



**ATLANTIS-PAK**

Leader In Innovative  
Packaging Solutions

**Casings** *amipak*

**AMIPAK**

Process Operating Manual



## 1. APPLICATION

The **AMIPAK** casing is designed for production of all types of frankfurters, wieners, hot dogs, and mini-sausages.

The **AMIPAK** casing is made in accordance with the Specifications TU 2290-009-27147091-2000 from blends of high-quality synthetic and natural materials.

The **AMIPAK** casing is covered by:

- the State Registration Certificate No. RU.61.PL.10.019.E.000805.11.11 of 16.11.2011 issued by the Rostov Province Office of the Russian Agency for Protection of Consumers' Rights and Human Well-Being (Rospotrebnadzor);

- Declaration of Conformity with the requirements of the Custom Union's Process Operating Manual TP TC 005/2011 'On Safety of Packaging'.

The **AMIPAK** casing is supplied straight or curved, thus providing for a wider assortment of products differing in their appearance.

The recommended shelf life is:

- 15 days for top-grade and first-grade frankfurters, first-grade wieners and top-grade hot dogs packaged in the **AMIPAK** casing according to GOST R 52196-2011, at the storage temperature from 0 °C to +6 °C and air relative humidity not higher than 75%.

## 2. PROPERTIES AND ADVANTAGES OF THE AMIPAK CASING

### 2.1. Specifications of the casing

2.1.1. The **AMIPAK** casing is made on advanced equipment, which ensures:

- continuous control of all parameters;
- maximum automation of the production process

2.1.2. The basic quality characteristics and test conditions for the **AMIPAK** casing of all types are detailed in the specifications.

### 2.2. Advantages of the casing

**2.2.1.** The **high mechanical strength** of the **AMIPAK** casing makes it possible to mold chubs not only by manual tying, but also by using various types of equipment to achieve a high rate of production and overfilling relative to the nominal caliber. The caliber consistency in the **AMIPAK** casings provides for stable filling on frankfurter lines and stuffer linkers.

**2.2.2. High barrier properties.** The oxygen and water vapor transmission rate of the **AMIPAK** casing is much lower than that of collagen and cellulose casings, which provides for the following advantages:

- minimum losses during the thermal processing (0 - 1.5%) and storage of frankfurters and wieners;
- excellent selling appearance of the finished products (no wrinkles) throughout the shelf life.

**2.2.3** The **high heat resistance** of the polymers used to make the **AMIPAK** casings significantly extends the utilization temperature range of the casing in comparison with collagen and cellulose casings. The casing is stable at high temperatures.

**2.2.4. Microbiological resistance.** The polymers used for production of the **AMIPAK** casings are impervious to bacteria and mold fungi. This improves the hygienic characteristics of both the casing itself, and the finished products.

### 3. ASSORTMENT OF PRODUCTS

**AMIPAK type A** has a closed end in the shirred stick; the casing is designed for use on automatic equipment;

**AMIPAK LS type A** is an easy-peel casing for manual removal off the product; the casing has a closed end in the shirred stick and is designed for use on automatic equipment;

**AMIPAK LSI type A** intended for precise-weight products is an easy-peel casing for manual removal off the product; the casing has a closed end in the shirred stick and is designed for use on automatic equipment;

**AMIPAK E type A** is an economy version of the casing with a closed end of the shirred stick, designed for use on automatic equipment;

**AMIPAK F type A** intended for fermented frankfurters is a casing with a closed end in the shirred stick and is designed for use on automatic equipment;

**AMIPAK DF type A** is a high-elasticity casing with a closed end in the shirred stick and is designed for use on automatic equipment without pre-soaking;

**AMIPAK type R** has an open end in the shirred stick and is designed for manual tying and use on stuffer linkers;

**AMIPAK LS type R** is an easy-peel casing for manual removal off the product; the casing is designed for manual tying and use on stuffer linkers;



**AMIPAK LSI type R** intended for precise-weight exact-caliber products (no re-stuffing is needed) is an easy-peel casing for manual removal off the product , manual tying and use on stuffer linkers;

**AMIPAK E type R** is an economy version of the casing with an open end in the shirred stick; the casing is designed for manual tying and use on stuffer linkers;

**AMIPAK F type R** intended for fermented frankfurters is a casing with an open end in the shirred stick and is designed for manual tying and use on stuffer linkers;

**AMIPAK DF type R** is a high-elasticity casing with a closed end in the shirred stick and is designed for manual tying and use on stuffer linkers without pre-soaking;

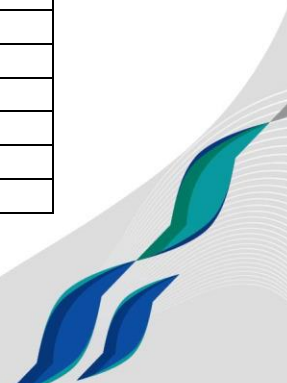
**AMIPAK type Ako** is a curved casing with a closed end in the shirred stick, designed for use on automatic equipment;

**AMIPAK type Rko** is a curved casing with an open end in the shirred stick, designed for manual tying and use on stuffer linkers;

The **AMIPAK** casings are supplied shirred.

Table 2

Caliber, mm	Casing type	Shirring type	Length of casing in a stick, m
15	A/R	tight	25.0
16	A/R	tight	25.0
17	A/R	tight	25.0
18	A/R	tight	25.0
19	A/R	tight	25.0
20	A/R	tight	25.0
21	A/R	tight	25.0
22	A/R	tight	33.3
24	A/R	tight	33.3 (40.0)
26	A/R	tight	33.3
27	A/R	tight	33.3
28	A/R	tight	33.3
29	A/R	tight	33.3
30	A/R	tight	33.3
31	A/R	tight	33.3
32	A	tight	33.3
34	A	tight	33.3
32	R	loose	30.0
34	R	loose	50.0 (30.0)
38	R	loose	50.0 (30.0)
22	Ako/Rko	tight	25.0
24	Ako/Rko	tight	25.0
32	Rko	loose	30.0
34	Rko	loose	30.0
38	Rko	loose	30.0
<b>AMIPAK E casing</b>			
22	A/R	tight	33.3



24	A/R	tight	33.3 (40.0)
32	A	tight	33.3
34	R	loose	50.0 (30.0)
<b>AMIPAK DF</b> casing			
22	A/R	tight	33.3
24	A/R	tight	33.3 (40.0)
26	A/R	tight	33.3
32	A	tight	33.3
32	R	loose	30.0

Colors of the **AMIPAK** casing: see the Catalogue of Colors.

The casing can be printed on. The number of print colors varies from 1 to 6. CMYK printing is optional.

Printing: the curved casings can be used only for:

- single-side printing with 'face register';
- double-side printing without register (i.e. when the artwork is background printing).

The AMIPAK E casing is supplied with marking only;

Special orders can be accepted:

- shirring option: bespoke length of the stick or casing.

## 4. HOW TO USE THE CASING

### 4.1. Storage and transportation of the casing

4.1.1. The casing must be stored in the original packing in closed dry and clean rooms compliant with the sanitary-hygienic standards for the meat processing industry, at a distance of no less than 800mm from any heaters, in the absence of strong-smelling or corrosive substances, at the temperature from +5 °C to +35 °C and the relative humidity not more than 80%.

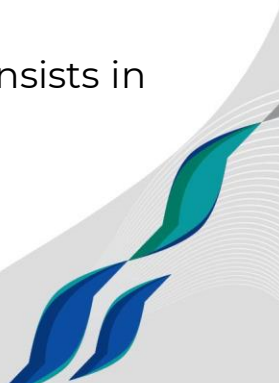
4.1.2. The **AMIPAK** casing must be transported at a temperature not exceeding +40 °C, and protected from exposure to direct sunlight.

4.1.3. If the casing was transported or stored at a temperature from -5 °C to +5 °C, hold it at room temperature for no less than 24 hours before opening the packing for processing.

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

### 4.2. Preparation of the casing for processing

Preparation of the **AMIPAK** casing for processing consists in the following:



Bring the original packing to the production shop from the store, put it on a dry surface (floor, table), then open the manufacturer's packing immediately before processing of the casing.

The **AMIPAK (types A, Ako), AMIPAK LS type A, AMIPAK LSI type A, AMIPAK E type A** and **AMIPAK F type A** casings need no preliminary preparation before stuffing on frankfurter lines.

When the **AMIPAK (types R, Rko), AMIPAK LS type R, AMIPAK E type R** and **AMIPAK F type R** casings are used on stuffer linkers, the casing must be pre-soaked in potable water (SanPiN 2.1.4.559-96) at the temperature of 25-30 °C during 30-60 minutes. Never soak the casing in hot water, otherwise the casing may shrink during the soaking.

No pre-soaking is needed for processing of the **AMIPAK DF (types A, R, Ako, Rko)** casing.

Take care to keep the shirred stick fully submerged underwater. Water must freely penetrate inside the stick, driving out the air.

After soaking, remove the residual water from the tube, and put the casing over the stuffer horn.

Do not soak more casing than is required. If too much casing was soaked, take the leftover casing out, drain the excess water, and leave until the eventual processing in a cold room (shop) away from any sources of heat or air drafts. Prior to reuse of the casing, wet it by dipping before stuffing.

If these requirements are observed, the casing will acquire a high elasticity, which significantly facilitates the stuffing process, and provides for uniform filling.

### 4.3. Forcemeat composition

For production of frankfurters and wieners in the **AMIPAK** casing according to GOST R 52196-2003 or other regulatory documents (specifications), the quantity of the moisture added to the emulsion should be, on the average, 5-10% less in comparison with the recipes for natural, collagen, or viscose-reinforced casings.

When new recipes are developed according to the standard documentation (specifications), the amount of the added water should be determined with regard to the moisture-retaining properties of the gelling agents used (such as carrageenans,





plant or animal proteins, etc.), and the relevant instructions on use must be followed to avoid formation of water and fat pockets.

#### 4.4. Forming of products

Forming of the **AMIPAK** casing starts with inspection of the equipment and of the work table.

Make sure there are no burrs on the equipment parts, or sharp objects, indentations, or rough places on the working surface of the table, in order to avoid damage to the casing.

Never prick (puncture) the casing of frankfurters and wieners. The casing will burst, if punctured.

Observe the direction of stuffing - the shirred sticks must be put onto the horn with the 'herring-bone' inward, i.e. with the 'herring-bone' apex toward the stuffer.

The rate of stuffing of the **AMIPAK** casing on linkers should be selected with regard to the technical condition of the equipment.

During the forming of products, bear in mind that the packing label shows not the nominal caliber of the **AMIPAK** casing, but the minimal stuffed caliber. The nominal caliber is not specified.

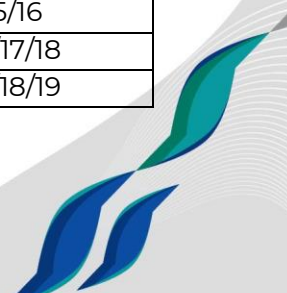
The **AMIPAK LCH (type A, type R)** casing should be stuffed exactly to the nominal caliber, without overfilling.

The **AMIPAK DF (type A, type R)** casings should be overfilled by 10% above the nominal caliber.

The ultimate caliber depends on many factors, such as the temperature, the meat texture, and the condition of the stuffing equipment. The lower is the meat temperature, the less is the stuffed caliber. In this particular case, it is recommended to reduce the stuffing rate by 10-20%. In practice, the **AMIPAK** stuffed caliber will be determined on the production site, and may change depending on the product type and the equipment used.

Table 3

Casing caliber, mm	Type	Recommended stuffed caliber, mm,	Recommended horn diameter, mm	Recommended chuck number
15	A, R	16.0 - 16.5	8	15/16
16	A, R	17.0 - 17.5	8	16/17/18
17	A, R	18.0 - 18.5	8	17/18/19



18	A, R	19.0 - 19.5	8	18/19
19	A, R	20.0 - 20.5	10	19/20
20	A, R	21.0 - 21.5	10	20/21
21	A, R	22.0 - 22.5	10	20/21/22
22	A, R, Ako, Rko	23.0 - 23.5	11-12	21/22/23
24	A, R, Ako, Rko	25.0 - 25.5	11-12	22/23/24
26	A, R	27.0 - 27.5	11-12	25/26
27	A, R	28.0 - 28.5	11-12	25/26/27
28	A, R	29.0 - 29.5	12 -14	26/27/28
29	A, R	30.0 - 30.5	12 - 14	29
30	A, R	31.0 -31.5	12 - 14	29
31	A, R	32.0 - 32.5	14 -16	29
32	A	33.0 - 33.5	17	29
34	A	35.0 - 36.5	17	29
32	R	33.0 - 33.5	16-18	29
34	R, Rko	35.0 - 36.0	16-18	29
38	R, Rko	39.0 – 40.0	16-18	29
32	Rko	33,0 - 33,5	16-18	29

The production rate and the overfilling ratio of the **AMIPAK** casing on the frankfurter and wiener equipment should be selected with regard to the technical condition of the equipment. The required forming parameters are achieved by adjustment of the forming equipment in accordance with its technical characteristics.

Compliance with the recommended stuffed caliber ensures a good look of the finished products, increases the stuffing capacity, and reduces the risk of water and fat pockets and ruptures of the casing.

#### 4.5. Thermal processing

Thermal processing of products in the **AMIPAK** casing is made in shaft-type stationary chambers or in universal heat chambers.

Manufacturers should choose their individual heat treatment conditions, because the capacity of the equipment (shaft-type stationary chambers or universal heat chambers) is all-important in this process.

Thermal processing of products in the **AMIPAK** casing consists in cooking and cooling. The technological process stages of drying and roasting can be dispensed with.

For the **AMIPAK** casing, it is recommended to use either staged cooking, or delta cooking (if the equipment is adequate





for that). In either case, cooking should start at a temperature of not more than 50-55 °C to trigger the coloring reactions. Higher starting temperatures may cause separation of the stuffing emulsion and color defects (grey rings).

Staged cooking consists in step-by-step raising of the temperature in the heat chamber as the product core temperature is reaching the temperature of the heating medium. The first stages consist in heating at moderate temperatures (55, 65, 75 °C) to ensure a slow coagulation of the proteins and redistribution of the temperature throughout the product volume. The last stage is bringing of the product to consumption readiness (72 °C in the chub core).

Example of thermal processing conditions for the caliber 24 **AMIPAK** casing:

- 55 °C in a heat chamber at 100% humidity, 10 minutes;
- 65 °C in a heat chamber at 100% humidity, 15 minutes;
- 75 °C in a heat chamber at 100% humidity, 15 minutes;
- 80 °C in a heat chamber at 100% humidity, until 72 °C in the chub core is reached.

#### 4.6. Cooling

Upon completion of the thermal processing, the products in the **AMIPAK** casing must be immediately cooled. Cooling can be carried out under running water or shower, or by means of time-delayed sprinklers, until the chub core temperature is down to 25 - 35 °C.

Avoid any cold air cooling. Exclude any exposure of the finished products to air draughts until completely cooled, because this may cause wrinkles on the surface.

The **AMIPAK LC type A**, **AMIPAK LCH type A**, **AMIPAK LC type R** and **AMIPAK LCH type R** casings can be removed manually after cooling, or directly at the production site or in selling outlets.

#### 4.7. Transportation and storage of products

Transportation and storage of products made with the use of the **AMIPAK** casing shall be in accordance with the relevant regulatory documents (GOST, Specifications).

Secondary packaging may be used for small-caliber products (15.0 – 17.0mm) to preserve the product appearance.



## **5. MANUFACTURER'S GUARANTEES**

5.1 The Manufacturer guarantees conformity of the casing with the requirements of the Specifications subject to compliance with the required conditions of transportation and storage at the user's warehouse.

5.2 The guarantee term of storage of the casing is 3 years from manufacture, subject to integrity of the manufacturer's packing.



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