



**ATLANTIS-PAK**

Leader In Innovative  
Packaging Solutions

**HEAT-SHRINK BAGS**



**AMIVAC CB**

Process Operating Manual



## 1. APPLICATION

**AMIVAC CB** heat-shrink bags are medium barrier bags designed for vacuum packaging, storage and sale of frozen or chilled poultry, sausages, short-shelf-life delicatessen, and frozen food products.

**AMIVAC CB** bags are made from tubular multilayer film according to TU 2297-007-27147091-2000 and consist of polyethylene, polyethylene terephthalate and modified polyethylene appropriately certified for use.

**AMIVAC CB** bags comply with the requirements of the Technical Regulations of the Customs Union TR TS 005/2011 'On Packaging Safety' as confirmed by the duly approved declaration of conformity.

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

## 2. PRODUCT ADVANTAGES

**2.1. Optimum oxygen barrier characteristics** ensure the required shelf life of the packaged product.

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

**2.3. Unparalleled crystal clarity and bright gloss** allow presenting of the product to the Buyer in a most attractive way.

**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.


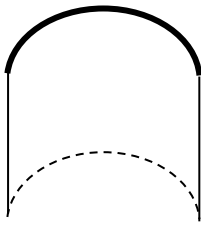
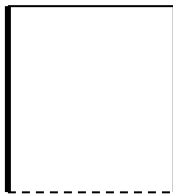
**2.6. Absence of chlorine-containing substances.** An ever increasing number of countries turn their attention to protection of the environment and utilization of packaging materials. Utilization of packaging free of chlorine containing substances is less harmful to the environment.

## 3. PRODUCT ASSORTMENT

The assortment of the Amivac CB bags is shown in Table 1



Table 1

	Seals		
	Straight	Semicircular	Lateral
Bag width	from 80 to 450 mm	from 100 to 450 mm	from 80 to 300 mm
Bag length	from 100* to 1200mm	from 100* to 1200mm	from 140 to 450mm
Appearance			
Pasting on strip	Option	Option	Option

\*from 300mm up when strip-pasted

**Bag colors:** clear, white.

**Printing:** The AMIVAC CB bags can be used for a 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:**

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

## 4. PROCESSING OF AMIVAC CB BAGS

### 4.1. Storage and transportation of bags

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

4.1.2. During the storage and transportation the cases with 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 have been stored at a temperature less than 0 °C, keep them at the room temperature for at least 24 hours before opening the manufacturer's packing.

4.1.5. The leftover bags should be re-packaged under vacuum.

## 4.2. Choosing the required package size

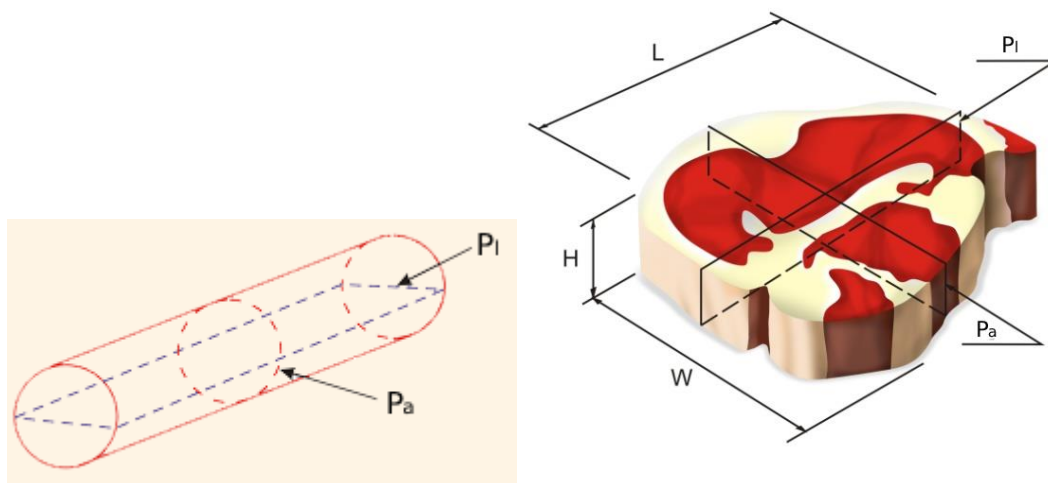
4.2.1. Choosing the required size for a package with a bottom seal and side seals

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<sub>a</sub>** is the product perimeter in the widest part;

**P<sub>i</sub>** 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:

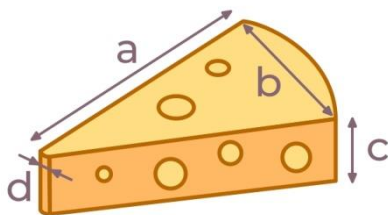
$$\text{Width} = \text{Product perimeter (in the widest part)} \times 0.55 \text{ (mm)}$$

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:

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



**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;

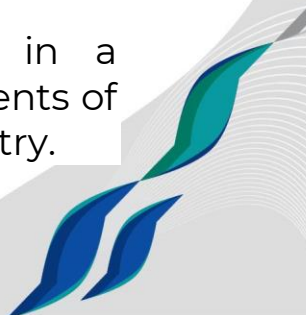
### 4.3. Preparation for processing

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 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, clippers). Adhere to 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 admixtures 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.

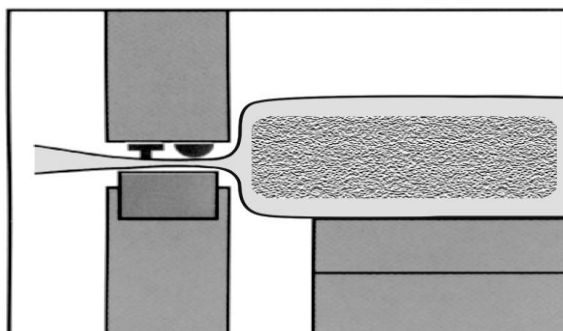


Fig.2

- Select the vacuum depth. The vacuum depth is adjusted depending on 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 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 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 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)

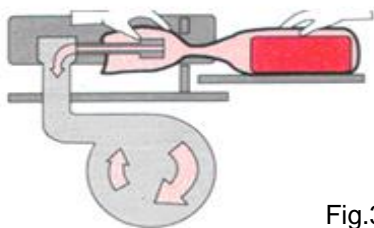


Fig.3

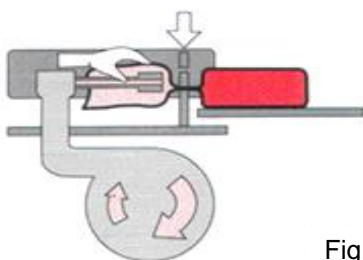


Fig.4

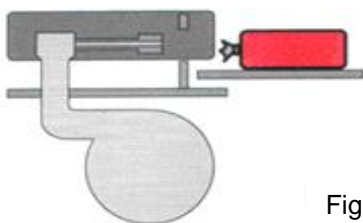


Fig.5

- 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 2 for clip selection recommendations when using vacuum clippers on the Amivac CB vacuum bags.



## Recommended clip types

Table 2

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

### 4.5. Heat-shrinking

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

Heat-shrinking is performed by immersion of the bag with the product in hot water or by sprinkling with hot water (steam treatment) at a temperature from 85 °C to 90 °C during 2-3 seconds.

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

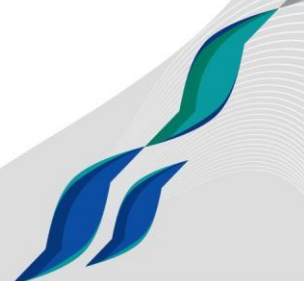
### 4.6. Storage and transportation of products packaged in AMIVAC CB bags

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.

The products to be frozen should be placed in dedicated (automatic) freezing chambers. The freezing time depends on the product type, the weight and the required product core temperature at the end of the freezing cycle.

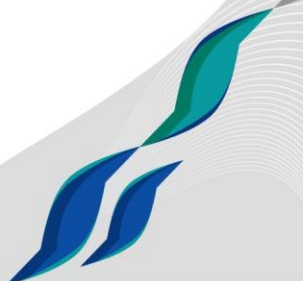
## 5. MANUFACTURER'S GUARANTEES

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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