



**ATLANTIS-PAK**

Leader In Innovative  
Packaging Solutions

Films **AMISTYLE**

**AMISTYLE BP-T/CP-T**

Process Operating Manual



## 1. APPLICATION

This Process Operating Manual describes the procedure for packaging of food products in the **AMISTYLE BP-T** and **AMISTYLE CP-T** films using the FormShrink technology (thermoforming + heat shrinking).

**AMISTYLE BP-T/CP-T** 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 films is confirmed by Russian and international quality certificates.

**AMISTYLE BP-T** serves as the thermoformable bottom film used to make the tray that contains the food product.

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

The **AMISTYLE BP-T/CP-T** films are manufactured according to Specifications TU 22.21.30-052-27147091-2012 and are intended for secondary 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 thermoforming and heat shrinking in order to prolong the shelf life.

The **AMISTYLE BP-T/CP-T** films are suitable for processing on various types of thermoformers, including those ganged up with heat shrinking stations.

The shelf lives of the food products packaged in the **AMISTYLE BP-T/CP-T** 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-T/CP-T** films provide for:

- excellent sealability of the **AMISTYLE BP-T** and **AMISTYLE CP-T** films within a wide range of temperatures;
- optimal heat shrinkage rate to create an eye-catching package;
- 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 oxygen and water vapor.

Thus, the **AMISTYLE BP-T/CP-T** films ensure preservation of products, extend their shelf life, and provide for packaging of food with the use of high-rate automatic equipment.



Absence of chlorine-containing substances makes the **AMISTYLE BP-T/CP-T** films more environment-friendly, because disposal of such packaging is less harmful for the environment.

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

### 3. ASSORTMENT

Table 1 – Assortment of the films

Film	Width, mm	Thickness, $\mu\text{m}$	Application
Amistyle BP-T-60	250 – 1100	$60 \pm 10$	Bottom film for packaging by thermoforming and subsequent heat shrinking
Amistyle BP-T-90	250 – 1100	$90 \pm 13$	
Amistyle BP-T-130	250 – 1100	$130 \pm 15$	
Amistyle CP-T-45	250 – 1400	$45 \pm 5$	Lidding film for packaging by thermoforming and subsequent heat shrinking
Amistyle CP-T-75	250 – 1400	$75 \pm 8$	

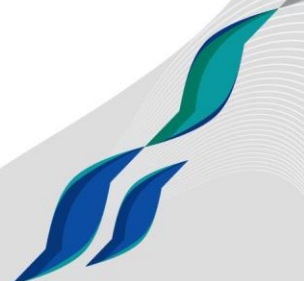
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Marking: single-color, multi-color or CMYK printing is possible with volatile solvent-based inks.

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

Table 2 – Standard length of film in a reel

Film	Width, mm	Length, m	Optional length, m
BP-T-60	475 – 665	500	1000
BP-T-60	250 – 470	1000	500
BP-T-90	250 – 665	500	
BP-T-130	445 – 665	250	500
BP-T-130	250 – 440	500	
CP-T-45	250 – 665	1000	500
CP-T-75	250 – 665	500	



## 4. FILM PROCESSING TECHNOLOGY

### 4.1. Film storage and transportation

4.1.1. Keep the film in closed 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 exceeding 80 %.

4.1.2. Transport the film at temperatures not higher than 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-T/CP-T** 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-T/CP-T** films have a heat-sealable polyethylene (PE) layer on the inner side of the film web.

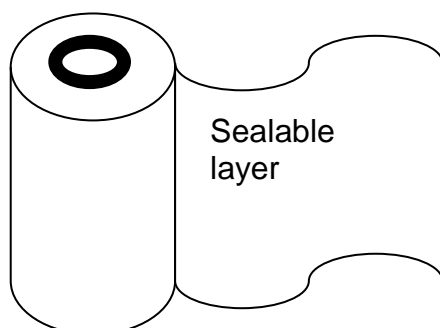
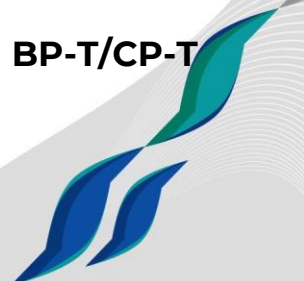


Fig. 1 – Reel of Amistyle film

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



#### **4.2.1. Forming of a tray from the AMISTYLE BP-T bottom film reel**

Trays are made automatically by heating of the **AMISTYLE BP-T** bottom film fed from the 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-T** film depends on the number of trays formed per cycle of the equipment. The maximum tray depth can be as great as 10cm for the 1x1 and 1x2 formats.

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

Forming temperature: 85 – 100 °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-T** lidding film to seal the trays with simultaneous evacuation of air from the packages. Trays are closed by means of heat-sealing.

To avoid premature heat shrinkage of the **AMISTYLE BP-T/CP-T** films when sealing the packages, use a contour sealing plate.

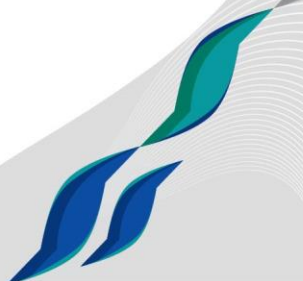
The sealing temperature for the **AMISTYLE BP-T/CP-T** films varies depending on the equipment operation rate, and lies within the range of 130 – 150 °C.

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.

#### **4.2.5. Heat shrinking of finished packages**

The packages filled with products undergo heat shrinking in heat shrinking tanks or tunnels by submerging the packages in hot water or exposure to hot water sprinkling or steam with a temperature from 82 °C to 95 °C during 2-3 seconds.

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-T/CP-T** 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-T/CP-T** films 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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