

## QUALITY STANDARDS

### I. Parameters of the packagings produced at ADAMS

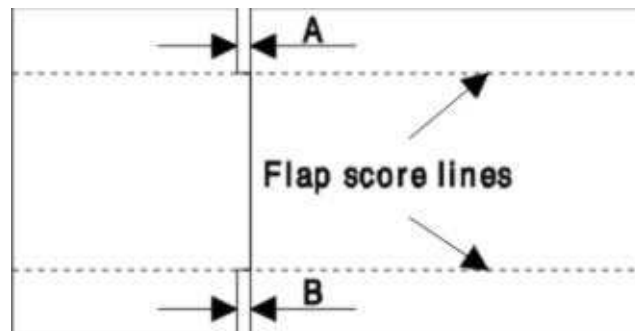
#### 1. Dimensional deviation

Inconsistency of the internal dimensions to the dimensions indicated in the technological card of the Packaging	<ul style="list-style-type: none"> <li>- do 100 mm - <math>\pm 1</math> mm</li> <li>- od 100 do 379 mm - <math>\pm 2</math> mm</li> <li>- od 380 do 570 mm - <math>\pm 3</math> mm</li> <li>- od 571 do 759 mm - <math>\pm 4</math> mm</li> <li>- od 760 do 1140 mm - <math>\pm 5</math> mm</li> </ul>
---	--

#### 2. Deviation of the gap width at the glue joint:

Cardboard, Corrugation	B	C	E	B/C
Allowed defectiveness level in a shipment	3%	3%	3%	3%
Maximum deviation between individual boxes. Mean value of dimensions A and B measured at the score lines	$\pm 4$ mm	$\pm 4,0$ mm	$\pm 2,0$ mm	$\pm 4,5$ mm

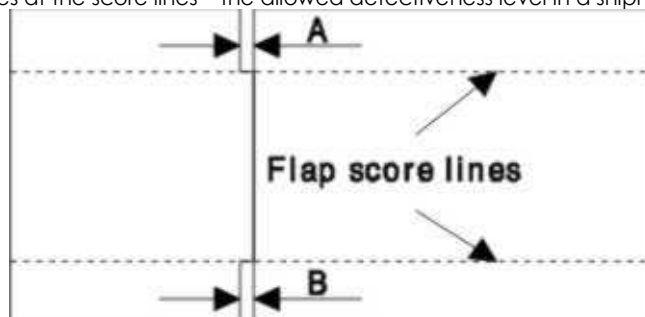
Measured in individual boxes – the allowed defectiveness level in a shipment: 3%.



#### 3. Fishtail (max. difference between dimensions A and B):

Box height	B, C, E	B/C
up to 400 mm	$\pm 4,0$ mm	$\pm 4,5$ mm
over 400 mm	$\pm 5,0$ mm	$\pm 5,5$ mm

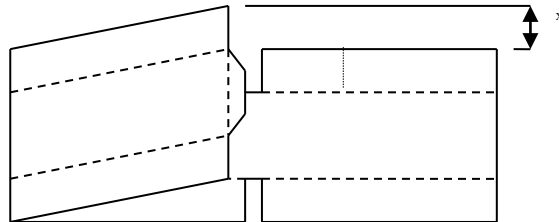
Measured in individual boxes at the score lines – the allowed defectiveness level in a shipment: 3%.



#### 4. Parallelism of glue joints

Offsetting of parallelism of glue joints of the packaging in relation to any two opposite but linking parts	$X < -/+ 3 \text{ mm}$
---	------------------------

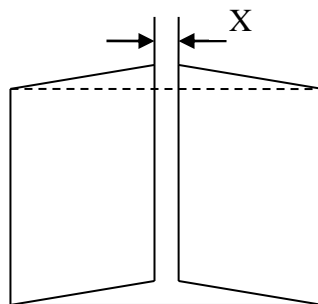
Measured in individual boxes – the allowed defectiveness level in a shipment: 3%.



#### 5. Gap between the flaps

The gap which remains after closing the outside flaps in flap Packagings	$X < 4 \text{ mm}$ for Corrugation B, C, E $X < 6 \text{ mm}$ for Corrugation BC, BE
--	---

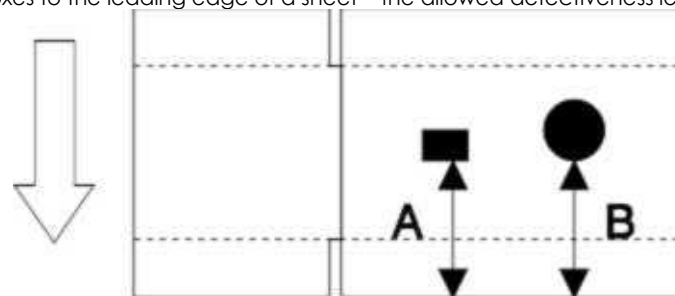
Measured in individual boxes – the allowed defectiveness level in a shipment: 3%.



#### 6. Adjustment of the overprints to one another

Maximum adjustment deviation between colours A-B - $\pm 2,5 \text{ mm}$
---

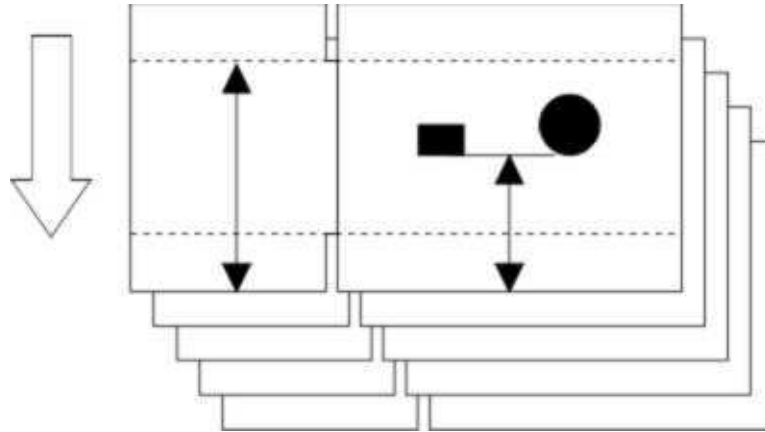
Measured in individual boxes to the leading edge of a sheet – the allowed defectiveness level in a shipment: 3%.



#### 7. Adjustment of the overprints

Overprint adjustment tolerance in relation to the leading edge - $\pm 3,5 \text{ mm}$
---

Measured in individual boxes to the leading edge of a sheet – the allowed defectiveness level in a shipment: 3%.



### 8. Colour deviation from the standard

Maximum deviation of a colour from the standard approved by the customer:  
 Flexographic, digital printing -  $\Delta \leq 4$  (measured with a spectrophotometer)  
 Offset printing - in accordance with ISO 12647-2

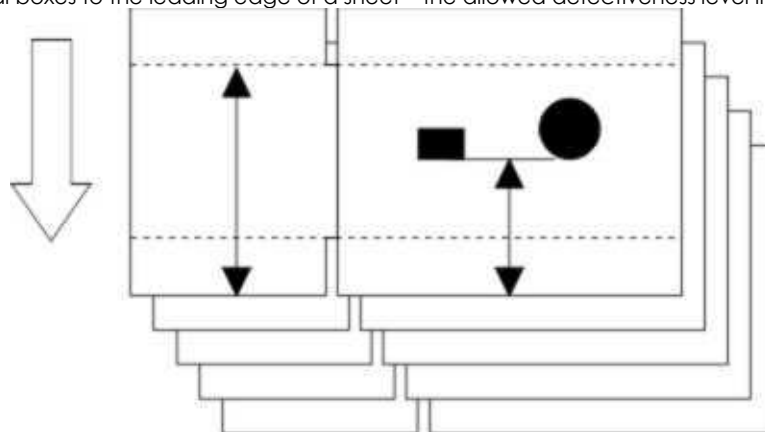
### 9. Flexographic printing

Characteristic feature of flexographic printing on corrugated board is its abrasiveness. It is possible to reduce abrasion by using varnish and by using coated papers along with varnishing after printing. However, complete elimination of abrasion with flexographic printing is not possible.

### 10. Adjustment of cutouts

Rotary cutout adjustment tolerance in relation to the leading edge -  $\pm 2,0$  mm

Measured in individual boxes to the leading edge of a sheet – the allowed defectiveness level in a shipment: 3%.

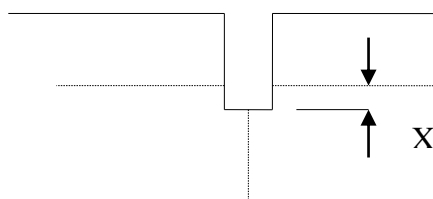


### 11. Slot depth

Depth of slotter knives penetration into the cardboard during production of flap packagings, measured from the bend

$X < + 3$  mm for corrugation E;  
 $X < + 6$  mm for corrugations B and C  
 $X < + 10$  mm for corrugations BC and BE

Measured in individual boxes – the allowed defectiveness level in a shipment: 3%.



### 12. Slotter discard

Dimension of the discard (cutting) from slotter knife operation:	8 mm ± 1,5 mm
--	---------------



### 13. Cutting

Due to the specific nature of the raw material used, internal creasing of the paper along the creasing line is permissible. The main influences on cracking and its intensity are: the height of the applied wave and the moisture content of the raw material (within the allowable tolerance). Lowering the humidity of the product during storage or confectioning will cause an increase in cracking. The producer of the packaging, after clear information from the customer, may undertake actions minimizing the cracking, however he does not bear responsibility on this account.

### 14. Packaging with everlasting adhesive application (e.g. e-commerce packaging)

In order to close the packaging quickly, the so-called "everlasting" adhesive is applied, a surface adhesive that does not penetrate the structure of the cardboard/paper. Therefore, in autumn and winter, when the ambient temperature drops and there are variable atmospheric conditions throughout the logistics chain, the bonding time of the adhesive after sealing is extended. The setting time is highly individual and depends on, among other things, the prevailing conditions in the storage and production halls, external conditions, the construction of the packaging, the filling of the packaging and the cardboard used. During this period, it is advisable to prolong the bonding time (pressing the glued panels together) so that the adhesive has the opportunity to bond effectively with the cardboard surface.

### 15. Glued flap

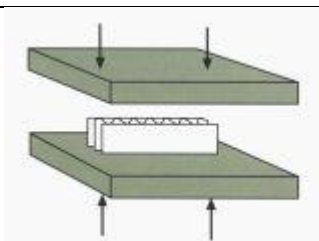
The minimum dimension of the glued flap shall be 25 mm

### 16. Basis weight of raw material

The basis weight [gsm] of raw material may differ from that indicated in the quotation by ± 5% (expressed in g/m<sup>2</sup>)

### 17. Resistance to edge crushing [ECT]

The resistance to edge crushing may differ from that indicated in the quotation by ± 10% (expressed in N/m)



### 18. Moisture content of the packagings

The moisture content of packagings delivered to the customer shall remain within 6–9%.

### 19. Quantitative deviation from the order for deliveries of one type of packaging

up to 5000 pcs - ± 10%  
5001 pcs – 10000 pcs - ± 7%  
more than 10000 pcs - ± 5%

### 20. Packing

Packagings are normally stacked on EURO type returnable pallets of dimensions 1200\*800 up to the height of 2 m, bound with PP tape and protected with stretch type film. Different individual packing methods, agreed with the customer, are permitted.

### 21. Labelling

A packed pallet with Packagings is provided with a pallet label containing the following information: - Customer name, - Packaging code (+ barcode) and Packaging name, - Supplier's order number, - Customer's order number (+barcode) - pallet number, date of production, work shift number and operator's login, - quantity on the pallet (+barcode), - Customer's code of the Packaging (+ barcode).

Number and location of the labels: 1 pce at the short side of the pallet or as agreed otherwise with the Customer.

### 22. Storage

Packaging can be stored without loss of use value:

- for unprinted packaging up to 12m-months,

- in case of printed packaging up to 6 months (due to the paint used)

counting from the date of production, provided that they are stored under the conditions specified below.

Packaging should be stored in well-ventilated warehouses in temperature from 5 to 30°C and humidity from 30 to 70%. The daily/weekly fluctuations of temperature and humidity should be minimized.

Packaging should be stored: 1) on a pallet or a platform on a clean and dry surface; 2) protected against precipitation and sun light; 3) protected against dust; 4) in a condition that it was delivered – after using some of the packaging from a pallet, wrap the pallet back in foil and put back the straps; 5) avoid stacking pallets one on another; 6) keep all the identification documents until all the packaging from a batch have been used.

### 23. Hazards

Flammable product

### 24. Instruction fo use

Packaging can be in indirect contact with food(functional barrier required).

### 25. Production place

Packaging is produced in:

A. 62-081 Baranowo, ul. Nowina 20, and

B. 62-080 Sady, ul. Za motelem 2

### 26. Legal articles\*

- Ustawa o gospodarce opakowaniami i odpadami opakowaniowymi z dnia 13 czerwca 2013 roku (Dz. U. Nr 2013, poz. 888 z późn. zm.);
- Ustawa z dnia 12 grudnia 2003r o ogólnym bezpieczeństwie produktów(Dz. U. Nr 229 poz.

2275 z późn. zm.);

- Ustawa z dnia 25 sierpnia 2006 r. o bezpieczeństwie żywności i żywienia
- Rozporządzenie (WE) Nr 2023/2006 Komisji z dnia 22 grudnia 2006r. w sprawie dobrej praktyki produkcyjnej w odniesieniu do materiałów i wyrobów przeznaczonych do kontaktu z żywnością.
- Rozporządzeniu (WE) nr 1907/2006 Parlamentu Europejskiego i Rady Europy z 18 grudnia 2006 o rejestracji, ocenie, udzielaniu zezwoleń i stosowanych ograniczeń w zakresie chemikaliów.
- Rozporządzenie ( WE) Nr 1935 /2004 Parlamentu Europejskiego i Rady z dnia 27 października 2004r. w sprawie materiałów i wyrobów przeznaczonych do kontaktu z żywnością oraz uchylające dyrektywy 80/590/EWG i 89/109/EWG.

The articles above apply if the conditions of usage are normal and rationally predictable.

\* in case of digitally printed packaging, only the requirements of the Packaging and Packaging Waste Management Act of 13 June 2013 (Journal of Laws No. 2013, item 888, as amended) and Regulation (EC) No. 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals

## **27. Palletization of packagings with products at Customer's plant**

The method of packing of readymade products, palletization and storage at Customer's plant shall be agreed with the Supplier to make it compliant with the quality parameters of the packagings from the quotation.

**Developed and approved: Jacek Głowacki**  
**Quality Department Manager**