

## 超净PE袋 (Ultra Clean PE Bag)

超净PE袋, 其特性是全方位考虑超级净化要求, 并充分考虑机械强度以实现可靠的包装应用, 同时考虑易操作性。主要的应用范围包括真空镀膜、晶圆加工、硬盘、半导体产品、光学器件、航空航天工业、生物制药的包装。

Ultra clean PE bag meet the ultra clean application, with strong mechanical feature and facilitation at operation. It mainly apply to suptter , wafer fab, HDD, semiconductor, optics, aero and pharmacy industries.



### 净化特性 ( Cleanliness Feature):

#### LPC (液体尘粒计数)

尘粒直径 (Particle size )  $\geq 0.5\mu\text{m}$ .

参考第三方净化规格, 本产品优秀。( Refer to 3<sup>rd</sup> party specification, the result is excellent.)

#### LPC Test

Particle size (um)	Result	Measurement Unit	Test Method
> 0.50	12	counts/cm <sup>2</sup>	PMS liquid particle counting system with Liquilize S05 sensor and LS-200 sampler
> 0.70	5		
> 1.00	3		

#### IC (离子污染)

参考第三方净化规格, 本产品优秀。( Refer to 3<sup>rd</sup> party specification, the result is excellent.)

#### IC Test

Item (Anion)	F <sup>-</sup>	Cl <sup>-</sup>	NO <sub>2</sub> <sup>-</sup>	Br <sup>-</sup>	NO <sub>3</sub> <sup>-</sup>	PO <sub>4</sub> <sup>3-</sup>	SO <sub>4</sub> <sup>2-</sup>	Total
Ref.Spec of 3 <sup>rd</sup> party	NA	0.05	NA	NA	0.15	NA	0.05	0.26
Result	ND	ND	0.001	ND	ND	ND	ND	0.001
Measurement Unit	unit:ug/cm <sup>2</sup>							
Test Method	ICS-1000/Ion Chromatography System; AG14A+AS14A column; TAC-LP1 Concentrate column							

#### NVR ( Non-Volatile Residue ) (非挥发物残留)

参考第三方净化规格, 本产品优秀。( Refer to 3<sup>rd</sup> party specification, the result is excellent.)

#### NVR Test

NVR	Result	Measurement Unit	Test Method
Ref.Spec of 3 <sup>rd</sup> party	3	ug/cm <sup>2</sup>	FTIR, SARTORIUS SC-2 Microbalance with the readability of 0.1mg
NVR	1.61		

#### Outgassing Test (排气测试)

通过对比测试, 本产品达到优秀水平。( Refer to brand competitor, the result is comparable.)

#### Outgassing Test

Total Outgassing Test	Result	Measurement Unit	Test Method
Brand LDPE Bag	124.3	ug/g	HP6890 GC/5973 MSD; ATD-50 PE Automated Thermal Desorber ,JAI Outgas Collector (Model HM-24-80)
Sample	117.6		

## Soutronic 超净PE袋

### 机械强度特性 (Mechanical Feature):

**拉伸强度:** 我司LDPE薄膜屈服拉伸强度高于常用LDPE薄膜约10%，这反映刚性较好，而反映其抗破坏性能的断裂伸强度则明显高于常用薄膜约 70%，这表明其能更好地保护产品，并适用于重量较大的产品包装。

**Tensile Strength:** My LDPE is higher than common LDPE by 10% on yield tensile strength, which means that it is stronger in rigidity. At the same time, it is higher than common LDPE by 70% on break tensile strength, which means that it can make better protection and can apply to heavy package.

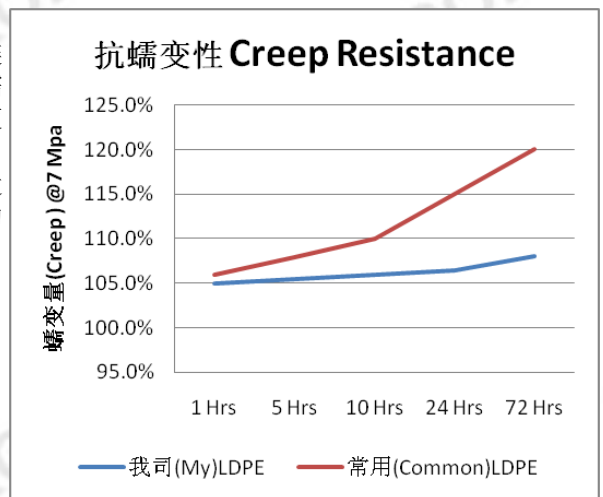
**抗冲击和抗穿刺强度:** 在使用中经常会发生碰、撞、穿刺等现象，因此我司 LDPE 薄膜的在这方面的性能高于常用薄膜60%，这表明我司 LDPE 更能适合运输过程中的搬运和颠簸。

**Dart Drop Impact and Puncture Resistance:** Bumping and puncturing are common happen, hence my LDPE has strengthen in this field, it is higher than common LDPE by 60%, which means it can make better protection in the transportation.

拉伸强度 (Mpa) Tensile Strength		我司LDPE My LDPE	常用LDPE Common LDPE	测试依据 Test Method
纵向屈服拉伸强度	Tensile Strength at Yield MD	10	9	ASTM D882
横向屈服拉伸强度	Tensile Strength at Yield TD	11	10	ASTM D882
纵向断裂拉伸强度	Tensile Strength at Break MD	62	36	ASTM D882
横向断裂拉伸强度	Tensile Strength at Break TD	52	28	ASTM D882
落锤冲击 (g)	Dart Drop Impact	210	130	ASTM D1709
抗穿刺力 (N)	Puncture Resistance Force	51	30	Internal

**抗蠕变性:** 蠕变指的是材料在恒载下（外界载荷不变）的情况下，变形程度随时间增加的现象。由于在载荷下碳链存在伸长，故此蠕变是高分子聚合物的本质现象。然而，蠕变会导致包装松动，继而薄膜变薄从而使强度下降，同时使产品产生不必要移动。我司LDPE薄膜的抗蠕变性明显优于常用薄膜，尤其随着时间加长，其优势更明显，如当时间达72小时时优势达到60%，这表明我司薄膜更能适合长时间的包装，尤其对松动危害敏感的产品。

**Creep Resistance:** Creep refer to the deformation at consistent loading or pressure. it is the intrinsic phenomenon for the polymer because that the carbon chain will extend under loading. How ever, creep make the package loose that cause the products movement in the package. My LDPE has strengthen in this field, it is better than common LDPE by 60%, which means it can make better protection in the transportation specially for the case that the products are sensitive to the shaking.



### 易操作性 (Facilitation at Operation):

热熔融温度(DSC melting temp) 为110度，并适应相当宽的温度波动，适合常用的封口机。而且，加强热封性，易于操作。

The DSC melting temperature is 110 C with wide range in heat seal temperature, it is suitable for common heat seal equipment. At the same time, it strength the heat seal feature which make it easy to operate.