

ASIA PACIFIC INDUSTRY GROUP CO., LIMITED

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Quality certificate

1// Product Description

Clear BOPP film heat sealable both sides and treated one side.

2// General Use

Used as a primary package for products such as cookies, fried potatoes and snacks that require good tightness and excellent sealing speed.

3// Properties and Tolerance

| Property | Unit | Values | | | | | | | Tolerance | Method |
|--------------------------|--------------------|--------|-------|-------|-------|-------|-------|-------|-----------|------------|
| Thickness | μm | 15 | 17 | 20 | 25 | 30 | 35 | 40 | ± 5% | ASTM D374 |
| Density | g/cc | 0.91 | | | | | | | | |
| Average Substance | g/m ² | 13.65 | 15.47 | 18.20 | 22.75 | 27.30 | 31.85 | 36.4 | ± 5% | ASTM D4321 |
| Yield | m ² /kg | 73.26 | 64.64 | 54.94 | 43.95 | 36.63 | 31.39 | 27.47 | ± 5% | ASTM D4321 |

Barrier Values

| | | | | | | | | |
|-------------|------------------------|------|------|------|------|------|------|------------------------------|
| WVTR | g/m ² /24hr | 8.99 | 7.75 | 6.97 | 5.89 | 4.96 | 4.03 | ASTM E 398 (38°C, 90 %HR) |
|-------------|------------------------|------|------|------|------|------|------|------------------------------|

Physical Values

| | | | | | |
|-------------------------|----|--------------------|-----|---------|-----------|
| Elongation | MD | % | 180 | Máx.170 | ASTM D882 |
| | TD | % | 50 | Min. 60 | |
| Tensile Strength | MD | Kg/cm ² | 130 | Min.120 | ASTM D882 |
| | TD | | 240 | Min.230 | |

Coefficient of Friction

| | | | | | | | |
|------------|------|-------|----------------|-----|-------------|------|------------|
| COF | D. M | NT/NT | <i>Kinetic</i> | N/A | 0.25 | ± 1% | ASTM D1894 |
| | D. M | NT/M | <i>Kinetic</i> | N/A | 0.15 – 0.40 | ± 1% | ASTM D1894 |

Optical Values

| | | | | |
|---------------------|----|-----|---------|-------------|
| Gloss (45 o) | GU | 90 | Min.90 | ASTM D 2457 |
| Haze | % | 2.1 | Min.2.1 | ASTM D 1003 |

Surface Treatment

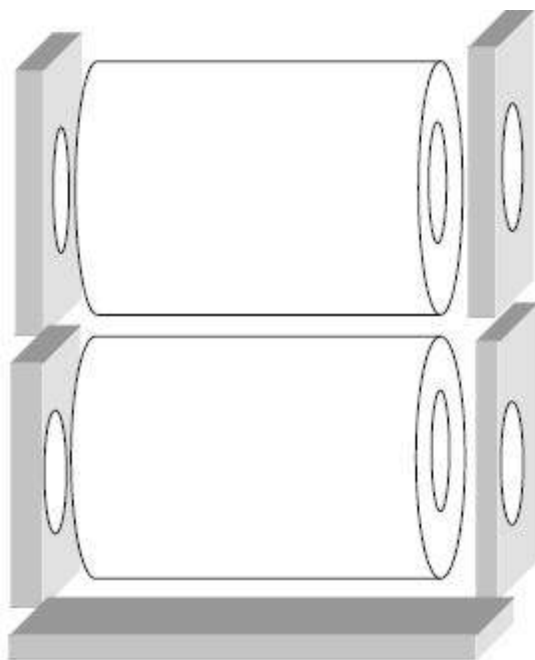
| | | | | |
|--------------------------|----------|----|----------|------------------|
| Surface Treatment | Dynes/cm | 38 | Min. 38. | Sherman Treaters |
|--------------------------|----------|----|----------|------------------|

4// Packing

The standard armed pallet will have a polyester band, triple tensioned wrapping, floor and roof covered with PE or CPP and one wood plank will join another like an "H".

The pallet will be composed of 2 reels of equal width and thickness. The caps should be plywood preferably triple and must be of 25mm thickness.

The reels should have up to 2 connections per roll and shall not exceed 10% of the total batch.



5// Warranty.

The supplier shall certify that the film will maintain its physical and chemical properties for a minimum period of 6 months from the date of production, for each lot a certificate of quality containing the physical and/or chemical analysis will be sent.

The supplier shall ensure that the film can be used in direct contact with food and that meets the requirements in accordance with the regulations of the EEC 90/128 and the FDA# 21 CFR 177.1720

6// Identification

Each reel must have an external label with the following information:

//Supplier Name.

//Type of Film.

//Purchase Order ·
//Code of the material.
//Date of manufacture.
//Due Date.
//Meters, width and thickness
//Gross Weight and net weight.
//Internal or external Treated Layer
//Number of connections

7//Storage and Handling

It is not recommended submitting the film to conditions of high humidity and extreme temperatures, it is recommended to avoid any moisture condensation on the film, and that will not exceed an ambient temperature of 35° C and a relative humidity of 60 %, it is recommended to protect the reels from direct exposure to sunlight or heat sources.

The pallet must be transported and protected with a plastic cover until its use; the palletizing must be made with dry wood to ensure no moisture release in the transportation.

8// Foreign bodies

The film should have no strange smell and should be free from foreign bodies.

9// Microbiology

The film will not show a count greater than 100 cfu/g of aerobic mesophile and must be completely free of bacteria.

10//Toxicological information

The film does not have specific danger when it is used in an appropriate manner and is not associated with any toxic compound, there are no known carcinogenic effects of these compounds, are not used substances that can cause damage to health, it is a flammable product, but may burn when it is exposed to the flame by releasing a smoke harmful to health, preventing breathing.