

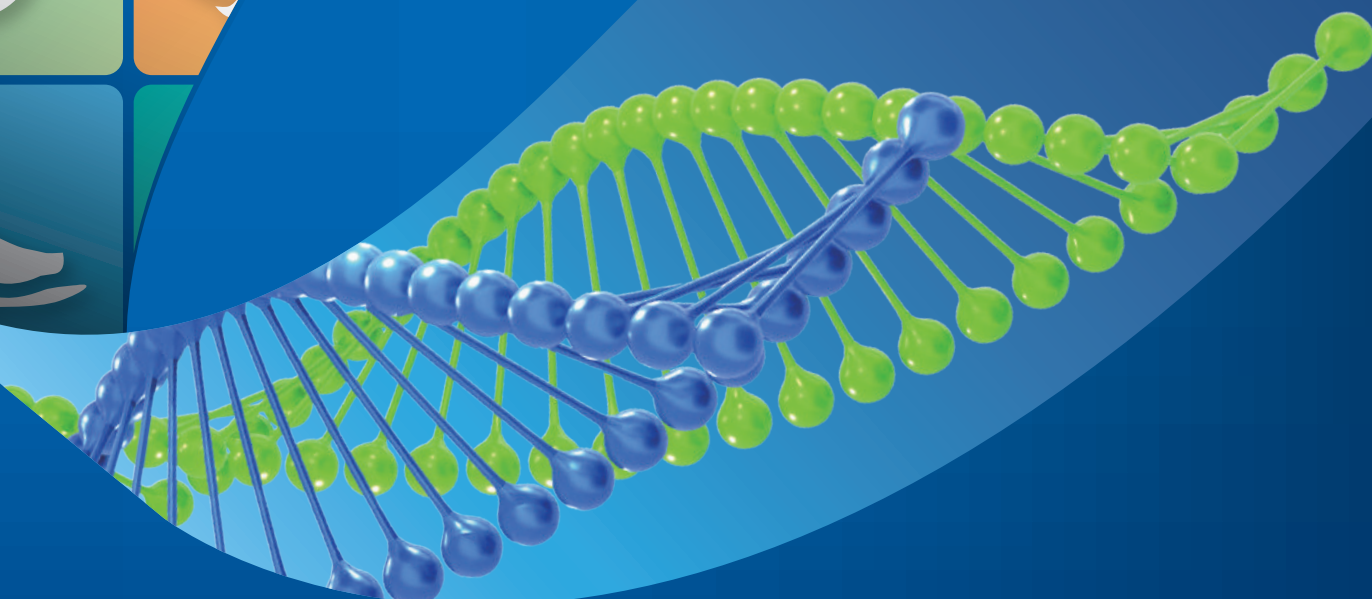
KINJOIN

崑仲集團

KOSLEN® TPU

TPU

Professional Manufacturing Factory



KIN JOIN

www.tpu.tw



KOSLEN® TPU

KIN JOIN

- 2001年成立福州廠
- 2004年設立東莞廠
- 2010年建立泉州廠
- Fuzhou factory was established in 2001
- Dongguan factory was established in 2004
- Quanzhou factory was established in 2010

歷史沿革

崑仲股份有限公司(臺灣)創立於1993年，以生產熱可塑性彈性體為主之專業廠商，產品均為綠色環保材料。主要生產TPU,TPR,TPV,TPE等熱可塑性彈性體，產品行銷世界各地，品質及服務深受廣大客戶讚譽。

本公司創立以來一直秉持『精益求精、服務至上、永續發展』為經營理念，在品質管理、生產安全、社會環保方面建立了一套合乎國際品質保證之標準。同時，我們不斷地追求技術創新，擁有高素質的研發團隊，精密的分析儀器，使我們保持市場之競爭優勢。

公司本著對保護自然環境負責態度，開發出PULLON® TPU與KOSLEN® TPU, KALLOY® TPE和多元醇系列環保產品，以新概念、多功能的材質滿足不同之客戶需求。

History

Established in 1993, KINJOIN CO., LTD. (Taiwan) is a professional manufacturer of thermoplastic elastomers which are green and environmentally friendly products. We mainly produce thermoplastic elastomers such as TPU, TPR, and TPE sold all over the world with outstanding quality and considerate service among customers.

Since the establishment, the company has been upholding the business philosophy of “pursuing excellence, service-oriented and sustainable development” and setting up a set of standards in line with international quality assurance in quality management, production safety and social and environmental protection. Meanwhile, we continue to pursue the technical innovation, own a smart R & D team and have high-tech analytical instruments. Therefore we have the advantages and features to keep market competitiveness in various applications.

With the responsible attitude towards natural environmental protection, our company has developed PULLON® TPU and KOSLEN® TPU, KALLOY® TPE and series polyols that are environmentally friendly products to meet the needs of different customers by new concept and multi-functional materials.



TPU

Profession Manufacturing Factory



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|----|---|



POLYOL 多元醇

Polyester Polyol Resin Series

聚酯多元醇樹脂系列

聚酯多元醇樹脂系列是設計以二元醇和二元酸所反應而成，在製造中觸媒添加量較低時，可在客製 PU 化時較易於控制，並達到較佳物性。其產品特色是分子量分布窄、一般色數淺、含水率低、酸價低且客戶合成 PU 產品後其外觀及物性較佳。主要應用在熱可塑聚氨酯、合成革、膠黏劑、油墨、鞋底發泡棉等領域。

The polyester polyol resin series is designed to be reacted with a dihydric alcohol and a dibasic acid. When the amount of catalyst added is low during production, it can be easily controlled during custom PU production and achieve better physical properties. Its product features narrow molecular weight distribution, light color number, low water content, low acid value and good appearance and physical properties after the customer synthesizes PU products.

Mainly used in the fields of thermoplastic polyurethane, synthetic leather, adhesive, ink, and foamed cotton.

型號/規格 Model/Specification	原料組成 Composition	官能基 Functionality	平均分子量 Average M.Wt	羟值(mg KOH/g) OH Value	酸值(mg KOH/g) Acid Value
PO-8707	AA、BG、EG	2	700	160-170	≤0.3
PO-8710	AA、BG、EG	2	1000	102-116	≤0.3
PO-8715	AA、BG、EG	2	1500	73-77	≤0.3
PO-8720	AA、BG、EG	2	2000	54-58	≤0.3
PO-8730	AA、BG、EG	2	3000	35-39	≤0.3
PO-8810	AA、BG	2	1000	102-116	≤0.3
PO-8820	AA、BG	2	2000	54-58	≤0.3
PO-8830	AA、BG	2	3000	35-39	≤0.3
PO-8840	AA、BG	2	4000	26-30	≤0.3
PO-7710	AA、EG	2	1000	102-116	≤0.3
PO-7720	AA、EG	2	2000	54-58	≤0.3
PO-8310	AA、PG	2	1000	102-116	≤0.3
PO-8320	AA、PG	2	2000	54-58	≤0.3
PO-8330	AA、PG	2	3000	35-39	≤0.3

備註：※可依客戶需求提供不同組成或分子量產品。

※包裝形態可分5公斤裝、210公斤裝。



色相 (Hazen) Appearance	含水量 (%) Moisture	用途 Applications
≤40	≤0.03	TPU、膠黏劑 Adhesive
≤40	≤0.03	TPU、塗料 Paint
≤40	≤0.03	TPU
≤40	≤0.03	TPU、合成皮革 Synthetic Leather、接著 Contact
≤40	≤0.03	TPU、膠黏劑 Adhesive
≤40	≤0.03	TPU、塗料 Paint
≤40	≤0.03	TPU、塗料 Paint
≤40	≤0.03	TPU、塗料 Paint
≤40	≤0.03	TPU、熱熔膠 Hot Melt Adhesive、膠黏劑 Adhesive
≤40	≤0.03	TPU、注塑彈性體 Injection Molding Elastomer
≤40	≤0.03	TPU、注塑彈性體 Injection Molding Elastomer
≤40	≤0.03	TPU
≤40	≤0.03	TPU
≤40	≤0.03	TPU

Remark : ※Can provide tailor-made products with different composition and molecular weight.
※The packaging can be 5kg. 210kg.

KIN JOIN

PULLON® TPU KOSLEN® TPU

TPU (Thermoplastic Polyurethane)

熱可塑性聚氨酯彈性體

Thermoplastic polyurethane elastomer

TPU商品通常都是粒狀，加工方法有：射出、擠出、壓延、吹塑、模壓、紡絲加工等等，其中以射出成型和壓出成型應用最多約佔 70 % 以上。並且 TPU還可用來制造彈性纖維，合成皮革樹脂，粘著劑。因此聚氨酯彈性體應用範圍十分廣泛，TPU產品的綜合性能出眾，應用上幾乎遍及所有領域，是新一代工程塑料，屬經濟可循環再利用環保型塑膠彈性體之一。

TPU products are usually granular, and the processing methods include: injection, extrusion, calendering, blow molding, molding, spinning, etc., wherein injection molding and extrusion molding applications account for up to 70% or more. And TPU can also be used to make elastic fibers. Synthetic leather resin, adhesive. Therefore, the application range of polyurethane elastomer is very wide. The comprehensive performance of TPU products is outstanding, and it is applied in almost all fields. It is a new generation of engineering plastics and is one of the economical and recyclable environmentally friendly plastic elastomers.

TPU產品特性：

1. 優越的耐磨與抗撕裂性能。
2. 具有抗水解和抗菌的效果。
3. 耐寒及耐曲折性能優越。
4. 有阻燃和耐油特性屬綠色環保型塑膠材料。
5. 由於加工特性佳兼具橡膠和塑膠寶貴特性，是同類型塑膠無法相比。

TPU product features

1. Excellent wear and tear resistance.
2. It has anti-hydrolysis and antibacterial effects.
3. Excellent cold resistance and tortuosity.
4. It is a green plastic material with flame retardant and oil resistant properties.
5. Due to the excellent processing characteristics and the valuable characteristics of rubber and plastic, it is incomparable to the same type of plastic.





TPU 產品適用範圍：

射出級：汽車零件，機器零件，電子配件，運動鞋飾片，鞋材大底，女鞋天皮，滾輪，錶帶，玩具，運動護具，特殊護具，特殊包膠，動物耳標，和其它塑膠製品。

壓出級：電線電纜，管材，薄膜，薄板，織物，服飾膠釘，肩帶，其它。

吹塑級：塑膠瓶，充氣用水帶，運動鞋氣墊，玩具等。

TPU product scope:

Injection level: auto parts, machine parts, electronic parts, sports shoes, shoe soles, women's shoes, rollers, straps, toys, sports protective gear, special protective gear, special rubber, animal ear tags, And other plastic products.

Extrusion grade: wire and cable, pipe, film, sheet, fabric, clothing nail, shoulder strap, and others.

Blow molding grade: plastic bottles, water hoses, sports shoes, air cushions, toys, etc.



PULLON® TPU KOSLEN® TPU

05 TPU B400系列
TPU B400 series

06 TPU B700系列
TPU B700 series

07 TPU C500系列
TPU C500 series

08 TPU E300系列
TPU E300 series

09 TPU S100系列
TPU S100 series

10 TPU S600系列
TPU S600 series

11 TPU H200系列
TPU H200 series

KALLOY® TPR

12 TPU W 系列
TPU W series

• 電線電纜 系列

TPU B-400 系列 (聚酯型)

TPU B-400 series



聚酯型 TPU:

耐磨佳，成型快，透明度好，適用於注塑，擠出

典型用途:

管材，錶帶，鞋飾片，共混改性，電子配件，輪材等等

硬度範圍:

從 Shore A80 到 Shore D72

Polyester TPU:

Good wear resistance, fast forming and good transparency, Suitable for injection molding, extrusion

Typical use:

Pipe, strap, shoe trim, blend modification, electronic accessories, wheel, etc.

Hardness range:

From Shore A80 to Shore D72

型號/規格	檢測方法	單位	B-480A	B-485A	B-490A	B-495A	B-498A	B-464D	B-472D	D-490	D-498
比重	ASTM D792	-	1.2	1.21	1.21	1.22	1.22	1.23	1.23	1.21	1.22
硬度A	ASTM D2240	Shoer A	80	85	90	95	-	-	-	90	-
硬度D	ASTM D2240	Shoer D	-	-	-	-	55	64	72	-	55
拉力強度	ASTM D412	kgf/cm ²	250	280	320	350	400	420	430	320	400
伸長率	ASTM D412	kgf/cm ²	550	500	450	420	400	320	300	450	400
100%抗拉模數	ASTM D412	kgf/cm ²	40	60	90	110	130	200	220	90	130
300%抗拉模數	ASTM D412	kgf/cm ²	100	150	180	230	250	280	300	180	250
撕裂強度	ASTM D624	kgf/cm	80	95	120	140	160	220	240	120	160
壓縮永久歪	ASTM D395	%	32	35	35	40	45	-	-	35	45
磨耗	DIN 53516	mm ³	≤80								



TPU B-700 系列 (聚酯型)

TPU B-700 series

聚酯型 TPU:

透明度好，適用於注塑，擠出，流延，吹塑

典型用途:

管材，氣墊，薄膜，汽車配件，透明飾片，工業皮帶等等

硬度範圍:

從 Shore A80 到 Shore D72

Polyester TPU:

Good transparency, Suitable for injection molding, extrusion, casting, blow molding

Typical use:

Pipe, air cushion, film, auto parts, transparent trim, industrial belt, etc.

Hardness range:

From Shore A80 to Shore D72

型號/規格	檢測方法	單位	B-780A	B-785A	B-790A	B-795A	B-798A	B-764D	B-772D
比重	ASTM D792	-	1.2	1.21	1.21	1.22	1.22	1.23	1.23
硬度A	ASTM D2240	Shoer A	80	82	90	95	-	-	-
硬度D	ASTM D2240	Shoer D	-	-	-	-	55	64	72
拉力強度	ASTM D412	kgf/cm²	280	320	350	360	380	400	420
伸長率	ASTM D412	kgf/cm²	500	480	450	420	400	320	300
100%抗拉模數	ASTM D412	kgf/cm²	40	50	70	95	110	180	200
300%抗拉模數	ASTM D412	kgf/cm²	100	120	160	200	230	250	260
撕裂強度	ASTM D624	kgf/cm	70	80	100	150	180	210	230
壓縮永久歪	ASTM D395	%	32	35	38	40	45	-	-
磨耗	DIN 53516	mm³	≤100						

TPU C-500 系列（特殊聚酯型）

TPU C-500 series



特殊聚酯型 TPU:

耐油性佳，耐熱性佳，耐磨佳

典型用途:

密封件，油封，鏡框，油管，汽車配件等等

硬度範圍:

從 Shore A80 到 Shore D64

Special polyester TPU:

Good oil resistance, good heat resistance, good wear resistance, suitable for injection molding

Typical use:

Seals, oil seals, frames, tubing, auto parts, etc.

Hardness range:

From Shore A80 to Shore D64

型號/規格	檢測方法	單位	C-580A	C-585A	C-590A	C-595A	C-589A	C-564D
比重	ASTM D792	-	1.16	1.17	1.18	1.18	1.19	1.21
硬度A	ASTM D2240	Shoer A	80	85	90	95	-	-
硬度D	ASTM D2240	Shoer D	-	-	-	46	55	64
拉力強度	ASTM D412	kgf/cm ²	300	320	350	350	380	420
伸長率	ASTM D412	kgf/cm ²	500	450	420	420	400	350
100%抗拉模數	ASTM D412	kgf/cm ²	50	55	80	100	120	180
300%抗拉模數	ASTM D412	kgf/cm ²	80	120	170	180	200	250
撕裂強度	ASTM D624	kgf/cm	80	100	110	130	150	200
壓縮永久歪	ASTM D395	%	30	31	32	35	35	-
磨耗	DIN 53516	mm ³	≤100					

TPU E-300 系列 (聚醚型)

TPU E-300 series



聚醚型 TPU:

耐水解，耐霉性，耐低溫，適用於注塑，擠出，壓延

典型用途:

水球，電線，消防水帶，海洋探管等等

硬度範圍:

從 Shore A70 到 Shore D72

Polyether polyol TPU:

Resistant to hydrolysis, mildew resistance, low temperature resistance, suitable for injection molding, extrusion, calendaring

Typical use:

Water polo, wires, fire hoses, marine probes, etc.

Hardness range:

From Shore A70 to Shore D72

型號/規格	檢測方法	單位	E-370A	E-380A	E-385A	E-390A	E-395A	E-398A	E-364D	E-372D
比重	ASTM D792	-	1.1	1.11	1.12	1.13	1.15	1.16	1.17	1.18
硬度A	ASTM D2240	Shoer A	70	80	85	90	95	-	-	-
硬度D	ASTM D2240	Shoer D	-	-	-	-	-	55	64	72
拉力強度	ASTM D412	kgf/cm ²	150	220	280	320	350	380	400	420
伸長率	ASTM D412	kgf/cm ²	650	550	480	450	420	400	380	350
100%抗拉模數	ASTM D412	kgf/cm ²	20	40	60	70	100	130	180	220
300%抗拉模數	ASTM D412	kgf/cm ²	50	70	110	130	180	240	260	280
撕裂強度	ASTM D624	kgf/cm	60	80	98	105	120	150	200	220
壓縮永久歪	ASTM D395	%	30	32	35	38	40	45	-	-
磨耗	DIN 53516	mm ³	≤100							

TPU S-100 系列 (一般聚酯型)

TPU S-100 series



聚酯型 TPU:

機械強度優良，成型性好，彈性好，通用級材料，適用於注塑，擠出，壓延，流延等製造工藝

典型用途:

鞋材，管材，腳輪，保護套，電子配件，醫療器材，玩具，包膠(包 PC，ABS)，共混改性等等

硬度範圍:

從 Shore A80 到 Shore D72

Polyester TPU:

Excellent mechanical strength, good formability, good elasticity, general-purpose materials, suitable for injection molding, extrusion, calendering, casting and other manufacturing processes

Typical use:

Shoes, pipe, casters, protective sleeves, electronic accessories, medical equipment, toys, plastic (PC, ABS), blending modification, etc.

Hardness range:

From Shore A80 to Shore D72

型號/規格	檢測方法	單位	S-180A	S-185A	S-190A	S-195A	S-198A	S-164D	S-172D	S-185ALL
比重	ASTM D792	-	1.21	1.22	1.2	1.22	1.23	1.24	1.24	1.22
硬度A	ASTM D2240	Shoer A	80	85	90	95	-	-	-	85
硬度D	ASTM D2240	Shoer D	-	-	-	50	55	65	72	-
拉力強度	ASTM D412	kgf/cm ²	220	250	300	320	350	360	380	180
伸長率	ASTM D412	kgf/cm ²	550	500	460	440	400	380	350	600
100%抗拉模數	ASTM D412	kgf/cm ²	40	60	80	100	120	150	180	50
300%抗拉模數	ASTM D412	kgf/cm ²	70	100	120	150	150	180	200	80
撕裂強度	ASTM D624	kgf/cm	80	95	105	120	130	180	200	80
壓縮永久歪	ASTM D395	%	32	35	38	40	45			
磨耗	DIN 53516	mm ³					≤100			

TPU S-600 系列（一般聚酯型） TPU S-600 series



聚酯型 TPU:

機械強度優良，耐磨耗性，成型性好，抗曲折性能佳
適用於注塑

典型用途:

鞋材，輪材，共混改性，電子配件，運動器材等等

硬度範圍:

從 Shore A70 到 Shore D72

Polyester TPU:

Excellent mechanical strength, wear resistance, good formability, good resistance to bending and folding Suitable for injection molding

Typical use:

Sole, wheels, blending modification, electronic accessories, sports equipment, etc.

Hardness range:

From Shore A70 to Shore D72

型號/規格	檢測方法	單位	S-670A	S-675A	S-680A	S-685A	S-690A	S-695A	S-698A
比重	ASTM D792	-	1.2	1.2	1.21	1.21	1.22	1.23	1.23
硬度A	ASTM D2240	Shoer A	70	75	80	85	90	95	-
硬度D	ASTM D2240	Shoer D	-	-	-	-	-	46	55
拉力強度	ASTM D412	kgf/cm ²	200	220	250	300	340	360	380
伸長率	ASTM D412	kgf/cm ²	650	600	550	500	450	420	400
100%抗拉模數	ASTM D412	kgf/cm ²	25	30	40	50	60	80	100
300%抗拉模數	ASTM D412	kgf/cm ²	50	80	100	120	140	180	220
撕裂強度	ASTM D624	kgf/cm	75	70	80	100	140	170	220
壓縮永久歪	ASTM D395	%	30	30	30	35	35	40	45
磨耗	DIN 53516	mm ³	≤80						

TPU H-200 系列

TPU H-200 series



聚酯型 TPU:

成型快，經濟型，適用於注塑

典型用途:

鞋材，電子配件，注塑件，運動器材，家居用品等等

硬度範圍:

從 Shore A70 到 Shore D64

Polyester TPU:

Fast forming, economical, suitable for injection molding

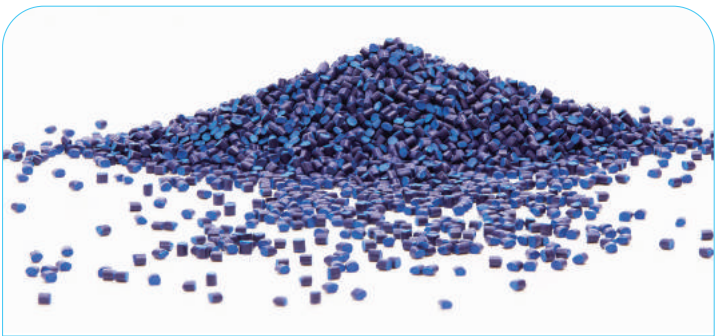
Typical use:

Shoes, electronic accessories, injection molded parts, sports equipment, household items, etc.

Hardness range:

From Shore A70 to Shore D64

型號/規格	檢測方法	單位	H-290A	H-295A	H-298A	H-264D	H-670AP	H-675A
比重	ASTM D792	-	1.23	1.24	1.25	1.25	1.24	1.24
硬度A	ASTM D2240	Shoer A	90	95	-	-	70	75
硬度D	ASTM D2240	Shoer D	-	-	55	64	-	-
拉力強度	ASTM D412	kgf/cm ²	300	320	320	350	180	200
伸長率	ASTM D412	kgf/cm ²	420	400	350	320	550	500
100%抗拉模數	ASTM D412	kgf/cm ²	80	100	120	150	35	40
300%抗拉模數	ASTM D412	kgf/cm ²	120	140	150	200	70	85
撕裂強度	ASTM D624	kgf/cm	140	150	160	200	70	80
壓縮永久歪	ASTM D395	%	35	38	38	-	32	32
磨耗	DIN 53516	mm ³	≤150					



TPU W 系列

TPU W series



- 電線電纜 系列
- Wire and cable series

型號/規格	檢測方法	單位	W-670AF	W-680AF	W-685AF	W-190AF	W-195AE	FR-385AE	FR-390AE
比重	ASTM D792	-	1.15	1.15	1.15	1.16	1.17	1.21	1.22
硬度A	ASTM D2240	Shoer A	70	80	85	90	95	85	90
拉力強度	ASTM D412	kgf/cm ²	120	165	170	175	210	200	250
伸長率	ASTM D412	kgf/cm ²	650	520	500	400	450	650	400
100%抗拉模數	ASTM D412	kgf/cm ²	25	45	50	60	75	80	100
300%抗拉模數	ASTM D412	kgf/cm ²	45	60	65	80	110	200	200
撕裂強度	ASTM D624	kgf/cm	40	50	70	80	100	100	110
特性	-	-	亞光				亮面	阻燃級	阻燃級



技術支援、參考資料、客製化服務

Drying And Molding Conditions

乾燥及成型條件

Drying Temperature And Time

乾燥溫度和時間

硬度 90A以上 2~4小時 100℃
硬度 90A以下 2~4小時 80℃
低硬度規格乾燥溫度過高會相黏結塊，且乾燥時間過長，易產生黃變。

Hardness below 90A 80℃~90℃ 3~4 hours
Hardness 95A or more 90℃~100℃ 3~4 hours
Low hardness specification If the drying temperature is too high, it will stick to the joint, and the drying time is too long, which is easy to produce yellowing.

特性比較 ◎優 ○良 △可 Characteristics Comparison ◎ Excellent ○ Good △ Fair

型號/規格	Model/Specification	S100	E300	B400	C500	S600	B700	H200
透明性	Transparency	○	◎	○	○	△	◎	△
耐水性	Water Resistance	△	◎	○	○	△	○	△
耐熱性	Heat Resistance	○	△	○	◎	○	○	○
耐油性	Oil Resistance	○	△	○	◎	○	○	○
耐寒性	Cold Resistance	○	◎	○	○	○	○	○
成型性	Moldability	○	△	◎	○	◎	△	◎
磨耗性	Abradability	○	△	◎	◎	◎	○	○

注塑成型溫度參考 (單位℃) Injection molding Temperature Reference(Unit °C)

型號/規格	噴嘴	C3(計量段)	C2(壓縮段)	C1(進料段)
Model/Specification	Nozzle	C3(Metering section)	C2(Compressiong section)	C1(Feed section)
85A	185-190	185	180	175
95A	190-195	190	185	180
64D	200-205	200	195	190
72D	210-215	210	205	195

擠出成型溫度參考 (單位℃) Extrusion molding Temperature Reference(Unit °C)

型號/規格	模頭	C3(計量段)	C2(壓縮段)	C1(進料段)
Model/Specification	Die	C3(Metering section)	C2(Compressiong section)	C1(Feed section)
75A	170	190	185	180
85A	180	195	190	185
95A	185	200	195	190

* 以上溫度僅供參考，請依現況調整

Abnormal Handling In Injection Molding

在注塑成型中的異常處理

TPU的成型工藝有多種方法，其中以注塑為常用。注塑前需注意以下幾點：

- 1.TPU易吸濕，加工前必須充分乾燥。
- 2.根據材料的收縮率來設計模具結構。
- 3.回收料的合理配比及機臺停機時的清潔處理。

There are many methods for forming a TPU, in which injection molding is commonly used. Pay attention to the following points before injection molding:

- 1. TPU is easy to absorb moisture and must be fully dried before processing.
- 2. Design the mold structure according to the shrinkage rate of the material.
- 3. Reasonable ratio of recycled materials and cleaning treatment when the machine is shut down.

不良現象	解決方法
匯交線	1.增加注塑機的壓力 2.增加熔料溫度或噴嘴溫度 3.增加澆口尺寸或改變位置 4.改善排氣孔
韌性不夠	1.熔料溫度太低或過熱 2.降低回收料比例 3.材料充分乾燥 4.增加澆口尺寸
成品焦化	1.降低熔料溫度 2.降低回收料比例 3.模具排氣不暢 4.重新清洗螺桿、噴嘴、料筒
毛邊現象	1.降低注塑壓力 2.降低熔膠溫度 3.提高合模壓力與機臺噸位 4.改善模具缺陷
成品有凹陷	1.增加注塑壓力與機臺噸位 2.增加計量或保壓時間 3.檢查逆止閥 4.加強排氣 5.降低熔料溫度或注塑速度

不良現象	解決方法
螺桿打滑	1.降低螺桿入料溫度 2.添加回收率 3.降低料筒溫度 4.排除螺桿進料段故障 5.確認添加擴散油是否過量
成品有氣泡	1.材料充分乾燥 2.改善模具設計 3.增加注塑機的背壓 4.降低料筒溫度
表面噴紋	1.加大澆口尺寸與溫度 2.材料充分乾燥 3.降低注塑速度或溫度 4.模具型腔損傷
成品翹曲	1.降低模具溫度 2.增加注塑壓力 3.改善澆口位置 4.降低注塑速度 5.增加保壓時間
成品脫模困難	1.降低注塑壓力 2.降低保壓時間 3.增加滑劑或噴脫膜劑 4.改善模具缺陷 5.改變澆口位置與尺寸 6.增大模具拔模角度

Abnormal Handling In Extrusion

在擠出成型中的異常處理

擠出成型工藝可製作塑料管材、板材、帶材、異型材、棒材、薄膜等。TPU的擠出成型是其中代表。

- 在擠出加工前需注意以下幾點：
- 1. TPU易吸濕，加工前必須充分乾燥。
 - 2. 根據材料硬度、粘度來設定加工溫度。
 - 3. 根據材料特性考慮螺桿結構和長徑比。

The extrusion process can be used to prepare plastic pipes, plates, strips, profiles, bars, films, and the like. Extrusion of TPU is representative of it.

- Pay attention to the following points before re-extrusion processing:
- 1. TPU is easy to absorb moisture and must be fully dried before processing.
 - 2. Set the processing temperature according to the hardness and viscosity of the material.
 - 3. Consider the screw structure and length to diameter ratio according to the material characteristics.

不良現象	解決方法
皺紋	1.提高模頭溫度與加工溫度 2.降低冷卻水溫 3.排除模頭有損傷或雜質
接合線	1.提高加工溫度 2.提高模頭內膜壓力 3.調整機頭位置與溫度 4.材料充分乾燥
表面太霧	1.提高成型溫度 2.降低螺桿速度 3.材料充分乾燥 4.提高眼模溫度 5.降低冷凍水溫度
透明性差	1.提高成型溫度 2.降低螺桿速度或水槽溫度 3.選擇透明級材料 4.材料含水分高 5.滑劑添加過量
尺寸不穩定	1.材料有雜質 2.溫度太高或入料不順 3.牽引太快 4.模頭有損傷 5.材料含水分

不良現象	解決方法
氣泡	1.材料充分乾燥 2.芯線夾入空氣 3.吃料不順暢 4.降低成型溫度
表面偏亮	1.成型溫度太高 2.提高水槽溫度 3.生產速度太慢 4.降低眼模溫度
有滯留物	1.模頭溫度過低 2.材料粘度太高 3.材料受污染 4.材料焦化
黑點	1.模頭殘料滯留 2.清洗螺桿 3.更換過濾網 4.成型溫度太高材料焦化 5.材料受污染
不熔顆粒	1.降低加工速度 2.提高加工溫度 3.排除材料污染 4.清理模頭與螺桿 5.增加過濾網目數

參考資料

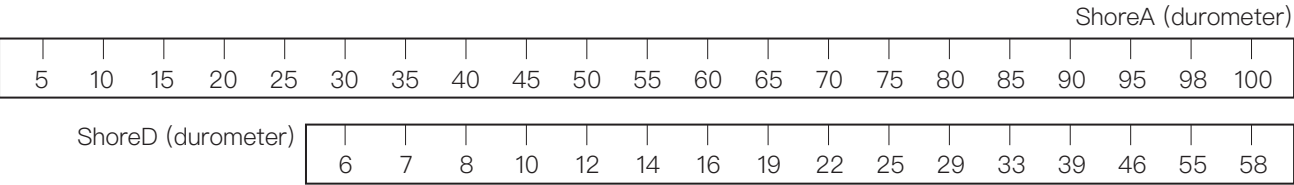
Standard Specification Comparison Table
標準規範對照表

型號/規格	Model/Specification	ASTM	DIN	ISO	Comparability
比重	Specific Gravity	D-792	53479	2781	All comparable
硬度	Hardness	D-2240	53505	868	All comparable
熔融指數	MFI	D-1238	53735	1133	All comparable If 2.16kg
抗張程度	Tensile Strength	D-412	53455	37	All comparable
彎曲模數	Flexural Modulus	D-790	53452	178	ISO and ASTM comparable
撕裂強度	Tear Strength	D-624	53515	34	All comparable
模縮系數	Mold Shrinkage	D-955	53464	294	All comparable
衝擊強度	IZOD Impact Strength	D-256	53453	180	ASTM and ISO comparable
磨耗	Abrasion Loss	D-5963	53516	4649	All comparable

Unit Conversion Table
單位換算表

bar	Mpa	Psi	kg/cm²	N/mm²
1	0.1	14.5	1	0.1
10	1	145	10	1
0.07	0.007	1	0.07	0.007

ShoreA、D Hardness Comparison Table
ShoreA、D 硬度對照表



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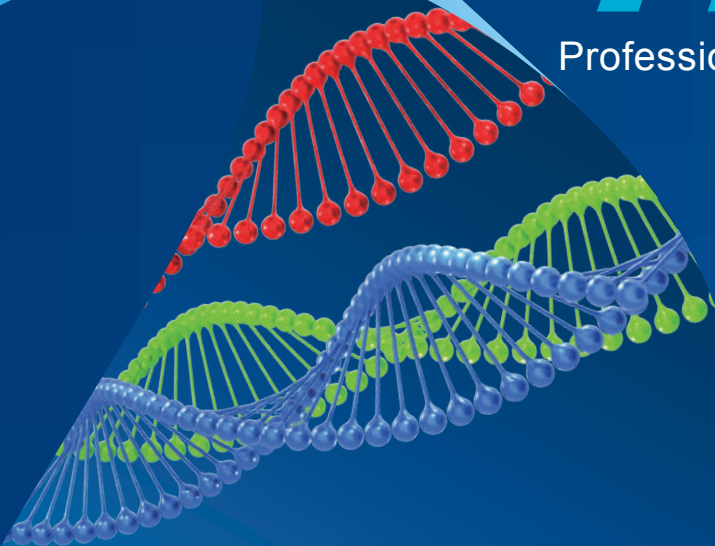
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