



**ATLANTIS-PAK**

Leader In Innovative  
Packaging Solutions

# HEAT-SHRINK BAGS

# AMIVAC C

Process Operating Manual



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## 1. APPLICATION

**AMIVAC C** are high barrier heat shrink bags designed for vacuum or MAP packaging and sale of sausages, specialties, no-bone raw meat, unripened cheeses, soft and brine cheeses, and one-meal cheese sliceware.

**AMIVAC C** bags are made from a tubular multilayer film according to Specifications TU 2297-007-27147091-2000 composed of polyamide, EVOH, polyethylene and modified polyolefin duly permitted for use in the food industry. Quality of the raw materials used to manufacture the bags is confirmed by Russian and international quality certificates.

**AMIVAC C** bags comply with the requirements of the Technical Regulation of the Customs Union TR TS 005/2011 (Packaging Safety), as confirmed by the duly approved and registered declarations of conformity.

The production, use, storage and transportation of the bags present no hazard for the environment or human health.

### 1.1. Shelf life of meat products packaged in AMIVAC C bags

Table 1

Product name	Specified shelf life	References
Smoked-and-cooked pork products	40 days at a temperature from +2 °C to +6 °C	GOST R 54043-2010
Cooked pork products	40 days at a temperature from +2 °C to +6 °C	GOST 31790-2012
Cooked sausages, premium grade, 1st grade, 2nd grade	30 days for chubs; 20 days for one-meal sliceware at a temperature from 0 °C to +6 °C	GOST R 52196-2011.
Frankfurters, premium grade, 1st grade	20 days at a temperature from +0 °C to +6 °C	GOST R 52196-2011
Wieners, 1st grade	20 days at a temperature from +0 °C to +6 °C	GOST R 52196-2011
Hot dogs, premium grade	20 days at a temperature from +0 °C to +6 °C	GOST R 52196-2011
Boneless chilled beef cuts	25 days at a temperature from +0 °C to +4 °C	GOST 31797-2012
Beef products (one-meal sliceware, whole pieces): cooked, cooked-and-smoked, smoked-and-cooked, smoked-and-baked	40 days at a temperature from +2 °C to +6 °C	TU 9213-406-00419779-03

## 2. ADVANTAGES OF THE PRODUCT

2.1. **High barrier** to oxygen provides for 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 over the folds and overlaps** boosts the production speed and reduces the re-packaging rate.

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



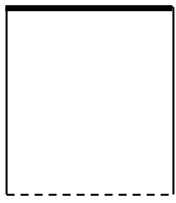
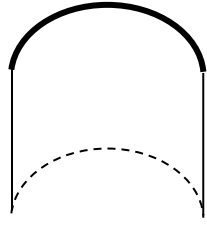
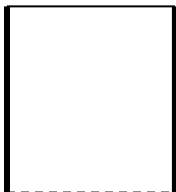
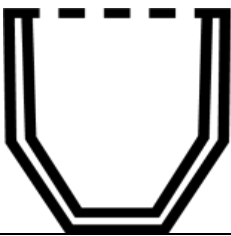
2.6. **Absence of chlorine-containing substances.** An ever increasing number of countries turn their attention to protection of the environment and utilization of packaging materials. Utilization of packaging free of chlorine containing substances is less harmful to the environment.

2.7. The AMIVAC 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, Belarus, Kazakhstan), the European Union, and the USA. This means that in case of export deliveries and the requirement for local certification, it will not be a problem to obtain the permitting health documents for the AMIVAC bags.

### 3. ASSORTMENT OF PRODUCTS

The assortment of the **Amivac C bags** is shown in Table 2

Table 2

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

\* in 10mm increments

\*\*from 300mm up when strip-pasted

**Available widths of the bags supplied in reels: 180-900mm**

**Bag colors:** clear

**Printing:** The **AMIVAC C** bags can be used for single- or double-side printing. The number of printing colors varies from 1+0 to 10+10. CMYK printing is optional.

**The bags are supplied in the following forms:**

- reels with tear-off perforation;
- reels without perforation;
- pasted on two strips (for automatic equipment);
- cut into separate bags inside transportation packs, each pack containing 100 bags.



## 4. PROCESSING OF AMIVAC C BAGS

### 4.1. Storage and transportation of bags

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

4.1.2. AMIVAC bags must be transported at a temperature not exceeding +35 °C, and protected against direct sunlight.

4.1.3. Never drop the boxes containing the 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. Leftover bags should be re-packaged 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 across 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.

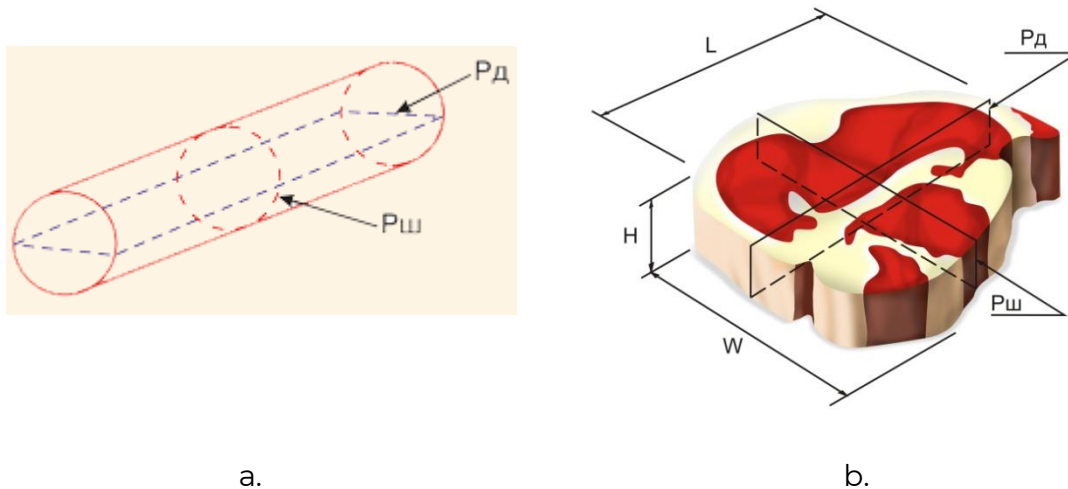


Fig. 1

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

### 4.3. Preparation for processing

It is recommended to open the packs containing the bags just before use. If any bags taken out of the transportation packing are left over, re-package them under vacuum.

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 room compliant with the requirements of the sanitary regulations and rules applicable to the food industry.

Packaging of the product shall be performed by means of special equipment (vacuum packaging machines, clippers). Adhere to the operating modes recommended by the manufacturer of the packaging equipment to ensure stability of the 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-type machines:

- Check the sealing zone. Keep the sealing zone clean. No foreign admixtures are allowable, and the protective coating of the heating element must be free of burnt-through areas.

- Bring 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.

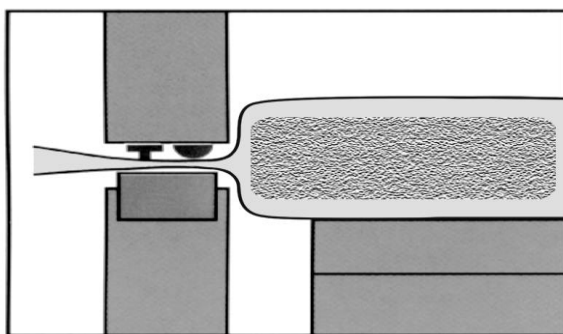


Fig. 2

-Select the vacuum depth. The vacuum depth is adjusted depending on the product to be packaged. Vacuum depth should be 95 - 98% (residual pressure about 4.9 kPa). When packaging the products with a high moisture content, the vacuum depth must be reduced (the higher the moisture content, the less the vacuum depth value).

-Select the mean sealing time. Increase or decrease the sealing time to achieve the best sealing mode as the bags are consumed (required adjustment depends on the condition of the equipment; eventual adjustment will take 5-10 minutes and 1-3 bags).

-If the bags are sealed with separate control of the strings, select such a time for the cutting string contact as to provide for free separation of the cutoff part of the bag.

-Evacuate the air and seal by closing the lid of the vacuum packaging equipment.

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

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

### 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).

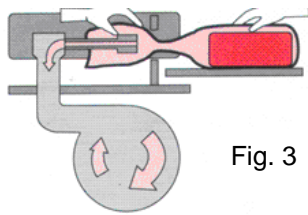


Fig. 3

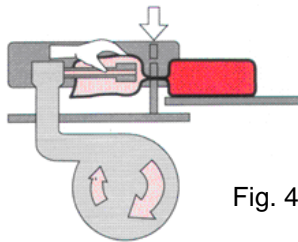


Fig. 4

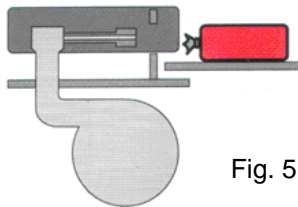


Fig. 5

- 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.

- When the pressure is adjustable on the clipper, select the pressure best suited for reliable securing of the clip on the bag.

If 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 3 for clip selection recommendations when using vacuum clippers on the AMIVAC C vacuum bags.

### Recommended clip types

Table 3

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:** soft and brine cheeses shall be packaged in accordance with the Process Instructions on the use of the Amivac bags for the production of soft and brine cheeses approved by the Federal Agency for Supervision over Protection of Consumers' Rights and Well-Being on 20.06.2005.



#### **4.5 Heat shrinking**

Heat shrinking of the bag containing the product is performed 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 shrinking.

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

It is recommended to carry out the scheduled maintenance works for washing and cleansing of the equipment.

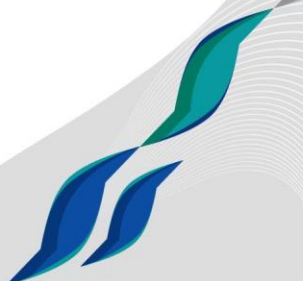
#### **4.6. Storage and transportation of products packaged in AMIVAC C bags**

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 AMIVAC bags to the Specifications, 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 to processing, subject to compliance with these Specifications.



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