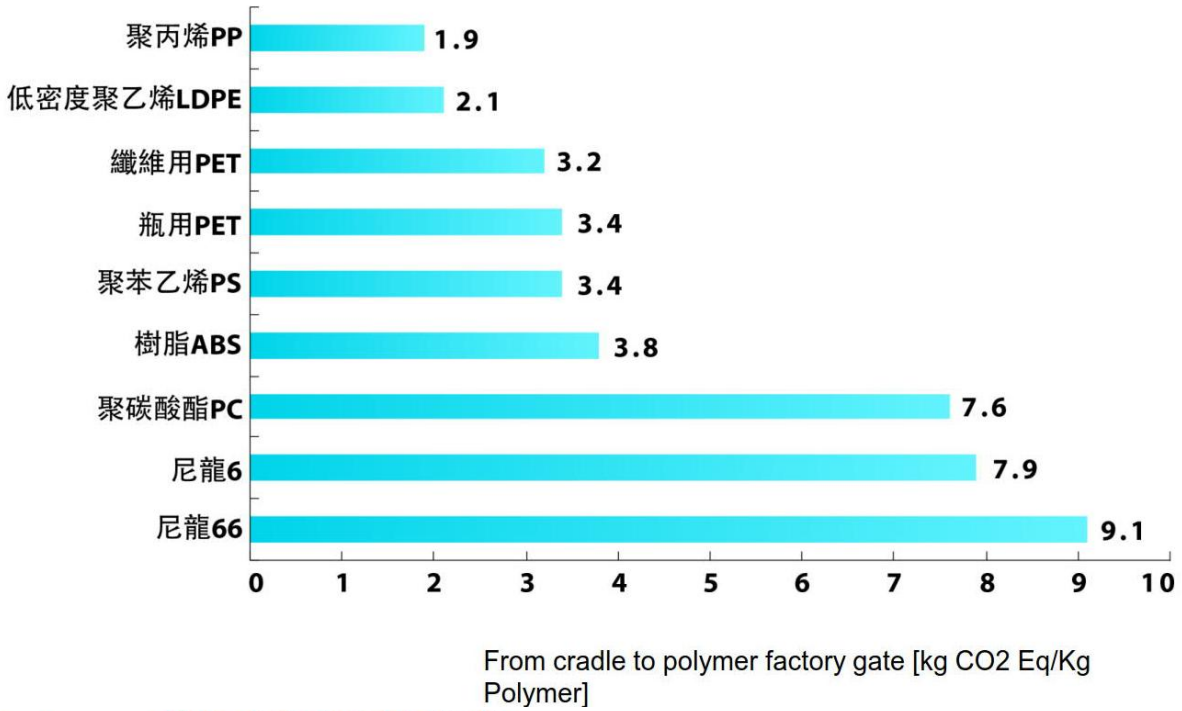
bluesign® system partners are committed to meeting highest criteria regarding sustainability, in particular regarding resource efficiency, environmental impact, occupational health and safety as well as consumer protection. The independent bluesign® standard with its holistic approach is the most stringent standard for the textile industry and adopting it means meeting these criteria without compromising functionality, quality, or design.

www.bluesign.com

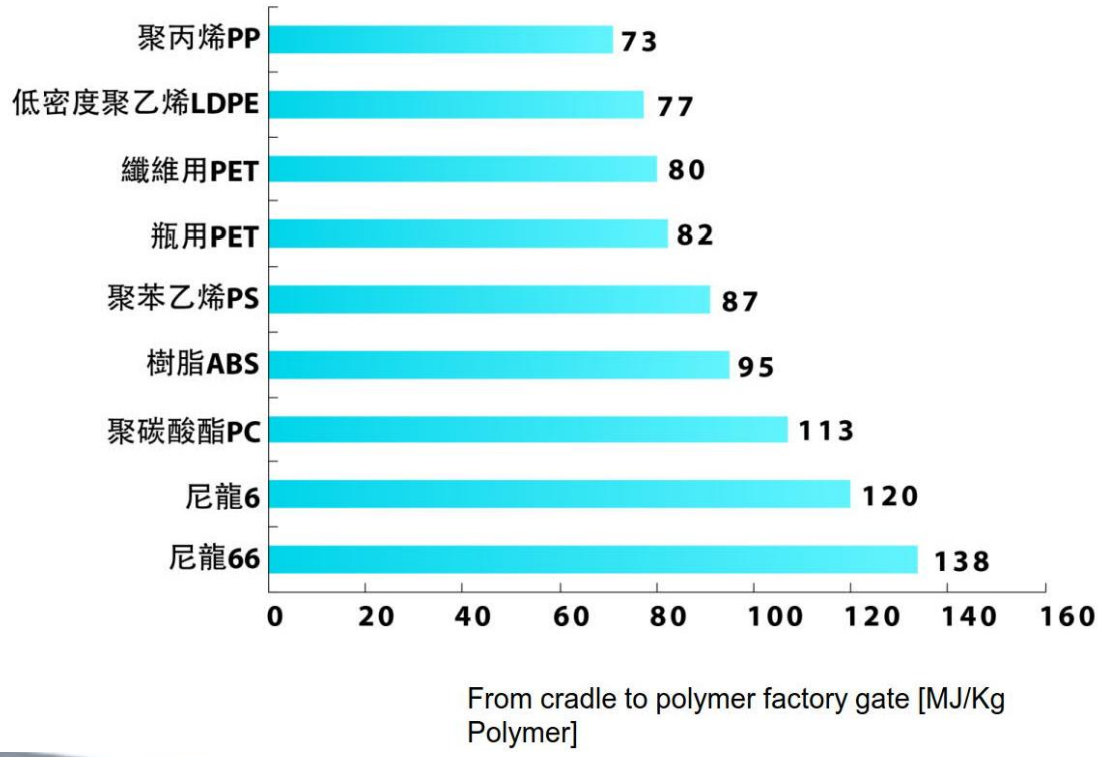
certificate

dreamfel 環保

Polymer 之CO2排放比較橫條圖



Polymer能源耗用比較橫條圖

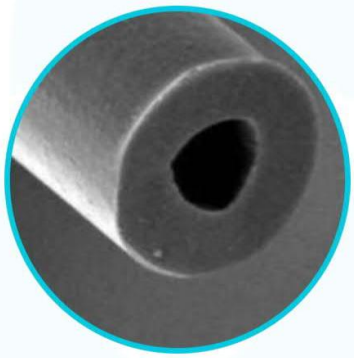


dreamfel® 與其他纖維比較

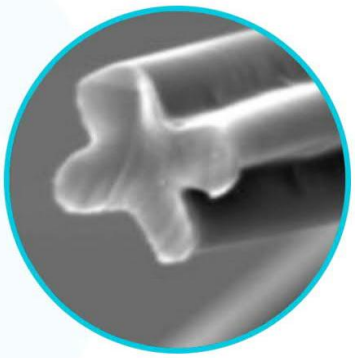
Item	PP	Nylon	Polyester	Rayon	Aryclic	Wool	Cotton
Specific gravity (g/cm3)	0.91	1.14	1.38	1.52	1.17	1.32	1.5
Tenacity (g/d)	4～5	4.5～5.8	4.5～5.5	1.2～2.6	2.5～5.0	1.0～1.7	2.6～4.3
Wet tenacity retention ratio(%)	100	90	100	70	-	89	116
Elongation (%)	25～30	30～40	20～30	17～30	27～48	10～15	3～7
Wet elongation retention ratio (%)	100	120	100	140	-	130	106
Softening point (℃)	155～160	215	230～240	-	250	-	-
Melting point (℃)	170～175	230	255～260	-	decomposes	-	-
Thermal conductivity	6	10	7.3	11	8	6.4	17.5
Warmth retention order	1	5	3	6	4	2	7
Dry speed (%/min)	11.1	10.85	8.85	5.4	10.15	6.8	8.7
Water content (%)	0.05	4.5	0.45	13	1.6	16	8

dreamfel®-Plus

Trilobal
dreamfel® -T
(Ever-Bright)



"+"Cross Section
dreamfel® -+
(Ever-Dry)



Hollow
dreamfel® -H
(Ever-Warm)

dreamsuede®

PP原液染色Conjugate Microfiber

聚酯海島型式或橘瓣複合型Microfiber之技術，經過數十年已趨成熟。
但(一)染色牢度(二)減量率控制(三)同一塊布色彩多樣性限制，依然有瓶頸。
因為PP耐酸耐鹼又採用原液染色，正好解決上述聚酯型Microfiber之盲點。

應用範圍 Applications

- 戶外、室內沙發、抱枕
- 窗簾
- 壁布
- 隔屏
- 寢具
- 鞋材
- 車用織物
- 梳毛針織衣物
- 戶外及休閒流行服飾
- 嬰兒車用布
- 保暖衣物
- 擦拭布
- 嬰兒衣物

- Outdoor & Indoor furniture, pillowcase.
- Curtains
- Wall decoration fabrics
- Screens
- Beddings
- Shoes
- Vehicles interiors
- Knitted garments
- Outdoor & fashion garments
- Baby strollers
- Thermal wear
- Wipes
- Baby garments

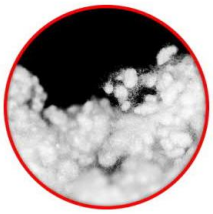
TEST REPORT	
TEST ITEM	WDF15052 (PP SUEDE)
Material	100% POLYPROPYLE
(1)PILLING TEST	
ASTM D3512 FOR 30MIN	4
(2)MARTINDALE	
RESISTANCE(ASTMD4966) 12KPA	Over 20000RUBS
(3)COLOR FASTNESS TO RUBBING (AATCC8)	
DRY	4.5
WET	4.5
(4)COLOR FASTNESS TO WASHING (AATCC 61-1A)	
COLOR CHANGE	4
COLOR STAINING	
ACETATE	4.5
COTTON	4.5
NYLON	4.5
POLYESTER	4.5
ACRYLIC	4.5
WOOL	4.5
(5)COLOR FASTNESS TO WASHING (AATCC 61-2A)	
COLOR CHANGE	4
COLOR STAINING	
ACETATE	4.5
COTTON	4.5
NYLON	4.5
POLYESTER	4.5
ACRYLIC	4.5
WOOL	4.5
(11)COLOR FASTNESS TO LIGHT(AATCC16)	
(AATCC 16)	500HRS

dreamheat®

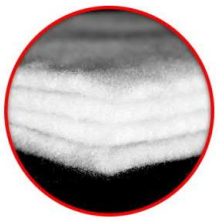
dreamheat®是一個革命性的保暖材質 – 聚丙烯填充羽絨。dreamheat®本身不吸水分，極輕的重量，優異的保暖性，以及可機器洗滌，使得dreamheat®比傳統的羽絨更容易保養。

PP側對側(side-by-side)雙組份複合紗。利用A、B兩種不同特性之PP，利用複合紡絲技術並列於紗線的每根單絲中，經受熱後A、B兩種PP之捲縮性不同，使紗線產生彈簧般的捲縮結構，造成3D彈性效果。

dreamheat-ball®



dreamheat-padding®



PP PADDING與他牌第三公正測試報告

試驗報告						
測試項目	溫度變化			濕度變化		
	測試前	測試後	差異	測試前	測試後	差異
PP100GSM	30.6	32.1	+1.5	54.5	59.5	+5.0
PP200GSM	30.2	32.3	+2.1	54.5	60.2	+5.7
Polxxx tex	31.3	30.1	-1.2	52.6	62.3	+11.3
Prxxxlxxx	30.0	30.1	+0.1	47.3	55.8	+8.5

人體生理測試:

1. 環境溫濕度:10±1 °C, 50±4%
2. 受測者: 男性，5人次，20-40歲
3. 測試時間:
   a)適應期:10分鐘
   b)測試期:20分鐘
4. 受測者姿勢:
   1:1048576
5. 量測部位: 胸部中央

*微氣候溫濕度記錄器(MSR)

補充說明:

1. 濕度40%~60%之間都是舒適
2. 濕度80%就會悶濕(ex,在動態中
3. 人體正常承受溫度為±3° C為適當範圍

dreamheat® 鹵素燈升溫測試顯像實驗報告

華楙生技股份有限公司
Hua Mao Nano-Tech Co., Ltd.

試驗報告
Test Report

正　本
ORIGINAL

日期 Date：104.10.06　收件日期 Date of Receipt：104.10.05

報告編號 Report No.：Hlamp102319　數量 Quantity：2　報告頁次/頁數 Page Order/Pages：1

報告抬頭 Report Title：華楙生技股份有限公司 Hua Mao Nano-Tech Co., Ltd.

地址 Address：桃園縣蘆竹鄉蘆興街 93 號 No.93, Luxing St., Luzhu Shiang, Taoyuan County 33849, Taiwan (R.O.C.)

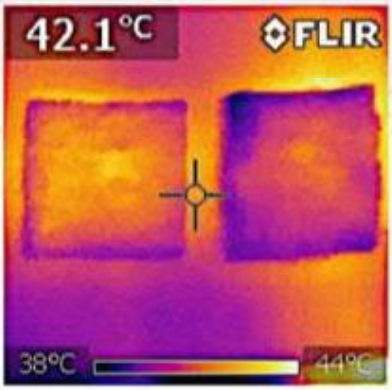
鹵素燈升溫測試熱顯像實驗報告

一、 實驗樣品

Dream Heat 100 g/m²

PRIXXXXXX 100 g/m²

二、 熱顯像圖：



High Performance of DreamFel® for outdoor furniture

Standards	Testing Method	Performance
Colorfastness to Light	AATCC 16	1000~1200hrs 4
Colorfastness to Rub	AATCC 8	Dry -- Grade 4 Wet -- Grade 4
Water Repellent	AATCC 22	90% Grade 4
Abrasion	ASTM D 4157	10,000 Rubs
Pilling Resistance	ASTMD 3512	Grade 4-5 after 5,000 Rubs
Ultraviolet Protection Factor	AATCC 183	SPF50+

為何選用DreamFel® ？

■輕量 - 比Polyester30% / Nylon輕20%
■耐用 - 使用特殊紗線加工方式，布面效果柔軟但仍保有耐用強度，可使用於箱包及戶外傢飾布上。

■色牢度佳 - 為原抽紗，日光牢度可高達1200小時。

■耐髒易清洗- PP的表面是光滑無毛孔的，故髒汙不易附附著在表面，也不易滋生細菌。
■環保