

### PRODUCT DESCRIPTION

This technical specification concerns the polyethylene, multi-layer, transparent, LLDPE stretch film manufactured with the use of the CAST film extrusion technology.



Stretch film is used for packing and protection of products, ranging from loads bundled on pallets, to individual items of large overall dimensions.

### DIMENSION OF STRETCH FILM

Thickness ([ $\mu$ m])	12	15	17	20	23	30
Width [mm] ( $\pm$ %)	500	500	500	500	500	500
Roll wound [m]	2585	2100	1825	1550	1350	1000
Roll weight [kg] ( $\pm$ %)	16	16	16	16	16	16
Roll diameter [cm] ( $\pm$ %)	22.7	22.7	22.7	22.7	22.7	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 Sales.
- It is possible to manufacture the film of custom thickness/length after having consulted and confirmed with our Sales.
- Colored stretch film can be produced.
- OXO-Degradable stretch film can be produced.
- Rodent repellent stretch film can be produced.
- Thickness tolerance is  $\pm$  %10 on spot and  $\pm$  %5 on average.
- Width tolerance is % $\pm$ .

## MECHANICAL PROPERTIES OF STRETCH FILM

Mechanical properties of stretch film are determined based on tests performed with the use of a device simulating the operation of a wrapping machine in laboratory conditions.

During the Quality test, the strength and quality of the film are checked on a guaranteed stretch.

The Ultimate test determines the maximum stretch [%] when the film starts to rupture.

The Puncture test determines the force [kg] needed for puncturing the film.



## TYPICAL MECHANICAL PROPERTIES OF FILM

### HAND ROLLS

THICKNESS	μm	7	10	17	20	23	30	Method
Guaranteed stretch *	%	Pre-stretch		Hand Wrap				Manual application
Ultimate stretch	%	Hand Wrap						
Cling	g	>70	>70	>110	>110	>110	>110	(ASTM 5458)
Puncture force value *	N	18	19	21	22	23	25	(ASTM D5748)

### JUMBO STRETCH FOR HAND WRAP

THICKNESS	μm	12	15	17	20	23	30	Method
Guaranteed stretch *	%	120	120	120	120	120	120	Highlight Stand
Ultimate stretch	%	200	250	300	330	360	370	
Cling	g	<120	<120	<120	<120	<120	<120	(ASTM D5458)
Unwind force	N	<55	<55	<55	<55	<55	<55	(ASTM D5748)
Puncture force value *	N	20	21	22	24	25	32	

### STANDARD ELONGATION (SE)

THICKNESS	μm	12	15	17	20	23	30	Method
Guaranteed stretch *	%	150	150	150	150	150	150	Highlight Stand
Ultimate stretch	%	200	250	300	330	360	370	
Cling For Machine	g	<150	<150	<150	<150	<150	<150	(ASTM D5458)
Cling For Jumbo	g	<120	<120	<120	<120	<120	<120	
Unwind force For Machine	N	<75	<75	<75	<75	<75	<80	Highlight Stand
Unwind force For Jumbo	N	<55	<55	<55	<55	<55	<55	
Puncture force value *	N	20	21	22	24	25	32	(ASTM D5748)

### HIGH ELONGATION (HE)

THICKNESS	μm	12	15	17	20	23	30	Method
Guaranteed stretch *	%	220	250	250	250	250	250	Highlight Stand
Ultimate stretch	%	270	321	333	351	370	390	
Cling For Machine	g	<150	<150	<150	<150	<150	<150	(ASTM D5458)
Cling For Jumbo	g	<120	<120	<120	<120	<120	<120	
Unwind force For Machine	N	<75	<75	<75	<75	<75	<80	Highlight Stand
Unwind force For Jumbo	N	<55	<55	<55	<55	<55	<55	
Puncture force value *	N	28	28	29	29	30	35	(ASTM D5748)

VERY HIGH ELONGATION (VHE)

THICKNESS	μm	12	15	17	20	23	30	Method
Guaranteed stretch *	%	280	300	300	300	300	300	Highlight Stand
Ultimate stretch	%	320	340	340	380	385	390	
Cling For Machine	g	<150	<150	<150	<150	<150	<150	(ASTM D5458)
Cling For Jumbo	g	<120	<120	<120	<120	<120	<120	
Unwind force For Machine	N	<75	<75	<75	<75	<75	<80	Highlight Stand
Unwind force For Jumbo	N	<55	<55	<55	<55	<55	<55	
Puncture force value *	N	30	31	32	34	35	39	(ASTM D5748)

Tolerance for mechanical parameters is: -%5.

\*Guaranteed stretch of the stretch film is determined in laboratory conditions. The way the film behaves on a wrapping machine depends on individual wrapping machine settings and the type of load being wrapped.

The film maintains its physicochemical properties for up to 6 months when stored in a dry environment away from direct sunlight at temperatures below 30°C storing conditions. Prolonged storage may cause problems.

Acceptable holes due to gel are up to 2 holes per 100m.

The data presented herein is accurate to the best of our knowledge. This data should be used as a guideline only.

EXTERNAL APPEARANCE

- Product surface should be uniform and free of mechanical damage.
- Film impurities of size ranging from 0.3 mm<sup>2</sup> to 0.6 mm<sup>2</sup> that do not create holes are allowed in the total number of 2 pcs/m<sup>2</sup>.
- Stretch film roll surface can have bands, within tolerance limits, caused by variation in film gauge.
- 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. 62/94/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 re-granulated 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.

## PACKING

- The LLDPE stretch film is packed in a manner protecting rolls from mechanical damage and fouling in transport.
- The film is wound on a cardboard core, and each core has inside marking in order to facilitate product identification.
- Film rolls of width 450 mm and 500 mm are stacked on a pallet vertically, up to three layers high. Each layer is separated with a cardboard spacer and secured with cardboard corner guards.
- Each pallet is protected with a rain-proof film hood, wrapped in stretch film and equipped with a label specifying the product.

## STORAGE

- The stretch film shall be stored with observance of the following principles:
- Rooms used for film storage should be dry and well ventilated.
- The temperature of film storage and use: from -50°C to 40+°C.
- Maximum relative humidity: %70.
- Up to two full pallets are allowed to be stacked one on top of the other.

## TRANSPORT

The product shall be transported with the use of enclosed means of transportation and shall be protected against mechanical damage and weather conditions. The LLDPE stretch film is very susceptible to mechanical damage, thus film rupturing during pallet wrapping is most commonly caused by insufficient care during transport, unloading, handling, placing on ground and installing the product in a wrapping machine.



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# CERTIFICATE

## Poly Trade Industry

Plot IVG, Industrial Zone C4, 10th Of Ramadan, Sharkya, Egypt.

RIR certifies that the management system of the organization has been assessed and found to be in accordance with the requirements of the following standard:

# ISO 9001:2015

SCOPE

**Manufacture of Stretch Films And Packaging Materials**

**EA CODE- 14, 15**

<b>Certificate No</b>	: 1203/POL09A
<b>Registration Date</b>	: 25.03.2020
<b>Issue Date</b>	: 25.03.2020
<b>Certification Period</b>	: 03 Years
<b>Reissue Due Date</b>	: 24.03.2021
<b>1<sup>st</sup> Surveillance Audit</b>	: On / Before 24.03.2021
<b>2<sup>nd</sup> Surveillance Audit</b>	: On / Before 24.03.2022



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**Certification Manager**

**RIR CERTIFICATION PRIVATE LIMITED**

A-210, Level 2, Unitech Arcadia, South City-2, Sector-49, Gurgaon-122018, IND  
Accredited by International Accreditation Services (Accreditation No. MSCB-127)  
West Coast, 3060 Saturn Street, Suite 100 Brea, California 92821-1732 U.S.A

This certification was conducted in accordance with RIR auditing & certification procedures and subject to regular surveillance audits.

Verifiable at <http://www.rircert.com/Certificate-Search.php> or at e-mail: [info@rircert.com](mailto:info@rircert.com)





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## Poly Trade Industry

Plot IVG, Industrial Zone C4, 10th Of Ramadan, Sharkya, Egypt.

RIR certifies that the management system of the organization has been assessed and found to be in accordance with the requirements of the following standard:

# ISO 22000:2018

## SCOPE

Manufacture Of Stretch Films And Packaging Materials, Import and Export

GROUP CODE- I

<b>Certificate No</b>	: 100000/pol22A
<b>Registration Date</b>	: 21.03.2020
<b>Issue Date</b>	: 21.03.2020
<b>Certification Period</b>	: 03 Years
<b>Reissue Due Date</b>	: 20.03.2021
<b>1<sup>st</sup> Surveillance Audit</b>	: On / Before 20.03.2021
<b>2<sup>nd</sup> Surveillance Audit</b>	: On / Before 20.03.2022



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