



ATLANTIS-PAK

Leader In Innovative
Packaging Solutions

HEAT - SHRINK BAGS 

AMIVAC MB-9

Process Operating Manual



1. APPLICATION

The **AMIVAC MB-9** heat-shrink bags are barrier bags designed for vacuum packaging, storage and sale of meat on bone, and products with sharp edges or coarse inclusions.

The **AMIVAC MB-9** bags are made of tubular multilayer film conforming to TU 2297-007-27147091-2000 and consisting of polyamide, EVOH, polyethylene and modified polyolefin duly permitted for use in the food industry. The quality of the raw materials used for the manufacture of bags is confirmed by Russian and international quality certificates

The **AMIVAC MB-9** bags comply with the requirements of the Technical Regulation of the Customs Union TR TS 005/2011 'On Packaging Safety', as confirmed by the conformity certificates duly issued and registered.

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

2. Advantages of the AMIVAC MB-9 heat-shrinking bags

2.1. **Ultra high barrier** is assured thanks to the presence of EVOH, which provides for a prolonged storage and excellent appearance of the packaged products throughout the useful life.

2.2. **Low permeability** to water vapor excludes moisture losses of the product during storage, which has a significant effect on the total weight of the product.

2.3. **Outstanding strength characteristics** of the bags provide for high puncture resistance due to the new generation manufacturing technologies.

2.4. **High shrinkage rate** allows packaging of products of irregular shapes with minimum corner folds (ears), and at higher vacuum.

2.5. **Individual protective packaging** of the AMIVAC bag packs guarantees protection from adverse external factors throughout the guaranteed storage term, and provides for a high sanitary and hygienic level 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. Disposal of

packaging free of chlorine containing substances is less harmful to the environment.

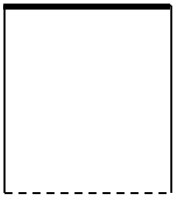
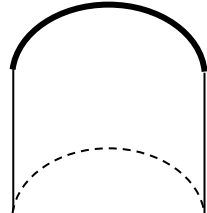


3. ASSORTMENT

Thickness:

- Amivac MB-9-60: 60µm
- Amivac MB-9-75: 75µm, extra strong
- Amivac MB-9-90: 90µm, maximum strength

The assortment of the **AMIVAC MB-9-60** bags is shown in Table 1

Table 1

	Seals			
	Straight	Semicircular	Lateral	
			Straight	V-shaped
Bag width	from 180 to 650 mm	from 180 to 550 mm	from 80 to 500 mm	from 110 to 500 mm
Bag length	from 100** to 1200 mm	from 100** to 1200mm	from 160 to 650mm	from 180 to 650 mm
Appearance				
Pasting on tape	Optional	Optional	Optional	Optional

*step is 10 mm

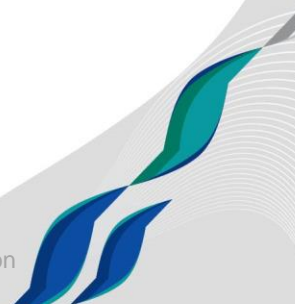
**From 300 mm when paste on a tape

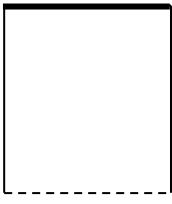
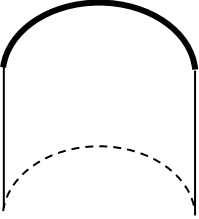


When delivered in rolls the following width is available: 180-900 mm

The assortment of the **AMIVAC MB-9-75, 90** bags is shown in Table 2

Table 2

	Seals			
	Straight	Semicircular	Lateral	
			Straight	V-shaped
Bag width	from 180 to 650 mm	from 180 to 550 mm	from 80 to 500 mm	from 110 to 500 mm
Bag length	from 100** to 1200 mm	from 100** to 1200mm	from 160 to 650mm	from 180 to 650 mm



Appearance				
Pasting on tape	Optional	Optional	Optional	Optional

*step is 10 mm

**From 300 mm when paste on a tape

When delivered in rolls the following width is available: 180-800 mm

Colors of the bags: clear.

Printing: The **AMIVAC MB-9** bags can be printed in a single color from 1+0 to 10+10.

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. WRAPING TECHNOLOGY FOR THE AMIVAC MB-9 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. Choosing the required package size

4.2.1. Choosing the required size for a package with a bottom seal and side seals

To determine the required package width, the perimeter of the product to be packed is measured in the widest part. The package width is calculated using the formula:

$$\text{Width} = \text{Product perimeter (in the widest part)} \times 0.55 \text{ (mm)}$$

To determine the required package length, the perimeter of the product to be packed is measured in the longest part. The package length is calculated using the formula:

$$\text{Length} = \text{Product perimeter (in the longest part)} / 2 + 80 \text{ mm}$$

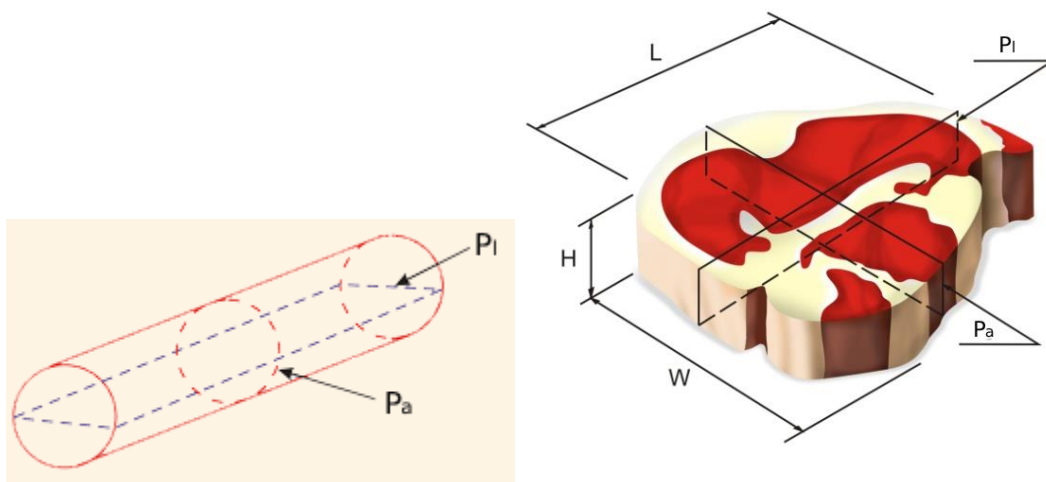


Figure 1 – Determining the product size

where **P_a** is the product perimeter in the widest part;

P_l is the product perimeter in the longest part;

W is the product width in the widest part;

L is the product length in the longest part;

H is the product height;

4.2.2. Choosing the required size for a package with a V-shaped seal

To determine the required package width, the perimeter of the product to be packed is measured in the widest part. The package width is calculated using the formula:

$$\text{Width} = \text{Product perimeter (in the widest part)} \times 0.55 \text{ (mm)}$$

To determine the required package length, the perimeter of the product to be packaged is measured in the longest part. The package length is calculated using the formula:

$$\text{Length} = \text{product length} + \text{product height} + 80 \text{ mm}$$

To determine the required width of the narrow part of the package, the perimeter of the product to be packed is measured in the narrow part. The width of the narrow part of the package is calculated using the formula:

$$\text{Width of the narrow part of the package} = \text{perimeter in the narrow part of the product} * 0.4$$

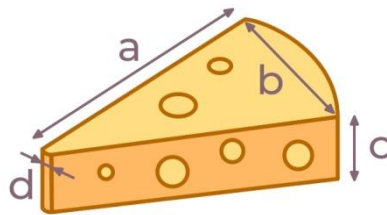


Figure 2 – Determining the product size

- a** is the product length in the longest part;
- b** is the product width in the widest part;
- c** is the product height;
- d** is the product width in the narrowest 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.

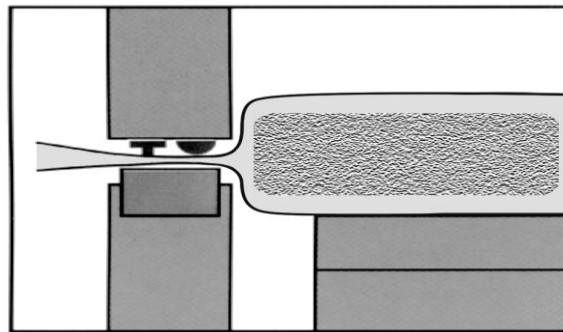


Fig.2

- 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);

- 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.

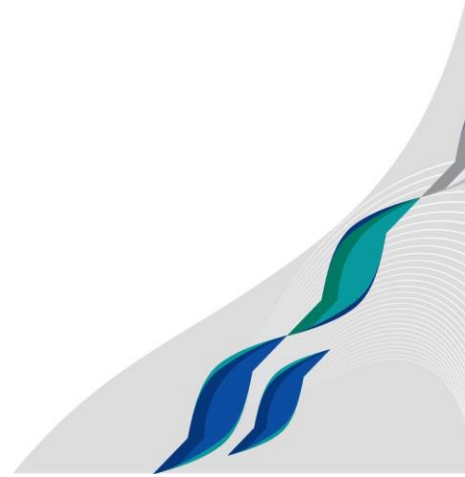
Heat shrinkage will be performed by immersion of the bag with the product in hot water or by sprinkling with hot water (steam) at a temperature from 90 °C to 95 °C during 2-3 seconds.

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-9** 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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