



ATLANTIS-PAK

Leader In Innovative
Packaging Solutions

Films **AMISTYLE**

AMISTYLE BP/CP

Process Operating Manual



1. APPLICATION

This Process Operating Manual describes the procedure for packaging of food products by the method of thermoforming with the use of the **AMISTYLE BP** and **AMISTYLE CP** films.

AMISTYLE BP/CP are multilayer heat-shrink vapor- and gas-tight heat-sealable films made of polyamide, polyolefin, polyethylene terephthalate, EVOH and adhesive (modified polyethylene) permitted by the Russian Ministry of Health for use in the food industry. The quality of the raw materials used for production of the film is confirmed by Russian and international quality certificates.

AMISTYLE BP serves as the thermoformable bottom film used to make the tray that contains the food product. **AMISTYLE BP** can also be used as lidding film. It can withstand the temperature of 95 °C during 2 hours for pasteurization.

AMISTYLE CP serves as the lidding film used to seal the tray containing the food product.

The **AMISTYLE BP/CP** films are manufactured according to Specifications TU 22.21.30-052-27147091-2012 and are intended for packaging of various food products (meat-based food, chilled meat, chilled poultry, sausages and specialties, chilled fish, cheeses and cheese-based products) by the method of vacuum or MAP thermoforming in order to prolong the shelf life.

The **AMISTYLE BP/CP** films are suitable for processing on various types of thermoformers.

The shelf lives of the food products packaged in the **AMISTYLE BP/CP** films shall be set by the manufacturers and approved following the procedure stipulated by the laws.

2. PROPERTIES AND ADVANTAGES

The combination of different polymer materials in the structure, and the biaxial orientation of the **AMISTYLE BP/CP** films provide for:

- excellent sealability of the **AMISTYLE BP** and **AMISTYLE CP** films within a wide range of temperatures;
- high strength and puncture resistance, which preserves the integrity of the package at the stages of transportation and storage;
- attractive appearance of the packaging material (transparency and gloss), which makes the film virtually invisible on the product;
- high barrier to water vapor and gases (oxygen, nitrogen, carbon dioxide);

The **AMISTYLE BP** films are produced by an innovative method (Triple Bubble biaxial orientation) that allows stretching during the thermoforming without critical thinning in certain areas.



Thus, the **AMISTYLE BP/CP** combination of films provides for packaging of food with the use of high-rate automatic equipment, ensures integrity of the packaging at all stages, and extends the shelf lives of products.

Absence of chlorine-containing substances makes the disposal of the **AMISTYLE BP/CP** films environmentally safe.

See the technical characteristics of the **AMISTYLE BP/CP** films in the Product Specifications.

3. ASSORTMENT

Table 1 – Assortment of the Amistyle BP/CP films

Film	Thickness, μm	Width, mm	Application
Amistyle BP-60	60 ± 8	250 - 1000	Thermoformable bottom film for shallow drawing. Ideal for 1- or 2-tier vacuum packaging of hot dogs
Amistyle BP-90	90 ± 13		Thermoformable bottom film with enhanced resistance to puncture
Amistyle BP-110	110 ± 15		
Amistyle BP-90-E	90 ± 13	250 - 850	Thermoformable bottom film with enhanced elasticity for deeper drawing. Optimal price to quality ratio thanks to the special recipe. Excellent for drawing in the 5x1, 5x2, 6x1 and 6x2 complicated formats to a depth of 6 to 7cm (including for slant-cut chubs)
Amistyle BP-120-E	120 ± 15		
Amistyle CP-40	40 ± 5	250 - 1300	Lidding film for packaging by thermoforming
Amistyle CP-50	50 ± 6		

Cutting step: 1mm

Color: clear

Marking: single-color, multi-color or CMYK printing is possible with volatile solvent-based inks.

Form of supply: reels on 76mm diameter cardboard cores.



4. FILM PROCESSING TECHNOLOGY

4.1. Film storage and transportation

4.1.1. Keep the film in enclosed dry rooms at a distance of not less than 800mm from heaters, in the absence of strong-smelling or corrosive substances, at a temperature from + 5 °C to + 35 °C and relative humidity not more than 80 %.

4.1.2. Transport the film at temperatures not exceeding 40 °C, and do not expose it to direct sunlight.

4.1.3. If the film was stored at a temperature below zero, keep it at room temperature before processing for at least 24 hours without opening the manufacturer's packing.

4.2. Food product packaging

Packaging of food products in the **AMISTYLE BP/CP** films shall be made in production rooms meeting the requirements of the applicable food safety regulations and standards.

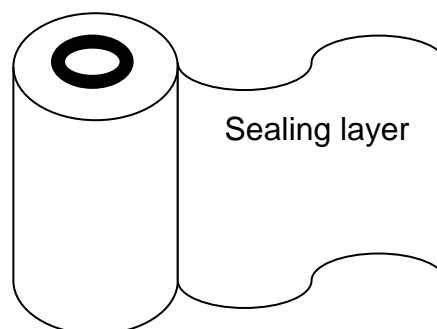
To ensure stability of the packaging process, observe the manufacturer-recommended operating modes for the packaging equipment.

Loading of the film in the automatic equipment must be made in accordance with the instructions of the equipment manufacturer and the loading procedure.

Take care to maintain the film well-tensioned during the operation.

The equipment settings (forming and sealing temperature, packages per minute rate, etc.) shall be selected on a case-by-case basis.

The **AMISTYLE BP/CP** films have a heat-sealable polyethylene (PE) layer on the inner side of the film web.



Packaging of food products with the use of the **AMISTYLE BP/CP** films includes the following stages:

4.2.1. Forming of a tray from the AMISTYLE BP bottom film reel

Trays are made automatically by heating of the **AMISTYLE BP** bottom film reel and forming of tray shapes using vacuum and/or compressed air flow (depending on the thermoformer design).

The maximum depth of a tray formed from the **AMISTYLE BP** film depends on the number of trays formed per cycle of the equipment.

Table 2 – Maximum drawing depth of the Amistyle BP film

Film type	Format	Drawing depth(mm)
BP-60	2×2	50
	2×3	50
BP-90	1×1	120
	2×1	100
	2×2	70
	2×3	70
	5×1	55
	5×2	55
BP-110	1×1	130
	2×1	100
	2×2	70
	2×3	70
	5×1	60
	5×2	60
BP-90-E	1×1	130
	2×1	105
	2×2	75
	2×3	75
	5×1	65
	5×2	65
BP-120-E	1×1	140
	2×1	110
	2×2	80
	2×3	80
	5×1	70
	5×2	70

Select the film thickness depending on the characteristics of the product to be packaged and the required film drawing depth.

For example, the Amistyle BP-60/Amistyle CP-40 films are recommended for packaging of hot dogs in trays 10 – 30mm deep. The Amistyle BP-90-E or Amistyle BP-120-E in combination with the Amistyle CP-50 are best for packaging of sausage chubs with a diameter of 40 – 50mm.

Select the equipment settings (forming temperature and time, compressed air pressure, etc.) on a case-by-case basis, since the packaging quality is affected by the equipment type and its technical condition.



Recommended thermoforming parameters for the **AMISTYLE BP** film:

Forming temperature: 90 – 110 °C

Film heating time: 1 – 4s

Film drawing time: 0.5 – 2.5s

Drawing pressure: 1 – 3 bar

4.2.2. Placement of food in the formed tray

The formed trays are fed by a belt conveyor to the product dosage zone, where the food is placed on the tray automatically or manually.

During the dosage take care to match the product volume with the tray size and shape.

4.2.3. Package sealing

After dosage of the food into the trays, the thermoformer uses the **AMISTYLE CP** lidding film to seal the trays with simultaneous evacuation of air from the packages or filling of the packages with a modified atmosphere (if necessary). Trays are sealed by means of heat-sealing.

The sealing temperature for the **AMISTYLE BP/CP** films varies depending on the film thickness and the equipment operation rate, and lies within the range of 130 – 150 °C.

Take care to prevent the product getting into the film sealing zone, because this may lead to loss of vacuum.

The depth of vacuum should be preset depending on the product moisture content. The depth of vacuum should be reduced for packaging of food with a high moisture content.

The seals must be even and continuous, bearing a clear imprint of the sealing bar, without any signs of burn-through.

If the sealing quality is unsatisfactory, check the temperature settings.

4.2.4. Cutting of packages

The sealed packages are conveyed for longitudinal and transverse cutting.

After that the packaged product may be dispatched for weighing, labeling and storage.

4.3. Transportation and storage of products

The products packaged in the **AMISTYLE BP/CP** films shall be transported and stored in accordance with the standard documentation applicable to the product (GOST, TU).



5. MANUFACTURER'S GUARANTEES

The shelf life of the **AMISTYLE BP** film is 2 years from manufacture to processing, subject to compliance with the transportation and storage requirements for the user's warehouse, and provided that the manufacturer's packing remains intact.

The shelf life of the **AMISTYLE CP** film is 2 years from manufacture to processing, subject to compliance with the transportation and storage requirements for the user's warehouse, and provided that the manufacturer's packing remains intact.





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