



ATLANTIS-PAK

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Packaging Solutions



AMISTYLE MB, MB-T, HB, HB-T, HP film

Process Operating Manual



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1. APPLICATION

The present Process Operating Manual describes the process of packaging OF FOOD PRODUCTS with the use of the multilayer heat-shrink **AMISTYLE MB, MB-T, HB, HB-T, HP** films.

AMISTYLE MB, MB-T are multilayer heat-sealable films, impervious to water vapor and gases, made of polyamide, polyolefin, and an adhesive (modified polyethylene).

AMISTYLE MB is suitable for products which undergo heat treatment at temperatures 70 - 100 °C.

AMISTYLE HB, HB-T are multilayer heat-sealable films, impervious to water vapor and gases, made of polyamide, polyolefin, an adhesive (modified polyethylene) and EVOH.

AMISTYLE HB-T can undergo sterilization and is suitable for making products which withstand heat treatment at temperatures 70 - 125 °C.

AMISTYLE HP is a multilayer permeable to smoke film, based on polyamide, suitable for manufacturing, transportation, storage and selling of smoked products (for example, smoked processed cheeses).

All the materials used for production of **AMISTYLE MB, MB-T, HB, HB-T** and **HP** are permitted for use in the food industry. The quality of the raw materials used to manufacture the film is confirmed by Russian and international quality certificates.

The **AMISTYLE MB, MB-T, HB, HB-T** and **HP** films can be used for production, transportation, storage and sale of paste-like food products, produced by:

- dairy industry (curd, curd products, sour cream, yogurt, non-smoked processed cheeses, condensed milk, butter, ice cream, spreads);
- meat processing industry (batter, cooked and liver sausage, pates);
- fat and oil industry (mayonnaise, margarines, fats);
- canned-food industry (sauces, tomato paste, jams).

The shelf life for the food products made with the use of the **AMISTYLE MB, MB-T, HB, HB-T** and **HP** films shall be determined by the manufacturer in accordance with the procedure stipulated by the laws.

2. PROPERTIES AND ADVANTAGES

AMISTYLE MB, MB-T, HB, HB-T and **HP** are biaxially-oriented films and, therefore, possess all properties of such materials, the most important of which are the following:

- **mechanical strength**, which makes it possible to mold chubs with the use of high-capacity automatic and semi-automatic clippers to ensure stability of the shape and fixed weight of the chubs at high rates of molding.



- **heat-shrinkage**, which provides for no wrinkles on the finished sausage products.

- **low permeability to oxygen and water vapor**, ensured by the carefully selected combination of polymers, which provides for the following advantages of the **AMISTYLE MB, MB-T, HB** and **HB-T** films:

- zero losses during the thermal processing and storage of meat and sausage products;
 - microbiological stability of the products during storage;
 - retardation of the oxidation processes that cause rancidification of fats and changes in the natural color of the meat product;
 - excellent selling appearance (no wrinkles) of the finished products throughout the shelf life.
- **physiological safety**, ensured by the fact that the **AMISTYLE MB, HB** and **HP** film is impervious to microbiological degradation, because the materials used for its production are inert to the action of bacteria and mold fungi.
- optimal gas and vapor permeability of **AMISTYLE HP** provide for finished products with smoke aroma and crust and prolonged shelf life.
 - small specific weight (kg/m^2) of the film combined with high mechanical strength;
 - excellent heat sealing properties providing solid heat seal;
 - absence of chlorine substances
 - wide color range.

3. ASSORTMENT

AMISTYLE MB, MB-T, HB, HB-T, HP:

Film width: 80 – 350 mm.

Film colors: clear, red, yellow, cream, gold, white, silver.

AMISTYLE HP:

Film width: 80 – 230 mm

Film colors: according to the color Catalogue.

The **AMISTYLE MB, MB-T, HB, HB-T** and **HP** films can be used for single- or double-sided marking in a single color, multicolor or CMYK printing with the use of volatile solvent-based inks.

Printing is applied by the flexographic method. The inks are resistant to boiling, fats, and mechanical action.

The **AMISTYLE MB, MB-T, HB, HB-T, HP** film is supplied wound on cardboard spools 76 mm in diameter, with the standard length of film in a roll $500\text{m}\pm 2\%$, or $1000\text{m}\pm 2\%$.



4. FILM USE TECHNOLOGY

4.1. Storage and transportation of the film

4.1.1 The film must be stored in the original packing in dry, clean, and cool rooms (at a temperature from 5 to 35° C and air relative humidity not more than 80%) complying with the sanitary and hygienic standards applicable to the meat processing industry.

4.1.2 It is recommended to open the manufacturer's packing just immediately before use of the film.

4.1.3 During storage and transportation, protect the film against exposure to high temperatures or direct sunlight.

4.1.4 If the film was stored at a temperature below 0°C, then prior to use keep it in its original packing at room temperature for at least 24 hours.

4.1.5 Never drop the boxes containing the film or subject them to impacts.

4.2. Preparation of the film for processing

No preliminary preparation is needed for processing of the **AMISTYLE MB, MB-T, HB, HB-T, HP** films.

4.3 Molding of the products

The composition of and the processing sequence for the food products made with the use of the **AMISTYLE MB, MB-T, HB, HB-T, HP** film shall be in accordance with the technological process and the applicable regulatory documents for the particular type of product.

The **AMISTYLE MB, MB-T, HB, HB-T, HP** film is designed for use on different types of continuous-operation automatic equipment, such as:

- vertical molding-and-clipping systems;
- horizontal automatic heat-sealing machines with clippers.

To heat-seal the film into a tubular shape, contact heat sealing or hot-air sealing can be used.

The temperature of the welding elements depends on the melting temperature of the heat-sealable layers, material thickness, equipment performance (the higher efficiency, the higher temperature of the welding elements), the area of the contact between the welding element and packaging material, the pressure of the welding element on the film, etc.

When sealing of polymer films the equipment temperature should be 50 - 100 °C higher than the melting temperature of the polymer, but not higher its intensive destruction temperature.



Film type	Material of the sealing layer	Sealing temperature range, °C
MB, MB-T, HB	PE	130 – 200
HB-T	PP	160 - 230
HP	PA	180 – 250

The adjustment of technological sealing conditions in each specific case should be made on the basis of experiment by making sealing test with recording of all the sealing parameters on the particular equipment.

In the sealing area of the film there should be no printing, lacquer or any other surface dressing.

The clip must securely hold the ends of the chub, without damaging the film. Observe the recommendations of the clipping equipment manufacturer to ensure tightness of clipping.

The diameter of the finished product is predetermined by the stuffing horn diameter. The film should not be overstuffed relative to the nominal caliber.

4.4. Heat treatment

Heat treatment of products manufactured with the use of the **AMISTYLE MB-T, HB-T, HP** film shall be in accordance with the regulatory documentation for these products and the production technology, equipment capability and diameter of finished products.

If the products produced can expand greatly during heat treatment, it is necessary to make heat treatment in autoclave presses with back pressure.

4.5 Transportation and storage of the products

Transportation and storage of products manufactured with the use of the **AMISTYLE MB, MB-T, HB, HB-T, HP** film shall be in accordance with the regulatory documentation for these products

5. MANUFACTURER'S GUARANTEES

5.1. The Manufacturer guarantees conformity of the **AMISTYLE MB, MB-T, HB, HB-T, HP** film with the specified requirements subject to compliance with the required conditions of transportation and storage at the user's warehouse, and preservation of the integrity of the original packing.

5.2. The shelf life for the films is 2 year from manufacture.



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