

WIMING[®] TECHMOLOGY



STRETCH FILM



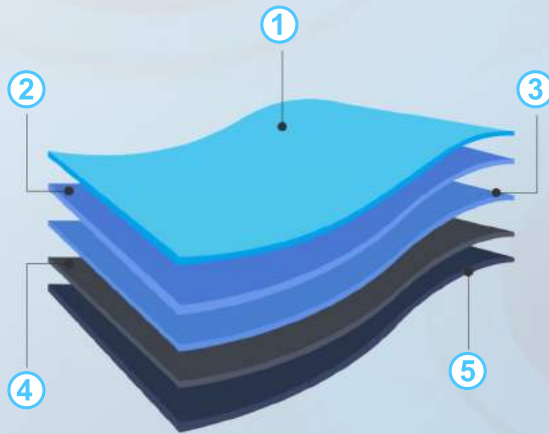
Stretch reate up to 500%



PRODUCT MANUAL ■ ■ ■ ■



Stretched film is a common name for multilayer stretched polyethylene film, produced by a fracture nozzle method, the so-called "casting". The basic raw material for the production of stretched film is linear low density polyethylene (LLDPE).



- ① Low density linear polyethylene LLDPE
High Cling
- ② Medium density linear polyethylene LM
Strength/Toughness
- ③ Metallocene
Strength and Stretch
- ④ Polyethylene LLDPE
Strength/Toughness
- ⑤ Polyisobutylene PB1300
Low/No Cling

DIMENSIONS OF STRETCH FILM ■ ■ ■ ■

Thickness ([μm] (± 1μm))	12	15	17	20	23	30	35
Width [mm] (± 5 mm)	500	500	500	500	500	500	500
Roll wound [m]	2700	2300	2000	1700	1500	1100	900
Roll weight [kg] (± 5 %)	16.5	17.5	17.2	17.2	17.5	16.8	16.1
Roll diameter [cm] (± 5 %)	22.9	23.5	23.4	23.4	23.5	23.1	22.7

Standard film width: 500 mm, it is possible to manufacture the film of other width in multiples of 250 mm, from 250 mm to 1500 mm, after having consulted and confirmed with our Customer Service.

It is possible to manufacture the film of custom thickness after having consulted and confirmed with our Customer Service.



MACHINE STRETCH FILM ■ ■ ■ ■

Thickness	Machine use stretch film:23-50mic
Width	Machine use stretch film: 500-1000mm
Length	Machine use stretch film: 900-1800m or customized (no more than 7000)
Color	Clear, black, blue, green or as you choose
Paper core D/A	27/38/51/76MM (Common:50/76mm) or customized.
Weight	Machine use stretch film(8KG≤ Weight≤ 100KG) Determined by the specification
Packing	Machine use stretch film—1 roll in a carton

HAND STRETCH FILM ■ ■ ■ ■

Thickness	Handfilm:12-50mic(Common:17/18/20/23/25/30mic)
Width	Paper core D/AManual film: 50-500mm (Common:300/450/500mm)
Length	Manual film: 250 / 300 / 350 / 450m or customized (no more than7000m)
Color	Clear, black, blue, green or as you choose
Paper core D/A	27/38/51/76MM (Common:50/76mm) or customized.
Weight	Hand use film (1KG< Weight< 8KG) Determined by the specification
Packing	Manual film—4 or 6 rolls in a carton

HAND STRETCH FILM ■ ■ ■ ■

Material	LLDPE,Metallocene,Polyisobutylene
Molding method	Casting
Applications	Pallet packaging, carton packaging, wrapping bulk goods, daily necessities packaging.

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CONSIDERATIONS FOR CHOOSING HAND VS. MACHINE WRAP ■ ■ ■ ■

Consideration	Reality	Solution
Existence of a Central Packaging Area	YES	Could use wrapping equipment
	No	Hand-applied wrap
Existence of a Central Packaging Area	Low (less than 30 pallets in 6 hours)	Hand-applied wrap
	Medium (30 to 100 pallets in 8 hours)	Semi-automatic machine-applied wrap
	High (more than 100 pallets in 8 hours)	Automatic machine-applied wrap
Load Weight	Low (under 1200 pounds)	70 gauge or below hand or machine-applied wrap
	Medium (1200-2000 pounds)	70-85 gauge hand or machine-applied wrap
	High (over 2000 pounds)	90 gauge or above hand or machine-applied wrap
The Load Type	Regular-shaped load fitting close to pallet edges	70 gauge or below hand or machine-applied wrap
	Slightly irregular load and/or fitting within 3 inches of pallet edges	70-85 gauge hand or machine-applied wrap
	Highly irregular load and/or fitting more than 3 inches from pallet edges	90 gauge or above hand or machine-applied wrap
Film Application Speed	Low (hand applied or less than 15 RPM)	Any hand wrap or machine grade wrap
	Medium (machine applied 16 RPMs to 25 RPM)	Any machine grade wrap
	High (machine applied great than 25 RPM)	Heavy duty single-sided cling

Manual/Hand Wrappers

- **Extended Core:** An extension of the film's core creates a natural handle for wrapping. It's an especially economical option since it doesn't require any equipment. The downside is that it provides little control over stretch and is hard on workers' hands.
- **Mechanical Brake/Pole Wrapper:** A rigid structure supports the film core while a mechanical brake system provides the resistance needed to stretch the film. A pole wrapper is similar, except that the roll sits at the end of an extended pole. This reduces the need for workers to bend and reach during application.

Semi-Automatic Wrappers

- **Turntable Wrappers:** The load rests on a turntable that spins the load. The film roll automatically moves up and down as it applies the wrap. Stretch is controlled by the speed of the load's rotation and/or the attached pre-stretch feature.
- **Orbital Wrappers:** The film rests in a carriage housed on a vertical ring. The load feeds horizontally (or vertically in the case of a horizontal ring system) through the center of the rotating ring as the film is applied.
- **Rotary Arm Wrappers:** The load remains stationary as a rotating arm revolves around it, wrapping the load. These types of wrappers are best for lightweight loads or those requiring high rotation speeds which could otherwise cause the load to destabilize.

Automatic Wrappers

- Automatic wrappers are similar to semi-automatic wrappers except that they include a conveyor system for automatic loading. The equipment also applies, seals, and cuts the film.



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EXTERNAL APPEARANCE ■ ■ ■ ■

- Product surface should be uniform and free of mechanical damage.
- Film impurities of size ranging from 0.3 mm² to 0.6 mm² that do not create holes are allowed in the total number of 2 pcs/m².
- Stretch film roll surface can have bands, within tolerance limits, caused by variation in film gauge.
- Film impurities of size ranging from 0.3 mm² to 0.6 mm² that do not create holes are allowed in the total number of 2 pcs/m².
- Relative displacement of film layers in the roll face plane cannot exceed the allowable tolerance limit on the film width (± 5 mm).

CONFORMITY WITH EU DIRECTIVES ■ ■ ■ ■

The LLDPE stretch film conforms to the requirements of EU Directive No. 94/62/EC, as amended:

- The stretch film is manufactured in a way to ensure limiting its volume and weight down to the necessary minimum values required for the performance of its function, considering expectations of its user.
- The LLDPE stretch film is designed and manufactured in a way enabling it to be recycled; film waste is regranulated and directed back to the process as raw material.
- The LLDPE stretch film is manufactured in a way allowing the reduction of substances hazardous to human health or life, or to the environment; supplier declarations concerning the absence of harmful and hazardous substances.
- The maximum content of lead (Pb), cadmium (Cd), mercury (Hg), chromium (VI)(Cr(VI)) in a package does not exceed 100 mg/kg, which is confirmed by tests performed periodically by accredited laboratories.
- The stretch film is not intended for direct contact with food. The stretch film is allowed to be used in applications involving indirect contact with food.





SGS certificate

SGS

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SHEFFARS WEAVING TECHNOLOGY CO., LTD.
(NO. 7 BLOCK BUILDING INDUSTRIAL PARK WANGMANG VILLAGE DONGLING STREET DONGLING DISTRICT ANHUI PROVINCE CHINA)

The following sample(s) were/were not identified as part of other client(s): S19C10Y14

SGS Job No.: 02870462 (NON-UNIFORM) 020711-12

Date of Sample Received: 02 May 2017

Testing Period: 02 May 2017 - 05 May 2017

Test Requested: Section based on requirement by client

Test Method: Please refer to test certificate

Test Results: Please refer to test certificate

Conclusion: Based on the performed tests on submitted sample(s), the results of Cadmium, Lead, Mercury, Hexavalent chromium, Polychlorinated biphenyls (PCBs), Polychlorinated dibenzofuran (PCDFs) do not exceed the limits as set by RoHS Directive (EU) 2015/863 including Annex I to Directive 2011/65/EU.

Signed for and on behalf of
SGS-CGC Standards Technical Services (Hangzhou) Co., Ltd.

Redeem Status: Approved Signatory

SGS

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Test Results

Test Part Description:

Specimen No.: 2017
SGS Sample ID: 2017 (1011) (00045) (01)
Description: Sewage treatment plant effluent

Remarks:

(1) 1 mg/kg < 0.0001%
(2) MDL = Method Detection Limit
(3) MDL = Mean Detected Limit
(4) C/C = Not Detected

RoHS Directive (EU) 2015/863 including Annex I to Directive 2011/65/EU

Test Method: (1) With reference to IEC 62321-6:2015, determination of Cadmium by ICP-OES.
(2) With reference to IEC 62321-6:2015, determination of Lead by ICP-OES.
(3) With reference to IEC 62321-4:2015, determination of Mercury by ICP-OES.
(4) With reference to IEC 62321-3:2015, determination of Hexavalent Chromium by Colorimetric Method using UV-VIS spectrophotometry with reference to IEC 62321-6:2015, determination of Chromium by ICP-OES.
(5) With reference to IEC 62321-6:2015, determination of PCBs and PCDFs by GC-MS.

Test Item(s)	Unit	MDL	MDL	MDL
Cadmium (Cd)	mg/kg	2	ND	
Lead (Pb)	mg/kg	2	ND	
Mercury (Hg)	mg/kg	2	ND	
Hexavalent Chromium (Cr(VI))	mg/kg	2	ND	
Sum of PCBs	mg/kg	1	ND	
Hexachlorobiphenyl	mg/kg	1	ND	
Chlorobiphenyl	mg/kg	1	ND	
Bromobiphenyl	mg/kg	1	ND	
Dibenzofuran	mg/kg	1	ND	
Polychlorinated biphenyl	mg/kg	1	ND	
Polychlorinated dibenzofuran	mg/kg	1	ND	
Polychlorinated dibenzodioxin	mg/kg	1	ND	
Polychlorinated dibenzofuran	mg/kg	1	ND	
Sum of PCBs	mg/kg	1	ND	

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ATTACHMENTS

Pb/Cd/Hg/Cr(VI)/PCBs/PCDFs Testing Flow Chart

1) Name of the person who made testing: Cathy Zhang/Diana Luo/Ali Wang
2) Name of the person in charge of testing: Diana Wang/Ali Zhu
3) These samples were discarded totally for pre-testing method according to below flow chart. Cr(VI) and PCBs/PCDFs not included.

The flowchart details the testing process for various substances. It starts with 'Sample Preparation' and 'Sample Measurement'. For Pb/Cd/Hg, it involves acid digestion with hydrogen peroxide, filtration, and analysis by ICP-OES. For Cr(VI), it involves reduction to chromic ion, spectrophotometry at 540 nm, and analysis by GC-MS. For PCBs/PCDFs, it involves sample solvent extraction, cleanup, and analysis by GC-MS.

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Test Item(s)	Unit	MDL	MDL	MDL
Hexachlorobiphenyl ether	mg/kg	1	ND	
Chlorobiphenyl ether	mg/kg	1	ND	
Bromobiphenyl ether	mg/kg	1	ND	
Dibenzofuran ether	mg/kg	1	ND	
Polychlorinated biphenyl ether	mg/kg	1	ND	
Polychlorinated dibenzofuran ether	mg/kg	1	ND	
Polychlorinated dibenzodioxin ether	mg/kg	1	ND	
Polychlorinated dibenzofuran ether	mg/kg	1	ND	
Sum of PCBs ether	mg/kg	1	ND	

Notes:

(1) The maximum permissible limit is quoted from RoHS Directive (EU) 2015/863.
(2) IEC 62321 tables is available at IEC 62321 tables: <http://www.sgs.com.cn/rohsinfo/> (IP: 104.30.114.223) 817031101 - PSP, CHN, ID PSP, LANG, JD, 133855725.

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Sample photo:

300 photos merge the photo on original report only
-End of Report-





How to Choose the Right Stretch Film ■ ■ ■ ■

1. Stretch film tension

The stretch of high quality stretch film:

Stretching is the ability of a stretched stretch film to produce elastic elongation after being subjected to tension, which is a property of itself. If the quality is good, the length will be extended after stretching, and within a certain range (300%-500%), it will not be broken.

Poor stretch stretch film stretch:

The tensile strength of the stretched stretch film with poor quality has two characteristics: 1. The tension is not uniform, and it is obvious that some places are stretched and thinned when stretched, and there is almost no change in a little place. 2, the stretch rate is small, there will be a phenomenon of breaking when stretching.

WIMING stretch film can reach 500% stretch rate The same meter number of ordinary stretch film packaging 4 trays WIMING can pack five trays



2. Stretch film self-adhesive

Self-adhesive is affected by many external factors, such as humidity, dust and contaminants. The self-adhesive film has a self-adhesiveness of about 1N/cm². The ordinary egg is wrapped with a stretch wrap and then the thumb is pressed. Can lift the eggs up. A poor quality stretch wound film does not achieve this effect.

Self-adhesive refers to the adhesion after contact between the stretch-wound films. This property enables the packaged articles to be fastened without loosening during and after the stretch-wound process.

3. Stretch film toughness (puncture resistance)

Toughness refers to the comprehensive properties of stretch-wound film against puncture and tear resistance. The degree of risk of tear resistance must be transverse, ie perpendicular to the direction of operation of the machine, as tearing in this direction will loosen the package and even if the longitudinal tear occurs, the package remains firm and therefore stretched and wound The better the toughness of the film, the better the quality.

The poor quality of the stretch-wrapped film is generally not high. It can be wrapped with a stretch-wrapped film to smear some water with a ballpoint pen. No water leakage occurs at a depth of 5 cm, which indicates that the stretch-wrapped film has good toughness.



4. Stretch film tightness

From the viewpoint of the tightness of the stretched stretched film, the high-quality stretch-wound film is wound tightly, and the poor-stretch stretch-wound film is loose and easily broken.

5. Stretch film cement paper tube

The price that is too low when purchasing the same weight of the product is definitely not normal. The raw material cost and labor cost of the stretched film are transparent. In the industry, there are thick paper tubes, cement dies, and sand stalks to increase the weight of paper tubes. The weight of the stretched film product film of the same weight will be much lower than that of the quality manufacturer.

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