



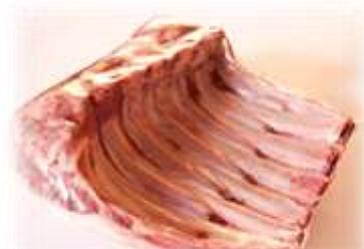
ATLANTIS-PAK

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Packaging Solutions



AMIVAC MB-7 SHRINK BAGS

Process Operating Manual



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1. APPLICATION

AMIVAC MB-7 heat-shrinking bags are barrier bags designed for vacuum packaging, storage and sale of meat on bones and products with sharp edges or coarse inclusions.

The **AMIVAC MB-7** bags are made of multilayer tubular film from polyamide, polyethylene and a modified polyolefin, all of which have the requisite certificates of conformity.

The production, use, storage and transportation of the bags are not harmful for the environment or human health.

2. Advantages of the AMIVAC MB-7 heat-shrinking bags

2.1. High barrier characteristics in relation to oxygen provide for a prolonged storage of the packaged products.

2.2. Low permeability to vapors excludes moisture (weight) losses of the product during storage.

2.3. Elevated puncture and rupture strength of the material provide for good preservation of the packaged products at the stages of transportation and storage.

2.4. Demonstration of the product in all its attractiveness to the buyer due to the optical properties of the bag (transparency, gloss).

2.5. Individual protective packaging of the AMIVAC bag packs guarantees protection from adverse external factors throughout the guaranteed storage term, and provides for an excellent sanitary and hygienic condition of the bags.

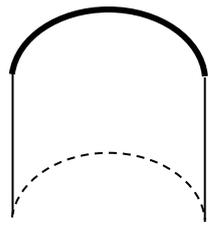
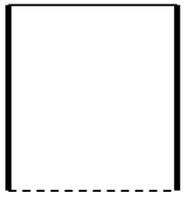
2.6. Absence of chlorine-containing substances. An increasing number of countries turn their attention to protection of the environment and utilization of packaging materials. Utilization of packaging free of chlorine containing substances is less harmful to the environment.

2.7. The **AMIVAC MB-7** bags are made using only the materials and raw stuffs approved for direct contact with food products under the applicable laws of Russia, Ukraine, the Customs Union (Russia, Belorussia, Kazakhstan), the European Union, and the USA. This means that in case of export deliveries and the requirement for certification of hygiene, there will not any problems in the buyer's country.

3. ASSORTMENT

The assortment of the **AMIVAC MB-7** bags is shown in Table 2

Table 2

| | Seals | | |
|------------------------|---|--|---|
| | Straight | Semicircular | Lateral |
| Bag width | from 200 to 425mm | from 200 to 425mm | from 80 to 165mm |
| Bag length | from 100 to 800mm | from 100 to 800mm | from 200 to 425mm |
| Appearance |  |  |  |
| Pasting on tape | Optional | Optional | Optional |

*From 300 mm when paste on a tape

Colors of the bags: clear.

Printing: The **AMIVAC MB-7** bags can be printed in a single color from 1+0 to 1+1.

The bags are supplied in the following forms:

- rolls without perforation;
- rolls with perforation;
- pasted on two bands (for automatic equipment)
- cut into separate bags inside transportation packs, each containing 100 bags.

4. UTILIZATION TECHNOLOGY FOR THE AMIVAC MB-7 BAGS

4.1. Storage and transportation of the bags

4.1.1. The bags must be stored in dry and clean rooms, with the temperature not exceeding 35 °C, and the relative humidity not more than 80 %.

4.1.2. During the storage and transportation the cases containing the bags should not be exposed to high temperatures (more than 35 °C) or direct sunlight.

4.1.3. Never drop the boxes with casings or subject them to impacts.

4.1.4. If the bags were stored at a temperature below 0 °C, keep them at room temperature for at least 24 hours before opening the manufacturer's packing.

4.1.5. The remaining bags should be re-packed again into a new package under vacuum.



4.2. Selection of the required bag size

To determine the required width (S) of the bag, measure the perimeter of the product to be packaged in its widest part. Calculate the bag width by the formula:

$$\text{Width} = \text{Perimeter of the product (in its widest part)} \times 0.55 \text{ (mm)}$$

To determine the required length (L) of the bag, measure the perimeter of the product to be packaged in its longest part. Calculate the bag length by the formula:

$$\text{Length} = \text{Perimeter of the product (in its longest part)} / 2 + 80 \text{ (100) mm}$$

If the bag will be closed by clipping, add **100** mm to the calculated bag length value.

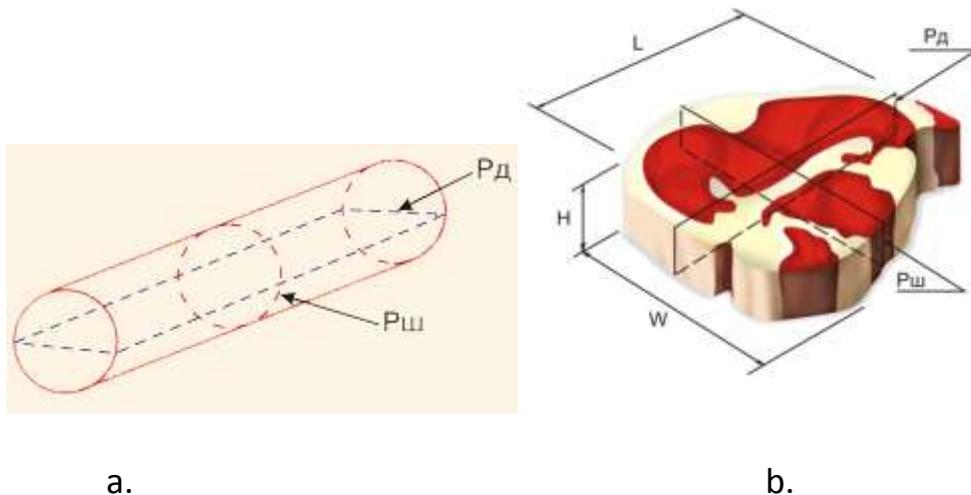


Fig.1

where $P_{ш}$ is the perimeter of the product in its widest part;

$P_{д}$ is the perimeter of the product in its longest part.

4.3. Preparation of the bags for use

It is recommended to open the packs containing the bags immediately before use. If any bags taken out of the transportation packing remain unused, it is recommended to re-pack them under vacuum in a new package.

No contact of the bags with water is allowable before completion of the product packaging.

4.4. Packaging

Packaging of food products must be performed in a production / packaging section compliant with the requirements of the sanitary regulations and rules applicable to the food industry.

Packaging of the product will be performed by means of special equipment (vacuum packaging machines). Observe the operating modes recommended by the manufacturer of the packaging equipment, to ensure a stable packaging process.

If no operating manual is available for the equipment, it is recommended to use the following operating modes:

4.4.1. Packaging on chamber machines:

- Check the sealing zone. Keep the sealing zone clean. No foreign inclusions are allowable, and the protective coating of the heating element must be free of burnt-through areas.
- Put the bag containing the product in the vacuum zone. The product inside the bag should be as close to the heat-sealing bar as possible (Fig.2), to improve the appearance and ensure the tight envelopment of the product.

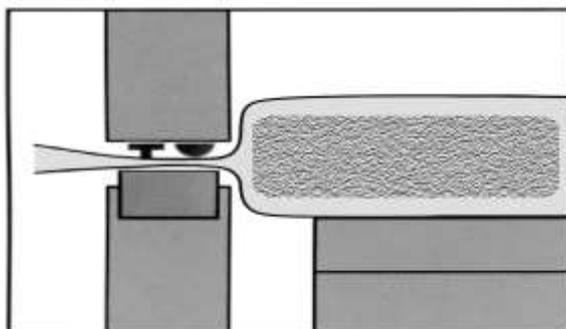


Fig.2

- Select the vacuum depth. The vacuum depth is adjusted depending on product to be packaged. Vacuum depth is 95 - 98% (residual pressure about 4.9 kPa). When packaging the products with high moisture content, the vacuum depth must be reduced.
- Select the mean sealing time. Increase or decrease the sealing time as necessary, as the bags are consumed, to achieve the best sealing mode (adjust the equipment, if its condition warrants adjustment; when necessary, the adjustment can be done within 5-10 minutes using 1-3 bags).
- If the bags are sealed with separate control of the strings, select such a time for string contact as to provide for free separation of the cutoff part of the bag.
- Evacuate and heat-seal the bag by closing the lid of the vacuum packaging equipment.
- After heat-sealing, the seam must be continuous and must show the imprint of the sealing bar of the packaging machine.

If the package sealing is lost, the product must be returned for re-packaging. Bags may not be re-used.

4.5. Heat shrinkage

Heat shrinkage of the bag containing the product is achieved in a heat-shrinking tank or tunnel. The equipment must provide for adjustment and control of the conditions and parameters of the technological process of heat shrinkage.

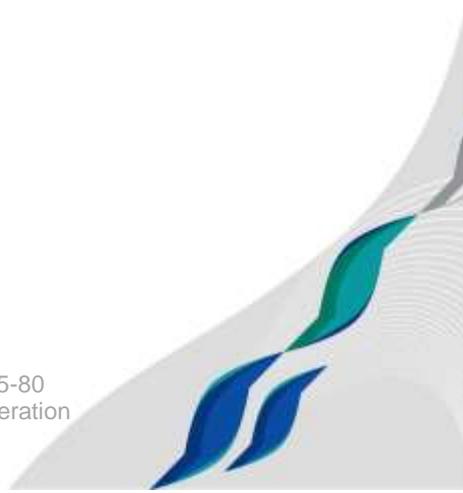
Heat shrinkage will be performed by immersion of the bag with the product in hot water or by sprinkling with hot water (steam) at a temperature from 90 °C to 95 °C during 2-3 seconds.

It is recommended to carry out the scheduled maintenance washing and treatment of the equipment.

5. MANUFACTURER'S GUARANTEES

5.1. The Manufacturer guarantees conformity of the **AMIVAC MB-7** bags with the Specification 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 bags is 1 year from the date of manufacture.



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