

**emballator**

# **Technical Guideline**

Emballator Lagan AB

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## Introduction

The technical guideline embraces products delivered from Emballator Lagan AB, hereinafter ELAB. It comprises recommendations of usage and handling to avoid damage or contamination of the products.

For information about delivery terms ELAB refers to General Delivery Terms for The Plastic Industry Adopted by the Swedish Plastics Industry Association (SPIF) and The Innovation and Chemical industries in Sweden (IKEM).

This document will be revised twice a year (1<sup>st</sup> of January and 1<sup>st</sup> of July) or on specific demand, then we will communicate this to all customers.

## The Company

ELAB is developing and producing pails and pots in plastic, mainly for the food and chemical industry. ELAB is a part of the Emballator Group, which has one of the widest ranges of packaging solutions in the Nordic countries. Two production facilities supply the customers, one based in Ljungby and another in Vittsjö, both in the middle of southern Sweden. Both of ELABs production sites are certified in accordance with ISO 9001, 14001 and 22000.

High quality and customer driven solutions are permeating the company. ELAB is cooperating with suppliers and customer to achieve new innovative solutions and improve existing ones. Commitment, quality, environment, safety, service and availability along with cost optimization are strong guiding principles.

## 1. Material information

The products offered by ELAB is mostly made of polypropylene (PP). A material that can be reused several times and can be incinerated without leaving toxic residue. Naturally, it is also approved for food packaging. Moreover, the offered products have a highly detailed finish to create an attractive exterior.

### Food application

The products that ELAB delivers to the food industry fulfil the requirements according to followed regulations:

Regulation (EC) 1935/2004	Materials and articles intended to come into contact with food.
Regulation (EC) 2023/2006 GMP	Good manufacturing practice for materials and articles intended to come into contact with food.
Regulation (EU) 10/2011	Plastic materials and articles intended to come into contact with food

### Non-food application

The products that ELAB delivers to the non-food industry might be produced in recycle material (on customer demands). It's our opinion that as the product contains raw materials based on recycled waste, they ought to be considered safe to use as packaging to non-food applications. The grade used in our products is as recyclable as any other polypropylene (PP) product dependent on local collection and sorting schemes.

The waste collection and sorting system that our supplier(s) uses effectively separates plastics into PP and PE (polyethylene) fractions from PET (polyethylene terephthalate), PVC (polyvinylchloride) and PC (polycarbonates) etc. The resulting fractions are tested by our supplier(s) to ensure no contaminating polymers are present to ensure product quality.

We certify that during manufacturing of this products, we do not use or intentionally add any of the substances below:

- Non-recyclable plastic
- Bioplastics made from raw materials intended for food or feed
- Endocrine disrupting chemicals
- Polyvinylchloride
- Organochlorine
- Polycarbonate
- Epoxy resins
- Halogens - Based on information from our suppliers we certify that no halogens are added as free and bioavailable ingredient to the labels, or the plastic used. However, the printing ink industry uses chlorinated organic compounds in many fields of application. Pigments, binders, some additives, and some preservatives as well as substrates for printing inks are based on "chlorine chemistry".

## 2. Area of product usage

The products should only be used as a single use packaging unless otherwise is stipulated.

## 2.1. Food industry

ELAB complies with Normpack's requirements, for further information visit our website [www.emballator.com](http://www.emballator.com). Products that are food compatible will be marked on the product or label or have a specific document showing this.

To ensure proper cleanliness, the products are packed as agreed when departing ELABs facilities. To reduce the risk of contamination, the customer is responsible to comply with the food hygiene regulations, from the time of delivery to the completion of the filling procedure. The customer should always verify that the right packaging is chosen depending on application.

## 2.2. Chemical industry

Certain substances such as solvents can change the properties of the product and thus have an impact of it. Since ELAB cannot guarantee the compatibility of the product in relation to the content, it is of importance that the customer performs appropriate storage and transportation tests before ramping up the filling. On request, ELAB can gladly assist with expertise within this area.

## 2.3. Temperature & Filling

The area of usage ranges from temperatures between 2 and 120°C, technical specifications is set at 20°C. For the usage of products below freezing it requires a special material, which is available on request.

ELAB recommends the customer to always test the products for long time storage in hot or cold temperatures. Hot filling can cause increased flexibility of the product and care must be taken when stacking immediately after filling of hot content. The product must always be tested by the customer with the actual product before approval for hot filling.

It is important that the customer perform appropriate storage and transportation tests before filling recipes with aggressive ingredients. On request, ELAB gladly assists regarding compatibility with the ingredients of the product to be filled or the filling temperature.

Regarding usage of products in microwave oven, contact ELAB.

## 3. Product handling

The products require proper handling. Pallets which have overturned must be considered as unusable. Consequently, it is crucial that the recommendations in this chapter are followed.

### 3.1. Receiving

When receiving products, customer is obliged to verify that they are intact, undamaged and of ordered quality. If not, sign the parcel note with a notification of complaint at the time of receiving.

Send the deviation report to ELAB not later than 7 days from delivery and add pictures and parcel note (signed) to the deviation report.

## 3.2. Storage

Due to climatic vulnerability of the product and outer wrapping, ELAB recommend indoor storage in a clean and dry area. If it is not possible the products need to be stored protected from damp, freezing temperatures (below 0°C) and UV radiation.

The products are treated with antistatic additive to decrease the risk of contamination of dust and dirt. Despite this, ELAB cannot guarantee 100% contamination free products. Accordingly, the products should always be stored in a clean area.

Damage caused by cutting the protection foil of the pallet can lead to increased risk of breakage. Thus, ELAB recommend special foil knives for this purpose.

Before the filling procedure starts the product is recommended to be able to acclimatize to the surrounding environment for at least 24 hours (temperature between 5°C and 25°C and humidity between 30-60%).

Product should be used within 36 months to ensure product quality.

## 3.3. Transport security

The filled product must be protected against external influences such as slipping, falling and other mechanical damage. Further protection against contamination, moisture and direct sunlight must also be ensured. Generally, ELABs products are designed for transport on load carriers (Euro pallets).

## 3.4. Product complaint

In case of complaint, contact ELAB as soon as possible, not later than 8 weeks after delivery. An investigation will always be done before any financial compensation can occur. ELAB will gladly receive comments on deviations even within permitted ppm numbers.

# 4. Product Properties

In the following, the characteristics of the products are described in terms of capacity, impermeability, and design options. The characteristics refers exclusively to the standard products in standard packaging.

## 4.1. Loading capacity

The products are constructed to pass a load test for a period of six month, starting from the time of delivery. Unless otherwise is specified this period refers to finished products which are stored and transported on a flat Euro pallet at a temperature of 20°C (dynamic). Notice that the performance of the products can be affected by different conditions and needs to be verified before ramp-up for each case. Factors that may affect loading capacity are for example:

- Filling content
- Filling temperature
- Storage temperature
- Stacking height

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- How the pallet and the product interact
- The number of stacked pallets
- Pallet design and strength
- How the products are secured on the pallet, properties in shrink or stretch film
- Handling in storage and transportation
- Time of storage

Pallets with filled products are not constructed to be stacked upon each other. Pallets with **unfilled** products may be stacked - maximum two pallets high.

## 4.2. Barrier

ELAB can offer a range of products with different barrier options that has been tested for leakage (lid area) or migration (through the plastic) of oxygen denoted as OTR (ml O<sub>2</sub> /m<sup>2</sup> x day). However, it is always necessary to consider whether the barrier option for the specific application field is vital. On request, ELAB can assist within this area of competence.

## 4.3. Decorations

Several different decoration options are available to customize the product, such as simple adhesive labels, offset printing and IML.

### 4.3.1. IML

The in-mold labelling (IML) is inserted in the mold when the product is formed in the mold. No adhesive layers need to be used. Generally, a deviation of  $\Delta E$  2000 = 2,8 in IML applications is defined as the accepted tolerance however the  $\Delta E$  tolerance can be different depending on the color.

### 4.3.2. Offset

Offset is an indirect high-pressure printing process with true colors. Variations of the pressure within the spectrum is not to be considered as deflection but acceptable. Generally, a deviation of  $\Delta E$  2000 = 4,0 in Offset printing applications is defined as the accepted tolerance however the  $\Delta E$  tolerance can be different depending on the color.

## 4.4. Impermeability

To ensure the quality the leakage of the product is tested according to the ELAB's hydrogen method.

## 4.5. Weight/measure tolerances and deviations

Due to small variations in the manufacturing process, the dimensions of the product may vary slightly. However, these variations do not affect the properties of the product.

## 4.6. Static charge

The products are treated with antistatic additive to decrease the risk of contamination of dust and dirt, but ELAB cannot guarantee that there is no risk for contamination. The products should therefore always be stored in a clean space.

## 4.7. Individual requirements of product properties

Individual requirements of product properties apply to products that differs from ELABs set of standards. These requirements include handling, filling, storage, transportation etc. If deviation from the standard, customer is responsible for gathering the appropriate information about correct product handling, proper storage and usage to avoid possible damage or contamination. ELAB can implement individual product requirements and customize product with special capacity demands (e.g., hot filling) on request.

## 5. Traceability

Each pallet / carton can be identified and traced via the production label. The label contains the article number, order number, pallet number and manufacturing date. This information enables back tracking to the last link in the production chain.

In case of complaint, this label is essential, thus, make sure that the compliant contains the information from this label.

## 6. Disclaimer

If the use or handling of the products does not comply with the technical guideline, ELAB disclaims the responsibility and do not accept any costs or warranties for damages. Typographical errors in the guideline may occur.



## Deviations

Deviation related to industry standard of injection molded packaging. Defect allowance in ppm is in relation of total delivered items.

<b>Defect</b>	<b>Allowance in ppm</b>
<b>General</b>	
Pollution / dirt / foreign objects (not part of packaging material)	0
Technically unusable product, e.g., not separable, lid fit.	500
Burn marks	500
Flashes	500
Non-dense product	500
Curved or broken tamper	500
Not fully injected product	1000
<b>Label/offset printing</b>	
Wrong label / offset printing	0
Label missing / Multiple labels	1000
Offset/IML out of line	2000
Misprinted offset	5000
<b>Handle</b>	
Incorrect direction of handle	500
Handle incorrectly assembled	500
Defective handle	500
Lack of plastic grip	500