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Packaging Solutions



AMIVAC S SHRINK BAGS

Process Operating Manual



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1. APPLICATION

The **AMIVAC S** are high-barrier bags designed for vacuum or MAP packaging, storage and sale of sausages; delicatessen products; boneless fresh meat; unripened cheeses; soft and brine-ripened cheeses; and sliced portion cheeses.

The **AMIVAC S** bags are made of tubular multilayer film and consisting of polyamide, EVOH, polyethylene and modified polyolefin duly approved for use in the food industry. The quality of the raw materials used for production of the bags is confirmed by Russian and international quality certificates.

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

2. ADVANTAGES OF THE PRODUCTS

2.1. High barrier to oxygen provides for a prolonged storage of the packaged products.

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

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

2.4. Sealability through folds and overlaps boosts productivity and reduces the repackaging rate.

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.

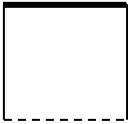
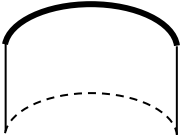

2.7. The **AMIVAC** bags are made using only the materials and stuffs approved for direct contact with food products under the applicable laws of Russia, Ukraine, the Customs Union member countries (Russian Federation, Belorussia, Kazakhstan), the European Union and the USA. This means that in case of export deliveries and the need for local certification it will be easy to obtain the required permissive hygienic documents for the **AMIVAC** bags.



3. ASSORTMENT OF THE PRODUCTS

The assortment of the **AMIVAC S** bags is shown in Table 1.

Table 1

	Seals		
	Straight	Semicircular	Lateral
Bag width	from 180 to 600 mm	from 180 to 600 mm	from 80 to 300 mm
Bag length	from 100* to 800 mm	from 100* to 800 mm	from 180 to 650 mm
Appearance			
Pasting on tape	Optional	Optional	Optional

* from 300mm up for pasting on tape

Bag colors: clear

Printing: The **AMIVAC S** bags are suitable for single-sided or double-sided printing. The number of print colors varies from 1+0 to 8+8. CMYK printing is optional.

Forms of supply:

- rolls with tear-off perforations;
- rolls without perforations;
- pasted on two tapes (for automatic equipment);
- cut into separate bags packed into transportation packs, each containing 100 bags.

4. AMIVAC S BAGS UTILIZATION TECHNOLOGY

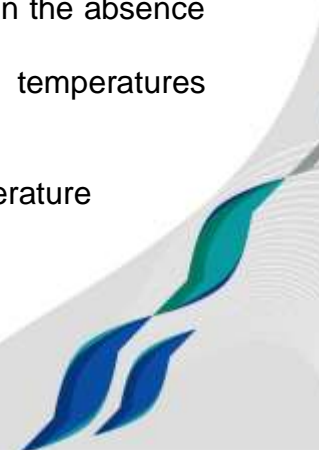
4.1. Storage and transportation of bags

4.1.1. The bags must be stored at a temperature not exceeding plus 35 °C and a relative humidity not more than 80%, at a distance of at least 800mm from heaters, and in the absence of any strong-smelling or corrosive substances.

4.1.2. During transportation the **AMIVAC** bags should not be exposed to temperatures exceeding 35 °C or direct sunlight.

4.1.3. Never drop the cases with bags or subject them to impacts.

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



4.1.5. The leftover bags should be repackaged under vacuum into a new pack.

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:

Width = perimeter of the product (in its widest part) x 0.55 (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:

Length = perimeter of the product (in its longest part) / 2 + 80 (100) mm.

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

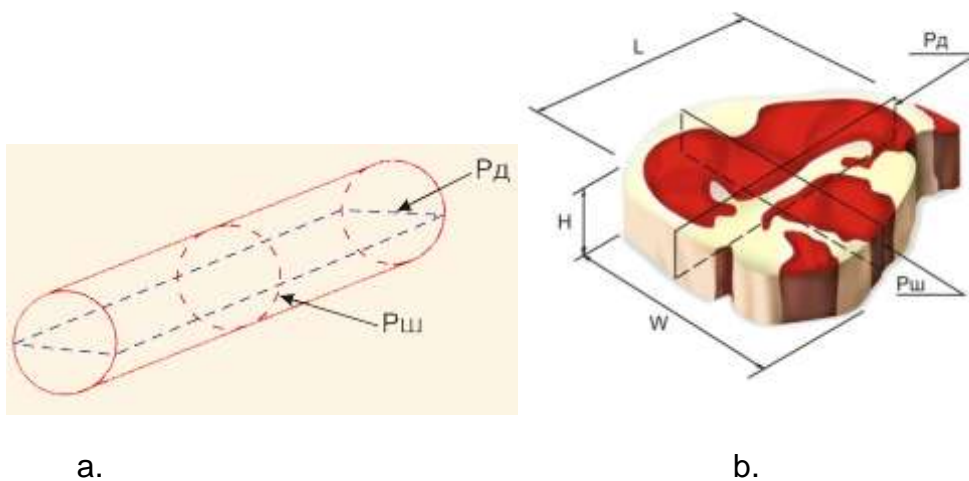


Fig.1

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 just directly before use. If any bags taken out of the transportation packing are left over, it is recommended to repack them under vacuum into a new pack.

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

4.4. Packaging

Packaging of food products shall be carried out in packaging production rooms compliant with the requirements of the applicable sanitary rules and standards for the food industry.

Packaging of the product is performed by means of special equipment (vacuum packaging machines, clippers). To ensure stability of the packaging process, observe the manufacturer-recommended operating modes for the packaging equipment.

4.4.1. Packaging on chamber-type 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.

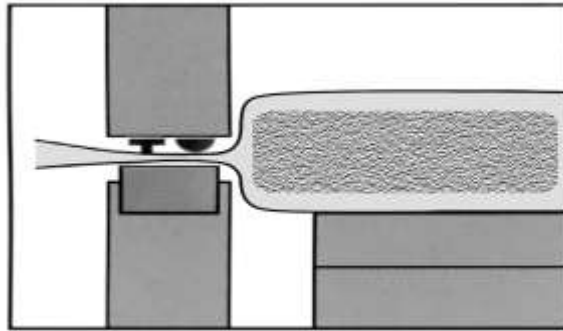


Fig.2

- 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 products with high moisture content, the vacuum depth must be reduced (the higher is the moisture content, the less is the vacuum depth value).
- Select the mean sealing time. Increase or decrease the sealing time to achieve the optimal seam formation mode, as the bags are consumed (required adjustment depends on the condition of the equipment; if adjustment is necessary, it will take a period of 5-10 minutes, and 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 the bag and heat-seal by closing the lid of the vacuum packaging equipment.

-After heat-sealing, the seam must be continuous and bear the imprint of the sealing bar of the packaging machine.

If the package sealing is lost, the product must be returned for repackaging. Bags may not be reused.

4.4.2. Packaging on chamberless machines (by clipping):

-Place the bag containing the product on the special tray of the machine, and put the open part of the bag on the nozzle (Fig. 3)



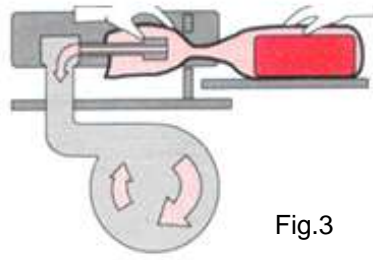


Fig.3

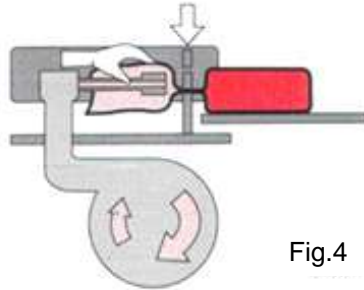


Fig.4

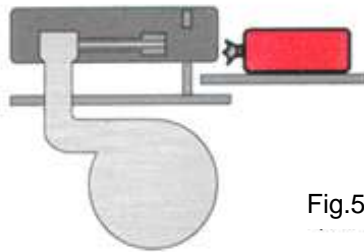


Fig.5

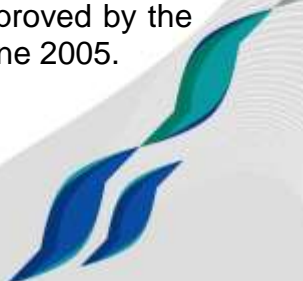
- Evacuation time is from 10 to 30 seconds, depending on the required vacuum depth. The maximum value is 0.05 bar.
 - Pressure on the clip must be not less than 5 bar, but not more than 7.5 bar. Increase or reduce the pressure by means of the reduction valve (located at the pump) to achieve the optimal pressure. The clip must not puncture or cut the bag.
 - If the clipper is provided with adjustment of the clip pressure value, select the pressure, at which the optimal fastening of the clip on the bag is achieved.
- When advice is needed regarding adjustment of the equipment or use of consumables, consult the manufacturers of the equipment or any of their representatives.
See Table 2 for recommendations on selection of the clips when using vacuum clippers on the **AMIVAC S** bags.

Recommended clip types

Table 2

Bag width	Cryovac	Technoclip
100 – 200mm	FL	H 548 T (DST)
205 – 300mm	FH	H 550 T (DST)
from 305mm up	FC	H 550 T (DST)

Note: Package soft and brine-ripened cheeses in accordance with the Process Instruction on the use of **AMIVAC** bags for production of soft and brine-ripened cheeses, approved by the Federal Consumer Rights and Human Well-Being Supervision Agency on 26 June 2005.



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.

4.6. Storage and transportation of products packaged in the AMIVAC S bags

It is recommended to put the packaged products in a cold store with a temperature not higher than 6°C, not later than 20 minutes after packaging.

5. MANUFACTURER'S GUARANTEES

5.1. The Manufacturer guarantees conformity of the **AMIVAC** 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 of the bags is 1 year from the date of manufacture, subject to compliance with these Specifications.

6. APPENDICES

There are no appendices to the present document.



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