

## PRODUCT SPECIFICATION NK/ 14 /2014

Previous version: NK/14/2013

### 1. Product name:

Trade name: Polyamide casings STANDARD Ż  
 Chemical name: Polyamide 6  
 CN number: 3920 92 00

**Product description:** Polyamide casings STANDARD Ż - is trade name of mono-layer, non-oriented, artificial casings made of polyamide 6. Typical advantages: good barrier properties, especially against oxygen, air and aromas, low water vapour permeability, good mechanical strength and heat resistance. They are used as packaging for sausages boiled and cooked. They can be used instead of protein and natural casings. They require soaking before filling (except for filling raw meat and cream cheese).

Polyamide castings STANDARD Ż are offered in the following colours: colourless, white, yellow, red, orange, beige, silver, gold, green, blue, brown, black, smoky (light brown, red, yellow, green) and others. It is the possibility to product the casing in a colour agreed between the customer and producer.

The casings may be filled with the manual or automatic stuffers. Before filled casing can be shirred, clipped and printed using flexographic or flexograviure technique.

Manufacturing of Polyamide casings STANDARD Ż comply with Food safety management systems HACCP acc. to ISO 22000:2005.

Product is not classified as dangerous.

Polyamide castings STANDARD Ż colourless and coloured confirm to requirements of the global and specific migration limits for  $\epsilon$ -caprolactam below SML(T) = 15 mg/kg

### 2. Quality parameters and test methods:

Table 1.

No.	Parameter	Unit	Value or determination	Testing Method
1	Dimensions	mm	According to the table 2 and 3 or agreed between the customer and the producer	ZN-09/ZA-7, p.3.5.1.
2	Appearance	-	Casing surface is smooth without overlaps, the following are allowed: presence of point inclusions, lines along the sleeve, slight folding surface. The reels on the roller should be arranged evenly in the limits permitting the sleeve width deviation according to the table 2 and 3. The roller frontal surface should be flat. Longitudinal callosities with the height of max 3 mm are allowed.	ZN-09/ZA-7, p.3.5.2.
3	Colour (for coloured casings)	according to the grey scale	Not less than 3-rd stage in 5-stages grey scale compared to the standard.	ZN-09/ZA-7 p.3.5.3.
4	Content of $\epsilon$ -caprolactam	%	below 0,5	ZN-09/ZA-7, p.3.5.4.

The parameters mentioned in Table 1: item 1, 2, 3 are carried out for every batch of polyamide casings. The test acc. to item 4 is carried out for random, periodical control.

*The product is manufactured in accordance with the Management Systems ISO 9001, ISO 14001, PN-N 18001, OHSAS 18001*

Table 2. Dimensions of Polyamide casings Standard „Ż” - basic offer:

Requirements			Information data	
Nominal thickness: <b>0,06 mm</b> , (60 microns) Tolerance: 0,060-0,070 mm				
Polyamide casings dimensions (mm)				
Nominal diameter	Folded casing width	Permissible casing width tolerance	Casing weight kg/1000m, ±10%	Recommended diameter after filling in mm, max.
φ 40	63	± 1,5	9,2	41
φ 43	68	± 1,5	9,9	44
φ 45	71	± 1,5	10,4	46
φ 50	79	± 1,5	11,5	52
φ 55	86	± 1,5	12,7	57
φ 60	94	± 1,5	13,8	62
φ 65	102	± 1,5	15,0	67
φ 70	110	± 2	16,1	72
φ 73	115	± 2	16,8	75
φ 75	118	± 2	17,3	77
φ 80	126	± 2	18,4	82
φ 85	133	± 2	19,6	87
φ 90	141	± 2	20,7	92
φ 95	149	± 2	21,9	98
φ 100	157	± 2	23,1	103
φ 110	173	± 2	25,4	113
φ 115	181	± 2	26,5	118
φ 120	188	± 3	27,7	123
φ 127	199	± 3	29,3	130
φ 130	204	± 3	30,0	133
φ 140	220	± 3	32,3	143
φ 150	236	± 3	34,6	153
φ 160	251	± 3	36,9	163
φ 170	267	± 3	39,2	173
φ 180	283	± 3	41,5	183
φ 190	298	± 3	43,8	193

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**Table 3. Dimensions of Polyamide casings Standard „Ź”- small diameters**

<b>Requirements</b>			<b>Information data</b>
Nominal thickness: <b>0,05 mm</b> , (50 microns) Tolerance: 0,050-0,060 mm			
<b>Polyamide casings dimensions (mm)</b>			
Nominal diameter	Folded casing width	Permissible casing width tolerance	Casing weight kg/1000m, $\pm 10\%$
$\phi$ 20	31	$\pm 1$	3,9
$\phi$ 21	33	$\pm 1$	4,1
$\phi$ 22	34,5	$\pm 1$	4,3
$\phi$ 23	36	$\pm 1$	4,5
$\phi$ 24	37,5	$\pm 1$	4,7
$\phi$ 25	39	$\pm 1$	4,9
$\phi$ 26	41	$\pm 1$	5,1
$\phi$ 28	44	$\pm 1$	5,5
$\phi$ 30	47	$\pm 1$	5,8
$\phi$ 32	50	$\pm 1,5$	6,2
$\phi$ 34	53	$\pm 1,5$	6,6
$\phi$ 35	55	$\pm 1,5$	6,8
$\phi$ 36	56,5	$\pm 1,5$	7,0
$\phi$ 38	60	$\pm 1,5$	7,4

Other dimensions: diameter and thickness may be produced if agreed between the customer and the producer

### 3. Packaging:

The casing rollers are packed into polyethylene bags. The packing contains 1- 4 casing rolls, dependent on the outside casing diameter protected by overlap. In case of the casings with small diameters with the diameter up to 25 mm the packing contains 10 rolls protected by overlap. Casings packed into bags can be formed into load units in 3 - 6 layers on pallet wrapped with stretch film.

Each roller contains 500 + 5 m or if to be agreed between the producer and the customer 750 + 5 m or 1000 + 10 m. Casings are rolled on paper or plastic muff with the inside diameter of 76 mm (3 inches).

The end of the casing possesses the leaden seal of the producer and is protected against unrolling by adhesive tape. Other packing may be used if agreed.

#### Marking

Each packing there is equipped with label containing at least, the following information:

- name, address and telephone number of the producer,
- Product Specification number,
- product name, dimensions and colour code,
- lot number,
- net and gross weight of casing roll and transportation packing,
- length of the casing in the roll in metres and total amount of casing metres in the transportation packing,

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#### 4. Transport:

Polyamide Casings Standard Ż are not dangerous products according to RID/ADR/IMDGH regulations. They should be transported with covered means of transport according to the applicable regulations in the road and railway transport.

They should be transported in covered packing placed in 3-6 layers in bulk or on pallets wrapped with stretch film. The transport conditions have to exclude damage, humidity and contamination of the product.

#### 5. Storage:

The casings packed as in item 3 should be kept in closed transportation packing in dry and clean rooms at the room temperature in 3 - 6 packing layers placed in bulk or on pallets in dry and clean rooms at the room temperature at the distance not less than 1 m from operating heating devices. The casings can also be stored outside of buildings provided that they are protected against direct sunlight.

The piling of pallets is allowed: 2.

#### 6. Warranty:

The producer guarantees the compliance with the requirements within the period of 6 months from the shipment date under the condition the customer fulfils requirements according to item 4 and 5.

#### 7. Document confirming quality of the product:

If the customer contract provides otherwise, each lot of product that is the subject of the Product Specifications, accompanied by a quality certificate indicating compliance with the requirements of the quality parameters of the Product Specification

#### 8. Application:

##### a) Packaging of meat products

Polyamide Casings Standard Ż are intended to use especially in the meat and fish industry, packing meat products, raw meat, pates, pastes, offal products, fish, etc. and other foods with low water content such as cheese, nuts, jams and marmalades. Examples of sausage casings packed in polyamide casings: boiled sausage, ham, meat poultry, raw minced meat, liver sausage, pate, headcheese, lard, stew, tripe in broth, black pudding, jellied meat, sliced products directly after heat treatment.

The casings may be filled with the manual or automatic stuffers.

When filling does not overfill the nominal diameter of the casing above, according to table 2 and 3, in order to avoid the risk of rupture or bulge in the casing.

Before filling the casings should be soaked in water at 40 ° C for about 0.5 hours. Do not soak the whole roller casings, only unwound from the roll.

Packaged products may be heat-treated at a temperature typical for the packaged product. For cooked products processing temperature may be about 75-85° C and 80-90° C for the boiled products.

The storage time of the packaged product depends on the type of product, its stability, and storage conditions.

Polyamide Casings Standard Ż ensure good microbial protection of packaged meat products over a period of 10 to 21 days, depending on the type of product and the storage temperature.

##### b) packaging in the medical appliance

Polyamide Casings Standard Ż may also be used in medicine appliance, for example:

- The packaging of surgical instruments during sterilization (sterilization temperature 125 ° C),
- In the manufacture of prosthetic dentistry.

##### c) Packaging for technical packaging

Polyamide casings are used as packaging resins, adhesives, fragrances ankles, bitumen, etc.

#### 9. Certificates:

Polyamide casings Standard Ż possess certificates of Polish Hygiene Institute in Warsaw concerning direct contact with food.

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