



G•APEX

HEAT SHRINK TUBING AND ACCESSORIES

G•APEX

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台灣雲林應用材料股份有限公司

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Taiwan Yun Lin Applied Materials Co., Ltd.



企業簡介 Company Profile

For over 20 years, G-APEX has been focused on research and development the new materials and products in the fields of heat shrink, cold shrink tubing, and tapes. To solve the requirement of quality, safety, cost reduction, and services for the market. Providing solutions of electrical insulation and sealing protection applications for different industries.

Production: 50 million meters of monthly production capabilities of heat shrinkable tubing, the strongest product supplying abilities.

Technology: 21 patents and professional R&D team.

Certification: ISO9001、UL、ROHS、REACH、ISO10993、ISO14001、IATF16949, providing a reliable quality guarantee.

Services: Mass storage of products and our service staff in Taiwan, Japan, Thailand, Vietnam, and China, providing the fastest ship out and instant services.

Under our team structure, we're confident to fulfill all your inquiries.

G-APEX 20年來長期致力在熱縮套管、冷縮套管、膠帶領域研究開發新材料及產品，解決市場對品質、安全性、成本降低及服務的需求，提供了不同行業電氣絕緣及密封保護應用解決方案。

生產：熱縮套管月產能5千萬米，提供強大的供貨能力。

技術：21項專利技術及專業的工程研發團隊。

認證：ISO9001、UL、ROHS、REACH、ISO10993、ISO14001、IATF16949提供可靠的品質保證。

服務：台灣、日本、泰國、越南、中國各地提供大量產品庫存倉儲及服務人員，提供最快速的發貨及服務。在整體的團隊架構下，我們很自信可以完成對您的需求所託。



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135°C Flame retardant heat shrink tubing
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- GA** 耐磨型PE熱縮套管
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- YLPET** PET熱縮套管
PET heat shrink tubing
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150° Diesel resistant elastomeric heat shrinkable tubing

含膠型熱縮套管 ADHESIVE-LINED HEAT SHRINK TUBING

- AIS** 雙壁含膠型熱縮套管
Dual wall heat shrink tubing
- AIS-ES** 車用線束含膠熱縮套管
Adhesive heat shrinkable tubing for automotive
- AECM** 迷你電線防水封帽
Miniature waterproof cable end cap
- ATM** 通用型中壁含膠熱縮套管
Medium wall heat shrink tubing
- ATM-FR** 通用型中壁阻燃含膠熱縮套管
Flame retardant medium wall heat shrink tubing
- AOS** 柔軟型中壁含膠熱縮套管
Flexible medium wall heat shrink tubing
- ABS** 防水端子用熱縮套管
Watertight tube for terminals and crimp splices
- ASM** 通用型厚壁含膠熱縮套管
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Heavy wall high shrink ratio heat shrink tubing

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- HTK150** 柔軟型PVDF熱縮套管
Flexible PVDF heat shrinkable tubing
- KYNAR** 半硬型PVDF熱縮套管
Semi-rigid PVDF heat shrinkable tubing
- VITON** 氟橡膠熱縮套管
Fluoroelastomer heat shrinkable tubing
- FEP** 200°C FEP熱縮套管
200°C FEP heat shrinkable tubing
- PTFE** 260°C PTFE熱縮套管
260°C PTFE heat shrinkable tubing
- PFA** 260°C PFA熱縮套管
260°C PFA heat shrinkable tubing

醫療等級熱縮套管 MEDICAL-GRADE HEAT SHRINKABLE TUBING

- MTA** 醫療級半硬質PVDF熱縮套管
Medical grade semi-rigid PVDF heat shrinkable tubing
- MT2** 醫療級超薄型LDPE熱縮套管
Medical grade ultra thin wall LDPE heat shrinkable tubing
- MTC** 醫療級柔軟型PVDF熱縮套管
Medical grade flexible PVDF heat shrinkable tubing
- MTE** 醫療級LDPE熱縮套管
Medical grade LDPE heat shrinkable tubing
- MTF** 醫療級高柔軟性熱縮套管
Medical grade high flexibility heat shrinkable tubing

冷縮套管 COLD SHRINK TUBING

- DNC** 硅矽橡膠雙層冷縮套管
Dual layer cold shrink silicone rubber sleeve
- ANC** 硅矽橡膠冷縮套管
Cold shrink silicone rubber sleeve
- GNC** 硅矽橡膠冷縮套管
Cold shrink silicone rubber sleeve
- NS7** 硅矽橡膠握把冷縮套管
Cold shrink silicone rubber sleeve for handle
- EEC** EPDM橡膠冷縮封帽
Cold shrink EPDM rubber end cap
- ENC** EPDM 橡膠冷縮套管
Cold shrink EPDM rubber sleeve

編織網管 BRAIDED SLEEVING

- BS5000** 編織熱縮套管
Fabric heat shrinkable tubing
- BS1000** PET 半剛性捲式編織管
PET semi-rigid wrappable split braided sleeving
- BS3000** 汽車線束用捲式編織管
Wrap around braided sleeving for automotive wire assembly
- BSPET** PET 編織擴充管
PET expandable braided sleeving

電線連接用熱縮套管 ELECTRICAL INTERCONNECT HEAT SHRINKABLE TUBING

- GAST-R** 125°C 防水焊錫環熱縮中接管
125°C Solder sleeve wire splices
- GAST-B** 125°C 防水焊錫環熱縮中接管
125°C Solder sleeve wire splices
- GAST-RS** 125°C 防水焊錫環熱縮中接管
125°C Solder sleeve wire splices
- CRIMP** 防水熱縮中接管
Waterproof heat shrinkable crimp splices
- GAST-E** 防水焊錫環熱縮封帽
Solder grip closed end connector splices

高壓絕緣熱縮套管 HIGH VOLTAGE INSULATION HEAT SHRINK TUBING

- HB1** 高壓母排熱縮套管 (耐壓3.6kV)
Busbar insulating heat shrink tubing (Withstand voltage up to 3.6kV)
- HB2** 高壓母排熱縮套管 (耐壓24kV)
Busbar insulating heat shrink tubing (Withstand voltage up to 24kV)
- HB3** 高壓母排熱縮套管 (耐壓36kV)
Busbar insulating heat shrink tubing (Withstand voltage up to 36kV)

熱縮模塑套件 MOULDED SHAPES

- BOOT** 模縮套
Molded parts
- AEC** 電纜防水熱縮封帽
Heat shrinkable cable end cap

光纖用熱縮套管 FIBER OPTICAL HEAT SHRINKABLE TUBING

- ADW** 光纖接續盒專用防水熱縮套管
Heat shrinkable tubing for fiber optic splice closure
- FOSP** 光纖保護套管
Heat shrinkable fiber optic splice protector
- FOSP-K** 高溫光纖保護套管
High-temperature optical fiber protection sleeve

膠帶 TAPE

- WT800** 自融性防水膠帶
Rubber mastic tape
- WT200** 自融性防水膠帶
Rubber mastic tape
- WT300** 自融性絕緣填縫膠膏帶
Self-fusing insulation caulking mastic tape
- HBT** 耐電壓矽膠膠帶 (耐壓15~24kV)
High voltage silicone busbar insulation tape (Withstand voltage up to 15~24kV)

熱縮套管組合包 ASSORTMENT KIT

- K1-101** 熱縮套管組裝盒
Heat shrinkable tubing kit
- K1-102** 熱縮套管組裝盒
Heat shrinkable tubing kit
- K1-201** 熱縮套管組裝盒
Heat shrinkable tubing kit
- K1-301** 熱縮套管組裝盒
Heat shrinkable tubing kit
- K2-101** 熱縮套管組裝盒
Heat shrinkable tubing kit
- K2-102** 熱縮套管組裝盒
Heat shrinkable tubing kit
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Heat shrinkable tubing kit
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Heat shrinkable tubing kit
- K5-101** 熱縮套管組裝盒
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- K6-101** 熱縮套管組裝盒
Heat shrinkable tubing kit
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Heat shrinkable tubing kit
- K7-201** 熱縮套管組裝盒
Heat shrinkable tubing kit
- B2** 熱縮套管捲式包 (紙盒)
Tube and sleeve - mini box
- R2** 熱縮套管圓形泡殼包裝
Tube and sleeve - blister pack
- GR** 熱縮套管捲式包裝
Heat shrinkable tubing pack - mini spool pack

號碼標識系統 MARKING SYSTEMS

- 135°C TMS** 軌道式號碼標示印字熱縮套管
Heat shrink markers
- 125°C TMS** 軌道式號碼標示印字熱縮套管
Heat shrink markers
- 135°C CTMS** 捲式號碼標示印字熱縮套管
Heat shrink markers
- 125°C CTMS** 捲式號碼標示印字熱縮套管
Heat shrink markers
- MP** 貼紙簿
Pocket pack marker book
- MO** 號碼標誌器
Snap-on wire markers
- MH** PVC熱縮電線標示號碼圈
PVC Heat shrinkable wire marking number ring

工具 TOOL

- GHG** 微型熱風槍
Gas heat gun
- BSC** 熱裁切機
Hot knife device

ADHESIVE-LINED HEAT SHRINK TUBING 含膠型熱縮套管



ADHESIVE-LINED HEAT SHRINK TUBING

ADHESIVE-LINED HEAT SHRINK TUBING



Dual wall heat shrink tubing
雙壁含膠型熱縮套管



Product Dimensions
產品規格

應用 Applications

外層為輻照交聯聚烯烴材質，內層塗佈熱熔膠，經加熱後外部形成保護層、內層熱熔膠則形成可以防水及固定物體的膠層，對橡膠、PVC、PE、鋁都有很好的黏著力，可以應用在修護電線及防水需求的各項領域。

The outer layer is made of radiation cross-linked polyolefin, and the inner layer is coated with hot melt adhesive. After heating, the outer protective layer is formed, and the inner hot melt adhesive forms an adhesive layer which can protect against water and fix the object firmly, and has good adhesion to rubber, PVC, PE, and aluminum. This tubing can be used in various fields of repairing wires and waterproof requirements.

操作溫度範圍 Operating temperature range

- Continuous operating temperature: -45°C~110°C
- Minimum shrink temperature: 80°C
- Full recovery temperature: Above 110°C
- Temperature withstands of outer tube: 125°C

- 連續使用溫度：-45°C~110°C
- 最低收縮溫度：80°C
- 完全收縮溫度：110°C以上
- 外層耐溫：125°C

特性 Characteristics

- 收縮率：3:1 / 4:1
- 優異的防水性能
- 柔軟、高阻燃性能
- 優異的物理、化學和電子性能
- 可選用EVA熱熔膠或高溫熔點聚醯胺(PA)熱熔膠
- 符合RoHS、REACH環保規範

- Shrink ratio: 3:1 / 4:1
- Excellent waterproof performance
- Flexible, high flame retardant
- Excellent physical, chemical and electrical performance
- EVA and high melting temperature polyamide (PA) hot melt adhesive are selectable based on your applications
- Compliance with RoHS and REACH environmental regulations

Approvals / Specifications 認證 / 規範

UL224 File no. E255532, 125°C VW-1 600V

Part Number	Size (尺寸)		As supplied 收縮前 (mm)		After recovered 收縮後 (mm)			Standard Length (Meter)
產品型號	mm	inch	I.D. (min) 內徑(最小)	W.T.(Nominal Size) 壁厚(公稱尺寸)	I.D. (max) 內徑(最大)	W.T. 壁厚	Adhesive thickness 膠厚度	標準長度(米)
AIS-3X Shrink ratio 收縮率 3:1								
AIS3X0032	3.2	1/8	3.2	0.45	1.0	1.00±0.28	0.45±0.10	200
AIS3X0048	4.8	3/16	4.8	0.45	1.6	1.00±0.28	0.50±0.15	100
AIS3X0064	6.4	1/4	6.4	0.50	2.0	1.00±0.28	0.50±0.15	100
AIS3X0095	9.5	3/8	9.5	0.50	3.0	1.40±0.28	0.60±0.15	50
AIS3X0127	12.7	1/2	12.7	0.65	4.0	1.78±0.38	0.76±0.20	1.22
AIS3X0150	15.0	5/8	15.0	0.60	5.0	1.90±0.38	0.76±0.20	1.22
AIS3X0191	19.1	3/4	19.1	0.70	6.0	2.25±0.55	0.76±0.20	1.22
AIS3X0254	25.4	1	25.0	0.80	8.0	2.54±0.55	1.00±0.25	1.22
AIS3X0381	38.1	1 1/2	38.1	0.80	13.0	2.54±0.55	1.00±0.25	1.22

Part Number	Size (尺寸)		As supplied 收縮前 (mm)		After recovered 收縮後 (mm)			Standard Length (Meter)
產品型號	mm	inch	I.D. (min) 內徑(最小)	W.T.(Nominal Size) 壁厚(公稱尺寸)	I.D. (max) 內徑(最大)	W.T. 壁厚	Adhesive thickness 膠厚度	標準長度(米)
AIS-4X Shrink ratio 收縮率 4:1								
AIS4X0040	4	3/16	4.0	0.40	1.0	1.00±0.28	0.45±0.10	1.22
AIS4X0080	8	5/16	8.0	0.45	2.0	1.00±0.28	0.50±0.10	1.22
AIS4X0120	12	1/2	12.0	0.45	3.0	1.40±0.28	0.60±0.10	1.22
AIS4X0160	16	5/8	16.0	0.55	4.0	1.78±0.38	0.76±0.15	1.22
AIS4X0240	24	1	24.0	0.65	6.0	2.25±0.55	0.76±0.15	1.22
AIS4X0320	32	1 1/4	32.0	0.70	8.0	2.54±0.55	1.00±0.20	1.22
AIS4X0500	50	2	50.0	0.70	13.0	2.54±0.55	1.00±0.20	1.22

Technical Data

Property	Specification Requirement	Test Method	Typical Value
Longitudinal change	-15%~15%	ASTM D2671	Pass
Tensile strength	≥10.3MPa	ASTM D2671	≥12MPa
Elongation at break	≥200%	ASTM D2671	≥400%
Tensile strength after aging	70% of initial value	ASTM D2671 (158°C/168 hrs)	≥90%
Elongation at break after aging	≥100%	ASTM D2671 (158°C/168 hrs)	≥300%
Heat shock	No cracking	ASTM D2671 (250°C/4 hrs)	No cracking
Low temperature flexibility	No cracking	ASTM D2671 (-30°C/1 hr)	No cracking
Dielectric voltage withstand	AC2500V/60S No breakdown	ASTM D2671	No breakdown
Volume resistivity	≥10 ¹⁴ Ω · cm	ASTM D2671	≥10 ¹⁴ Ω · cm
Copper corrosion	No corrosion	ASTM D2671 (158°C/168 hrs)	No corrosion
Flammability	VW-1	UL224	Pass

Standard color : black
Other colors, special sizes, and cut pieces are available on request.

標準顏色：黑色
其他顏色，其他尺寸，裁切，可依客戶需求另行訂製

ADHESIVE-LINED HEAT SHRINK TUBING

AIS-ES

Adhesive heat shrinkable tubing
for automotive
車用線束含膠熱縮套管



Product Dimensions
產品規格

Part Number	As supplied 收縮前 (mm)	After recovered 收縮後 (mm)		Standard Length (Meter)
產品型號	I.D. (min) 內徑(最小)	I.D. (max) 內徑(最大)	W.T. (min) 壁厚(最小)	標準長度(米)
AIS-ES1	5.72	1.27	1.20	1.22
AIS-ES2	7.44	1.65	1.52	1.22
AIS-ES3	10.85	2.41	1.91	1.22
AIS-ES4	17.78	4.45	2.41	1.22

Technical Data

Property	Specification Requirement	Test Method	Typical Value
Longitudinal change	0%~10%	ASTM D2671	Pass
Tensile strength	≥10.3MPa	ASTM D2671	≥14MPa
Elongation at break	≥200%	ASTM D2671	≥200%
Tensile strength after aging	70% of initial value	ASTM D2671 (158°C/168 hrs)	≥70%
Elongation at break after aging	≥100%	ASTM D2671 (158°C/168 hrs)	≥100%
Heat shock	No cracking	ASTM D2671 (250°C/4 hrs)	No cracking
Low temperature flexibility	No cracking	ASTM D2671 (-40°C/4 hrs)	No cracking
Dielectric voltage withstand	AC2500V/60S No breakdown	ASTM D2671	No breakdown
Volume resistivity	≥10 ¹⁴ Ω · cm	ASTM D2671	≥10 ¹⁴ Ω · cm
Flammability	Self extinguishing within 30S after fire source removed	Shrink the tubing onto the axis and torch it vertically for 30 seconds.	Pass

Standard color : black
Other colors, special sizes, and cut pieces are available on request.

標準顏色：黑色
其他顏色，其他尺寸，裁切，可依客戶需求另行訂製

應用 Applications

AIS-ES汽車線束防水熱縮套管，專為汽車工業的線束絕緣及防水所設計。較高的4:1收縮比及耐高溫的聚醯胺熱熔膠(polyamide)，能對水分做充分阻隔，保護線束避免受腐蝕及受潮。外層為半硬耐磨聚烯烴材質，對於汽車嚴格的環境提供充分的保護。

AIS-ES is a waterproof heat shrinkable tubing for automotive wire harnesses. It is specially designed for wire harness insulation and waterproofing in the automotive industry. The higher 4:1 shrink ratio and high temperature resistance polyamide hot melt adhesive can fully resist water and protect the wire harness from corrosion and moisture. The outer layer is made of semi-rigid and abrasion resistant polyolefin, providing full protection for harsh environments in automotive.

操作溫度範圍 Operating temperature range

- Continuous Operating temperature: -40°C~130°C
- Minimum shrink temperature: 110 °C
- Full recovery temperature: Above 135°C

- 連續使用溫度：-40°C~130°C
- 最低收縮溫度：110°C
- 完全收縮溫度：135°C以上

特性 Characteristics

- 4:1高倍收縮
- 優異的防水密封
- 半硬耐磨阻燃材質
- 對通常的可溶液有抵抗性
- 符合RoHS、REACH環保規範

- 4:1 high shrink ratio
- Excellent watertight seal
- Semi-rigid, abrasion resistant and flame retardant material
- Resistant to common solvent
- Compliance with RoHS and REACH environmental regulations

ADHESIVE-LINED HEAT SHRINK TUBING

AECM

Miniature waterproof cable end cap
迷你電線防水封帽



Product Dimensions
產品規格

Part Number	As supplied 收縮前 (mm)	After recovered 收縮後 (mm)		Standard Length (mm)
產品型號	I.D. (min) 內徑 (最小)	I.D. (max) 內徑 (最大)	W.T. (min) 壁厚 (最小)	標準長度 (毫米)
AECM-1	5.72	1.27	1.20	30.35
AECM-2	7.44	1.65	1.52	30.35
AECM-3	10.85	2.41	1.91	40.5

Technical Data

Property	Specification Requirement	Test Method	Typical Value
Longitudinal change	0~10%	ASTM D2671	Pass
Tensile strength	≥10.3MPa	ASTM D2671	≥14MPa
Elongation at break	≥200%	ASTM D2671	≥200%
Tensile strength after aging	70% of initial value	ASTM D2671 (158°C/168 hrs)	≥70%
Elongation at break after aging	≥100%	ASTM D2671 (158°C/168 hrs)	≥100%
Heat shock	No cracking	ASTM D2671 (250°C/4 hrs)	No cracking
Dielectric voltage withstand	AC2500V/60S No breakdown	ASTM D2671	No breakdown
Volume resistivity	≥10 ¹⁴ Ω · cm	ASTM D2671	≥10 ¹⁴ Ω · cm
Copper corrosion	No corrosion	ASTM D2671 (158°C/168 hrs)	No corrosion
Flammability	Self extinguishing within 30S after fire source removed	UL224	Pass

Standard color : black
標準顏色：黑色



應用 Applications

設計用於電線終端的防水保護，AECM外層為半硬聚烯烴材質，可以抵抗外在磨損及大部份化學物質的侵蝕，套管內部塗佈流動性佳的熱熔膠，在熱縮後能完全密封管口，防止水氣進入。

It is designed for waterproof protection of wire terminations. The outer layer of AECM is made of semi-rigid polyolefin, and it can resist the external abrasion and the erosion of most chemical substances. The inner layer is coated with good fluidity hot melt adhesive which can completely seal the nozzle after heat shrinkage and protect against moisture ingress.

操作溫度範圍 Operating temperature range

- Continuous Operating temperature: -55°C~105°C
- Minimum shrink temperature: 110°C
- Full recovery temperature: Above 135°C

- 連續使用溫度：-55°C~105°C
- 最低收縮溫度：110°C
- 完全收縮溫度：135°C以上

特性 Characteristics

- 收縮率：4:1
- 優異的防水密封
- 半硬耐磨阻燃材質
- 對通常的可溶液有抵抗性
- 符合RoHS、REACH環保規範

- Shrink ratio: 4:1
- Excellent watertight seal
- Semi-rigid, abrasion resistant and flame retardant material
- Resistant to common solvent
- Compliance with RoHS and REACH environmental regulations



ADHESIVE-LINED HEAT SHRINK TUBING



Medium wall heat shrink tubing
通用型中壁含膠熱縮套管

應用 Applications

ATM是泛用在電纜接頭保護及金屬管銹蝕防護的中壁熱縮管，聚烯烴外層及內部厚層熱熔膠能在戶外環境為物品提供長期及可靠的保護。

ATM medium wall heat shrinkable tubing is widely used in cable splice protection and metal pipe corrosion protection. The outer polyolefin and the inner thick layer of hot melt adhesive can provide long-term and reliable protection for objects in the outdoor environment.

操作溫度範圍 Operating temperature range

- Continuous Operating temperature: -55°C~110°C
- Minimum shrink temperature: 80°C
- Full recovery temperature: Above 120°C
- 連續使用溫度：-55°C~110°C
- 最低收縮溫度：80°C
- 完全收縮溫度：120°C以上

特性 Characteristics

- 收縮率：3:1
- 半硬耐磨材質
- 防水、防潮、耐UV性能
- 良好的電氣絕緣性能
- 符合RoHS、REACH環保規範
- Shrink ratio: 3:1
- Semi-rigid, abrasion resistant
- Waterproof, moisture proof and UV resistant
- Excellent electrical insulation properties
- Compliance with RoHS and REACH environmental regulations



Product Dimensions
產品規格

Part Number	As supplied 收縮前 (mm)	After recovered 收縮後 (mm)		Standard Length (Meter)
產品型號	I.D. (min) 內徑(最小)	I.D. (max) 內徑(最大)	W.T. (min) 壁厚(最小)	標準長度(米)
ATM Medium wall polyolefin tubing with hot melt adhesive 中壁含膠熱縮套管				
ATM008	8	2	1.7	1.22
ATM012	12	4	2.0	1.22
ATM016	16	5	2.2	1.22
ATM019	19	5	2.2	1.22
ATM022	22	6	2.5	1.22
ATM028	28	6	2.5	1.22
ATM033	33	8	2.5	1.22
ATM040	40	12	2.5	1.22
ATM044	44	14	2.5	1.22
ATM055	55	16	2.7	1.22
ATM065	65	19	2.8	1.22
ATM075	75	22	3.0	1.22
ATM085	85	25	3.0	1.22
ATM095	95	25	3.0	1.22
ATM115	115	34	3.0	1.22
ATM140	140	42	3.0	1.22
ATM160	160	50	3.0	1.22
ATM180	180	58	3.0	1.22
ATM200	200	65	3.0	1.22
ATM235	235	65	3.0	1.22
ATM265	265	75	3.0	1.22
ATM350	350	100	4.3	1.22
GTM Medium wall polyolefin tubing without hot melt adhesive 中壁不含膠熱縮套管				
GTM008	8	2	1.7	1.22
GTM012	12	3	2.0	1.22
GTM016	16	5	2.2	1.22
GTM019	19	5	2.2	1.22
GTM022	22	6	2.5	1.22
GTM028	28	6	2.5	1.22
GTM033	33	8	2.6	1.22
GTM040	40	12	2.6	1.22
GTM044	44	14	2.6	1.22
GTM055	55	16	2.7	1.22
GTM065	65	19	2.8	1.22
GTM075	75	22	3.0	1.22
GTM085	85	25	3.0	1.22
GTM095	95	25	3.0	1.22
GTM115	115	34	3.0	1.22
GTM140	140	42	3.0	1.22
GTM160	160	50	3.0	1.22
GTM180	180	58	3.0	1.22
GTM200	200	65	3.0	1.22
GTM235	235	65	3.0	1.22
GTM265	265	75	3.0	1.22
GTM350	350	100	4.3	1.22

Technical Data

Property	Test Method	Typical Value
Tensile strength	ASTM D2671	≥12MPa
Elongation at break	ASTM D2671	≥350%
Elongation at break after aging	ASTM D2671 (150°C/168 hrs)	≥300%
Dielectric strength	ASTM D2671	≥10kV/mm
Volume resistivity	ASTM D2671	≥10 ¹² Ω·cm
Copper stability	ASTM D2671	Pass
Hot melt adhesive		
Water absorption	ISO 62	≤0.2%
Peel strength (PE)	DIN 30672	≥4N/cm

Standard color : black
標準顏色：黑色

ADHESIVE-LINED HEAT SHRINK TUBING

ATM-FR

Flame retardant medium wall
heat shrink tubing
通用型中壁阻燃含膠熱縮套管



Product Dimensions
產品規格

● 應用 Applications

ATM-FR為輻照交聯的聚烯烴外層，具有耐紫外線及阻燃性能，適合應用在嚴格的戶外環境，可以提供船舶、機電工程、電纜接頭，耐化學物質、耐磨擦及防水的保護。

ATM-FR has an outer layer of radiation cross-linked polyolefin and is UV resistant and flame retardant. Suitable using in harsh outdoor environments, and can provide protection against chemical substances, abrasion and water for marine, electromechanical engineering and cable splices.

● 特性 Characteristics

- 收縮率：3:1
- 半硬、阻燃、耐磨材質
- 防水、防潮、耐UV性能
- 良好的電氣絕緣性能
- 符合RoHS、REACH環保規範
- Shrink ratio: 3:1
- Semi-rigid, flame retardant and abrasion resistant material
- Waterproof, moisture and UV resistant
- Excellent electrical insulation properties
- Compliance with RoHS and REACH environmental regulations

● 操作溫度範圍 Operating temperature range

- Continuous operating temperature: -55°C~110°C
- Minimum shrink temperature: 80°C
- Full recovery temperature: Above 120°C
- 連續使用溫度：-55°C~110°C
- 最低收縮溫度：80°C
- 完全收縮溫度：120°C以上

Part Number	As supplied 收縮前 (mm)	After recovered 收縮後 (mm)		Standard Length (Meter)
產品型號	I.D. (min) 內徑(最小)	I.D. (max) 內徑(最大)	W.T. (min) 壁厚(最小)	標準長度(米)
ATMFR022	22	6	2.5	1.22
ATMFR033	33	8	2.5	1.22
ATMFR040	40	12	2.5	1.22
ATMFR055	55	16	2.7	1.22
ATMFR065	65	19	2.8	1.22
ATMFR075	75	22	3.0	1.22
ATMFR095	95	25	3.0	1.22
ATMFR115	115	34	3.0	1.22
ATMFR140	140	42	3.0	1.22
ATMFR160	160	50	3.0	1.22

Technical Data

Property	Test Method	Typical Value
Tensile strength	ASTM D2671	≥12MPa
Elongation at break	ASTM D2671	≥350%
Tensile strength after aging	ASTM D2671 (150°C/168 hrs)	≥12MPa
Elongation at break after aging	ASTM D2671 (150°C/168 hrs)	≥300%
Dielectric strength	ASTM D2671	≥10kV/mm
Volume resistivity	ASTM D2671	≥10 ¹² Ω·cm
Flammability	UL224	Pass(Outer layer VW-1)
Hot melt adhesive		
Water absorption	ISO 62	≤0.2%
Peel strength (PE)	DIN 30672	≥4N/cm

Standard color : black
標準顏色：黑色



ADHESIVE-LINED HEAT SHRINK TUBING



Flexible medium wall
heat shrink tubing
柔軟型中壁含膠熱縮套管



Product Dimensions
產品規格

Part Number	As supplied 收縮前 (mm)	After recovered 收縮後 (mm)		Standard Length (Meter)
產品型號	I.D. (min) 內徑(最小)	I.D. (max) 內徑(最大)	W.T. (min) 壁厚(最小)	標準長度(米)
AOS06	6.0	1.5	1.5	1.22
AOS08	8.0	2.0	1.5	1.22
AOS12	12.0	3.0	2.3	1.22

Technical Data

Property	Specification Requirement	Test Method	Typical Value
Tensile strength	≥10.3MPa	ASTM D2671	≥21MPa
Elongation at break	≥200%	ASTM D2671	≥550%
Tensile strength after aging	70% of initial value	ASTM D2671 (158°C/168 hrs)	≥70%
Elongation at break after aging	≥100%	ASTM D2671 (158°C/168 hrs)	≥524%
Dielectric voltage withstand	AC2500V/60S No breakdown	ASTM D2671	No breakdown
Volume resistivity	≥10 ¹³ Ω · cm	ASTM D2671	≥10 ¹³ Ω · cm
Copper corrosion	No corrosion	ASTM D2671 (158°C/168 hrs)	No corrosion

應用 Applications

AOS是具有彈性的聚烯烴材料。內部塗有厚層熱熔膠，能為戶外的電纜接頭提供防水密封。4:1的收縮比及半透明套管特別適合用於銅管端子接續的保護。

AOS is made of elastomeric polyolefin. The inside is coated with a thick layer of hot melt adhesive which can provide a watertight seal for outdoor cable splices. The 4:1 shrink ratio and translucent tubing are particularly suitable for the connection protection of copper tube terminals.

操作溫度範圍 Operating temperature range

- Continuous operating temperature: -55°C~110°C
- Minimum shrink temperature: 80°C
- Full recovery temperature: Above 120°C

- 連續使用溫度：-55°C~110°C
- 最低收縮溫度：80°C
- 完全收縮溫度：120°C以上

特性 Characteristics

- 收縮率：4:1
- 優異的防水性能
- 非常柔軟、耐UV性能
- 符合RoHS、REACH環保規範
- Shrink ratio: 4:1
- Excellent waterproof performance
- Very flexible, UV resistant
- Compliance with RoHS and REACH environmental regulations

Standard color : clear
Special sizes and cut pieces are available on request.

標準顏色：透明
其他尺寸，裁切，可依客戶需求另行訂製
©

ADHESIVE-LINED HEAT SHRINK TUBING



Watertight tube for terminals and crimp splices
防水端子用熱縮套管



● 應用 Applications

ABS熱縮套管外層為高密度聚乙烯材質、內層塗佈 polyamide熱熔膠，應用於熱縮端子及熱縮中接管，產品強韌的外層可以抵抗端子夾鉗作業可能造成的傷害，內層耐溫105°C的熱熔膠滿足高溫環境，如汽車引擎室的要求，提供優異的耐磨擦、防水及耐腐蝕性能，達到完全絕緣與電氣連接的保護。

The outer layer of ABS heat shrinkable tubing is made of high density polyethylene, and the inner layer is coated with polyamide hot melt adhesive. It is used for heat shrinkable terminals and heat shrinkable crimp splices. The tough outer layer of the product can resist the possible damage caused by the terminal clamping operation, and the inner hot melt adhesive with a temperature resistance of 105°C meets the requirements of high temperature environments, such as the automotive engine room. This tubing provides excellent resistance to abrasion, water and corrosion for complete insulation and electrical connection protection.

● 操作溫度範圍 Operating temperature range

- Continuous operating temperature: -55°C~105°C
- Minimum shrink temperature: 80°C
- Full recovery temperature: Above 130°C
- 連續使用溫度：-55°C~105°C
- 最低收縮溫度：80°C
- 完全收縮溫度：130°C以上

● 特性 Characteristics

- 收縮率：3:1
- 半硬耐磨材質
- 防水、防潮、耐UV性能
- 良好的電氣絕緣性能
- 符合RoHS、REACH環保規範
- Shrink ratio: 3:1
- Semi-rigid, abrasion resistant
- Waterproof, moisture proof and UV resistant
- Excellent electrical insulation properties
- Compliance with RoHS and REACH environmental regulations

Approvals / Specifications 認證 / 規範

File No. E323274

Product Dimensions 產品規格

Part Number	As supplied 收縮前 (mm)		After recovered 收縮後 (mm)		Standard Length (Meter)
產品型號	I.D. 內徑	W.T. 壁厚	I.D. (max) 內徑(最大)	W.T. 壁厚	標準長度(米)
ABS48	4.8±0.3	0.50±0.15	1.6	1.10±0.15	100
ABS58	5.8±0.3	0.55±0.15	1.9	1.30±0.15	100
ABS68	6.8±0.3	0.60±0.15	2.4	1.35±0.15	100
ABS70	7.0±0.3	0.60±0.15	2.5	1.35±0.15	100
ABS80	8.0±0.3	0.70±0.15	3.0	1.45±0.15	50

Technical Data

Property	Specification Requirement	Test Method	Typical Value
Tensile strength	≥16MPa	ASTM D2671	≥19.5MPa
Elongation at break	≥200%	ASTM D2671	≥450%
Tensile strength after aging	≥11.5MPa	ASTM D2671 (136°C/168 hrs)	≥15MPa
Elongation at break after aging	≥100%	ASTM D2671 (136°C/168 hrs)	≥200%
Dielectric voltage withstand	AC2500V/60S No breakdown	ASTM D2671	No breakdown
Heat shock	No cracking	ASTM D2671 (250°C/4 hrs)	No cracking
Volume resistivity	≥10 ¹⁴ Ω · cm	ASTM D2671	≥10 ¹⁴ Ω · cm
Copper corrosion	No corrosion	ASTM D2671 (136°C/168 hrs)	No corrosion

Standard colors : red, blue and yellow
 Other colors, special sizes, and cut pieces are available on request.

標準顏色：紅、藍、黃
 其他顏色，其他尺寸，裁切，可依客戶需求另行訂製

ADHESIVE-LINED HEAT SHRINK TUBING



Heavy wall heat shrink tubing
通用型厚壁含膠熱縮套管



Product Dimensions
產品規格

● 應用 Applications

由聚烯烴和熱熔膠製造而成，相較於ATM產品，ASM具更厚的壁厚可提供更佳的外層保護。具優異的耐磨損、耐腐蝕性能，適用於電纜及終端的絕緣保護，被廣泛地應用在通信、電力電纜和化學管道中。

It is made of polyolefin and hot melt adhesive. Compared with ATM products, ASM has a thicker wall thickness for better outer protection. With excellent abrasion and corrosion resistance, it is suitable for the insulation protection of cables and terminals and is widely used in communications, power cables and chemical pipelines.

● 操作溫度範圍 Operating temperature range

- Continuous operating temperature: -55°C~110°C
- Minimum shrink temperature: 80°C
- Full recovery temperature: Above 120°C
- 連續使用溫度：-55°C~110°C
- 最低收縮溫度：80°C
- 完全收縮溫度：120°C以上

● 特性 Characteristics

- 收縮率：3:1
- 半硬耐磨材質
- 防水、防潮、耐UV性能
- 可以滿足很嚴格的機械性能要求
- 良好的電氣絕緣性能
- 符合RoHS、REACH環保規範
- Shrink ratio: 3:1
- Semi-rigid, abrasion resistant
- Waterproof, moisture and UV resistant
- Can meet very strict requirements of mechanical performance
- Excellent electrical insulation properties
- Compliance with RoHS and REACH environmental regulations

Part Number	As supplied 收縮前 (mm)	After recovered 收縮後 (mm)		Standard Length (Meter)
產品型號	I.D. (min) 內徑 (最小)	I.D. (max) 內徑 (最大)	W.T. (min) 壁厚 (最小)	標準長度 (米)
ASM Heavy wall polyolefin tubing with hot melt adhesive 厚壁含膠熱縮套管				
ASM009	9	3	1.8	1.22
ASM013	13	4	2.5	1.22
ASM022	22	6	2.7	1.22
ASM033	33	8	3.2	1.22
ASM040	40	12	4.1	1.22
ASM045	45	12	4.1	1.22
ASM055	55	16	4.1	1.22
ASM075	75	22	4.1	1.22
ASM085	85	25	4.3	1.22
ASM095	95	30	4.3	1.22
ASM115	115	34	4.3	1.22
ASM130	130	36	4.3	1.22
ASM160	160	50	4.3	1.22
ASM180	180	50	4.3	1.22
ASM200	200	60	4.3	1.22
ASM235	235	65	4.5	1.22
ASM265	265	75	4.5	1.22
ASM300	300	85	4.5	1.22
GSM Heavy wall polyolefin tubing without hot melt adhesive 厚壁不含膠熱縮套管				
GSM009	9	3	1.8	1.22
GSM013	13	4	2.5	1.22
GSM022	22	6	2.7	1.22
GSM033	33	8	3.2	1.22
GSM040	40	12	4.1	1.22
GSM045	45	12	4.1	1.22
GSM055	55	16	4.1	1.22
GSM075	75	22	4.1	1.22
GSM085	85	25	4.3	1.22
GSM095	95	30	4.3	1.22
GSM115	115	34	4.3	1.22
GSM130	130	36	4.3	1.22
GSM160	160	50	4.3	1.22
GSM180	180	50	4.3	1.22
GSM200	200	60	4.3	1.22
GSM235	235	65	4.5	1.22
GSM265	265	75	4.5	1.22
GSM300	300	85	4.5	1.22

Technical Data

Property	Test Method	Typical Value
Tensile strength	ASTM D2671	≥12MPa
Elongation at break	ASTM D2671	≥350%
Elongation at break after aging	ASTM D2671 (150°C/168 hrs)	≥300%
Dielectric strength	ASTM D2671	≥10kV/mm
Volume resistivity	ASTM D2671	≥10 ¹² Ω · cm
Copper stability	ASTM D2671	Pass
Hot melt adhesive		
Water absorption	ISO 62	≤0.2%
Peel strength (PE)	DIN 30672	≥4N/cm

Standard color: black
標準顏色：黑色

ADHESIVE-LINED HEAT SHRINK TUBING

ASM-6X

Heavy wall high shrink ratio
heat shrink tubing
六倍收縮厚壁熱縮套管



Product Dimensions
產品規格

Part Number	As supplied 收縮前 (mm)	After recovered 收縮後 (mm)		Standard Length (Meter)
產品型號	I.D. (min) 內徑 (最小)	I.D. (max) 內徑 (最大)	W.T. (min) 壁厚 (最小)	標準長度 (米)
ASM6X019	19	3.2	3.2	1.22
ASM6X033	33	5.5	3.4	1.22
ASM6X045	45	7.4	3.6	1.22
ASM6X051	51	8.3	4.8	1.22
ASM6X070	70	11.7	4.8	1.22
ASM6X089	89	17.1	4.8	1.22
ASM6X120	120	22.9	4.8	1.22
ASM6X235	235	40.0	4.8	1.22

Technical Data

Property	Test Method	Typical Value
Tensile strength	ASTM D2671	≥12MPa
Tensile strength after aging	ASTM D2671 (150°C/168 hrs)	≥12MPa
Elongation at break	ASTM D2671	≥350%
Elongation at break after aging	ASTM D2671 (150°C/168 hrs)	≥300%
Dielectric strength	ASTM D2671	≥10kV/mm
Volume resistivity	ASTM D2671	≥10 ¹² Ω · cm
Heat shock	ASTM D2671 (225°C/4 hrs)	No cracking
Hot melt adhesive		
Water absorption	ISO 62	≤0.2%
Peel strength (PE)	DIN 30672	≥4N/cm

Standard color : black
標準顏色 : 黑色



應用 Applications

高達6:1的高倍收縮率，適用於形狀不規則及電纜、連接器和元件之間外徑差距大的產品絕緣保護，管內塗佈熱熔膠提供可靠且防水的性能，廣泛地應用在光纖接續盒出線孔及光纖的防水保護。

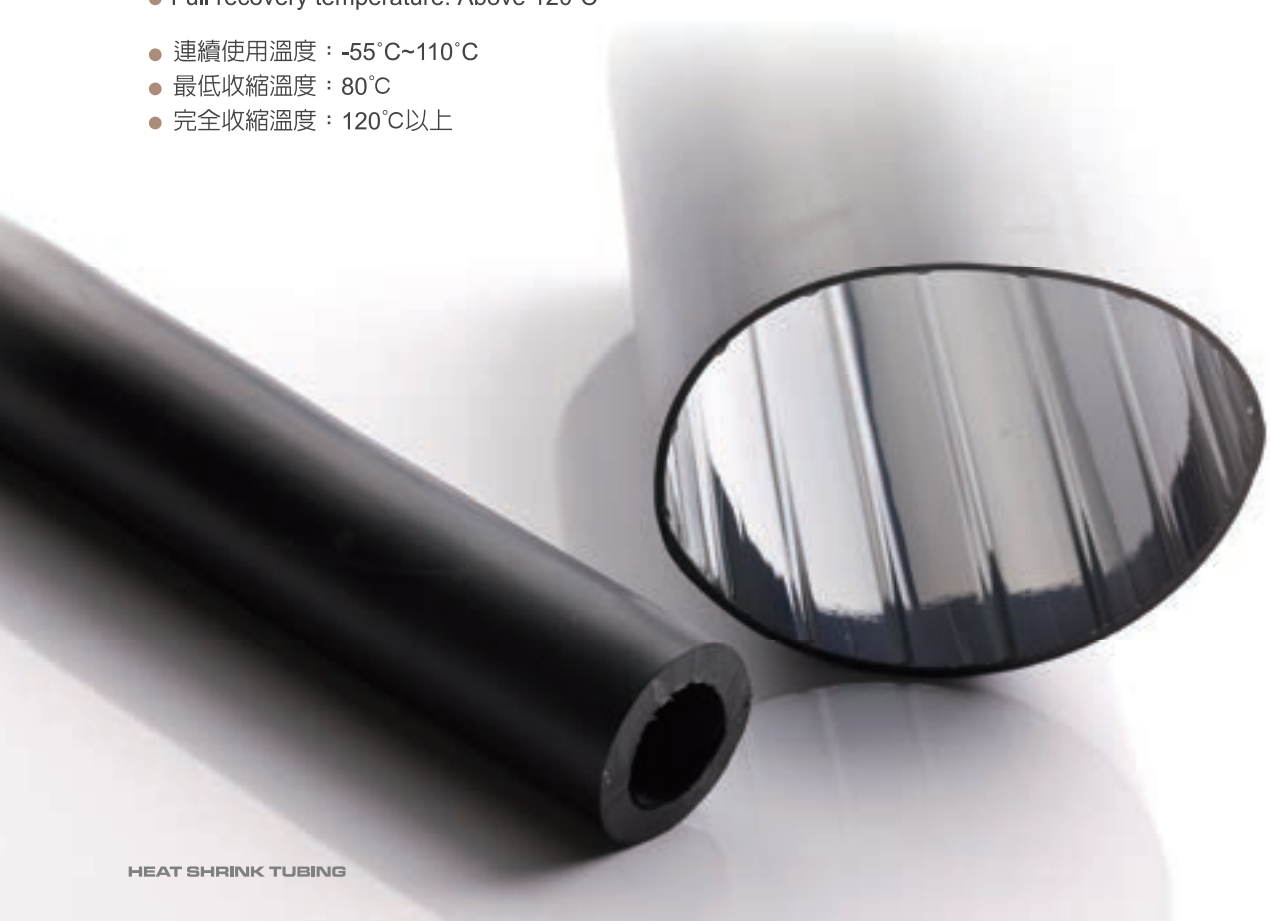
With a high shrink ratio up to 6:1, it is suitable for the insulation protection of the products with irregular shapes and large differences in outer diameter between the cables, connectors and components. The hot melt adhesive that coated inside of the tubing providing reliable and waterproof performance. It is widely used in waterproof protection for outlet hole of the fiber optic splice closures as well as optical fibers.

操作溫度範圍 Operating temperature range

- Continuous operating temperature: -55°C~110°C
- Minimum shrink temperature: 80°C
- Full recovery temperature: Above 120°C
- 連續使用溫度：-55°C~110°C
- 最低收縮溫度：80°C
- 完全收縮溫度：120°C以上

特性 Characteristics

- 6:1高倍收縮
- 防水，耐UV性能
- 堅硬，耐磨材質
- 6:1 high shrink ratio
- Waterproof, UV resistant
- Tough, abrasion resistant



Cross Reference Number For G-APEX Heat Shrinkable Tubing

	Raychem	SUMITUBE	DSG-Canusa	LG	3M	Alpha
G1	CGPE-105	C	CPX 51	GSHS-1605		
G5	VERSAFIT V2	F32. F2Z	CPX 876	GSHS-1625	CP-221	FIT221V
G5-CB	VERSAFIT V4	F34. F4Z	DERAY ITW	GSHS-1625T		
GA		A				
G5-135	RNF-100	A2. B2	CPX-100	GSHS-1635F	FP-301	FIT221
G5-YG	DCPT 2:1	B2(YG)	CPX 201	GSHS-1635F-YG	GYS	FIT260
G5135-3X	RNF-3000	B2(3X)	CPX 300	GSHS-3635	SFTW-203	FIT321V
AIS	ATUM. DWP-125	W3B2. W3F2	CPA 300	GSHS-3635W	EPS-300	FIT321
AIS-ES	ES-2000	SA2F	SPLICEMELT125	GSHS-4635WS	EPS-4000	FIT421
ACS200	RBK-ILS125					
ATM	MWTM. SST-M	SCD. SCM2	CFM	PMWT	MDT. IMCSN	
ASM-6X	HRHT	SCH	CFHR			FIT621
ANF		IRRAX SCM2			IMCS	
ASM	WCSM.SST		CFW/RHW	PHWT	ITCSN	FIT700
ABS		W3D		GSHS-1625BS		
DR	DR-25	R120	DERAY V25	DRET	PSTH	FIT601
HTK150	RT-375	K2	KYF190	GSHS-1650F	MFP	
KYNAR	RW-175. KYNAR	K	KY175	GSHS-1675	KYNAR	FIT350
VITON	VITON. RW200	FE3. KH200	VT220		VTN200	FIT650
FEP	FEP	FEP			FEP	FIT400
PTFE	TFE	TFE	CTFE250		TFE	FIT500
MTA	MT1000					
MT2/MTE	MT2000					
MTC	MT3000					
MTF	MT-5000/MT5500					
TMS	TMS-SCE					FIT-PRINT
CTMS	TTMS					
HB1	LVIT			LG-BBLV		
HB2	BPTM	SBI300	CBTM	LG-BBHV	BBI	
HB3	BBIT	SBI350	CBTH	LG-BBHT	BBI	
AEC	SSC. ESC		CCAP		ICEC. SKE	FITCAP
AECM	ES CAPS	SA3 CAP	SPLICEMELT CAP 125			
BOOT	Molded parts					BOOTS

Cross Reference Number For G-APEX Heat Shrinkable Tubing

[illegible]

METRIC/INCH CONVERSION CHART

Inches英吋	mm公釐	Inches英吋	mm公釐
1/64	0.40	1/2	12.70
1/32	0.79	33/64	13.10
3/64	1.19	17/32	13.49
1/16	1.59	35/64	13.89
5/64	1.98	9/16	14.29
3/32	2.38	37/64	14.68
7/64	2.78	19/32	15.08
1/8	3.18	39/64	15.48
9/64	3.57	5/8	15.88
5/32	3.97	41/64	16.27
11/64	4.37	21/32	16.67
3/16	4.76	11/16	17.46
13/64	5.16	23/32	18.26
7/32	5.56	3/4	19.05
15/64	5.95	25/32	19.84
1/4	6.35	13/16	20.64
17/64	6.75	7/8	22.23
9/32	7.14	29/32	23.02
19/64	7.54	15/16	23.81
5/16	7.94	61/64	24.21
21/64	8.33	31/32	24.61
11/32	8.73	63/64	25.00
23/64	9.13	1	25.40
3/8	9.53	1-1/4	32.00
25/64	9.92	1-1/2	38.10
13/32	10.32	1-3/4	44.50
27/64	10.72	2	50.80
7/16	11.11	2-1/2	63.50
29/64	11.51	3	76.20
15/32	11.91	3-1/2	88.90
31/64	12.30	4	101.60

Notes