

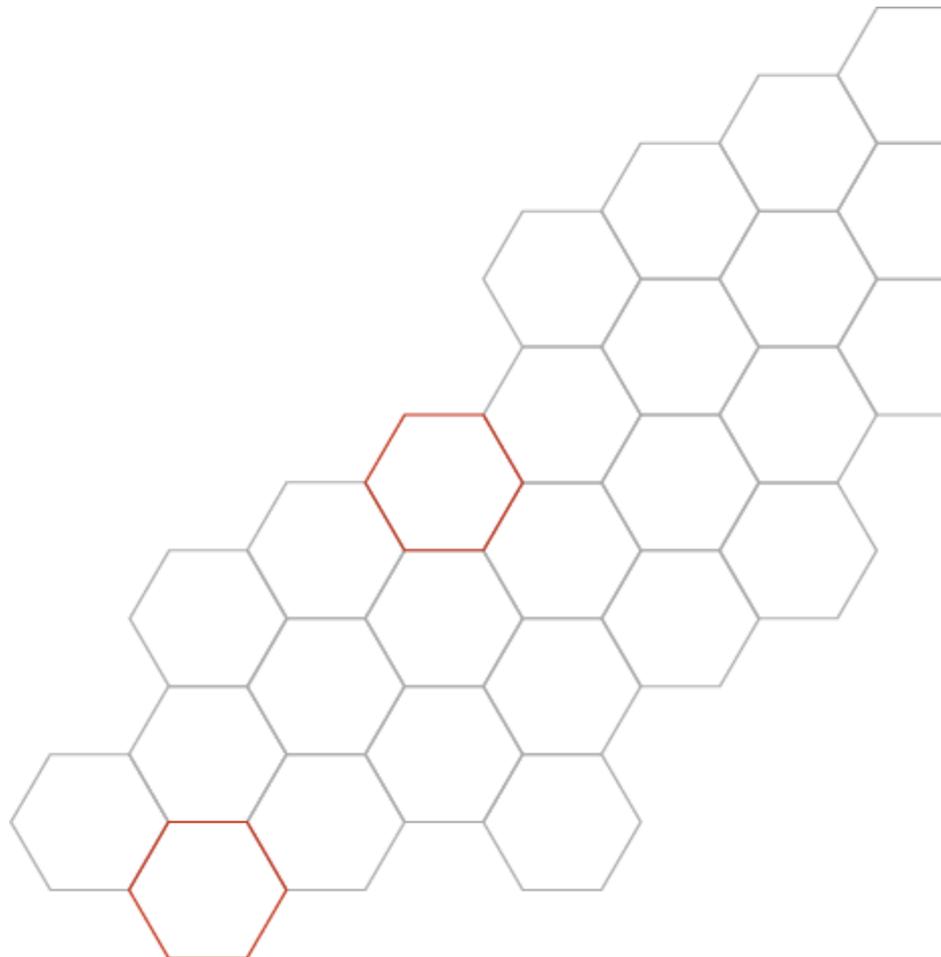
# Technical Guideline

## Emballator Lagan Plast ©

Technical guideline rev. 2

Valid from: 2019-04-24

Note: A valid version is always available  
on our website,  
a printed document is always a copy



# Contents

1	Introduction.....	3
2	The company.....	3
3	Sustainability.....	4
4	Material information.....	4
5	Use of containers.....	4
5.1	Food industry.....	5
5.2	Chemical industry.....	5
5.3	Temperature.....	5
5.4	Filling.....	5
6	Handling of containers.....	6
6.1	Receiving.....	6
6.2	Storage.....	6
6.3	Transport security.....	6
6.4	Hygiene requirements.....	7
7	Product Properties.....	7
7.1	Loading capacity.....	7
7.2	Barrier.....	8
7.3	Decorations.....	8
7.4	Impermeability.....	8
7.5	Weight/measure tolerances and deviations.....	8
7.6	Static charge.....	8
7.7	Individual requirements of product properties.....	9
8	Traceability.....	9
9	Disclaimer.....	9
	Appendix.....	10

# 1 Introduction

This is a technical guideline for products delivered from Emballator Lagan Plast. It contains recommendations about usage and handling of our products to avoid damage or contamination. For information about delivery terms we refer to General Delivery Terms for The Plastic Industry Adopted by SPIF - The Swedish Plastics Industry Association and IKEM - The Innovations and Chemical industries in Sweden.

# 2 The company

Emballator Lagan Plast's mission is to develop, produce and market plastic pails and pots for food and chemical products. We are part of the Emballator group, which has the widest range of packaging solutions in the Nordic countries. Emballator Lagan Plast consists of our facilities in Ljungby and Vittsjö in the middle of southern Sweden.

We also have sales departments in Finland, Norway and England.

We specialise in high-quality total solutions and conduct extensive development work with the aim of providing the market with new technical innovations and optimal packaging solutions.

We work as an integrated partner and a sounding board in close cooperation with customers in a broad spectrum of industries and product areas and are renowned for finding innovative solutions. We offer our customers a wide range of services and service functions gathered together in our Customer Centre.

With our purposeful focus, including participation in the Production Lift program, we have taken a big step forward on our Lean journey and serve as a Nordic ambassador for the plastics industry.

Commitment, quality, environment, safety, service and availability are strong guiding principles for us. We work with short lead times, optimal delivery reliability and maximum flexibility, and always aim to be the most cost-effective option.

Our business idea:

"Together we create sustainable packaging concepts with focus on the customer experience and feelings"

## 3 Sustainability

Quality and environment are two important parts in sustainability perspective that goes hand in hand for us. The one can never exclude the other. A product that is, for example, good for the environment but does not fulfil our high quality requirements is inconceivable and vice versa.

We conduct process improvements on an ongoing basis in our daily work. Our production plants are certified to ISO 9001, 14001 and 22000 and complies with Normpack's\* requirements.

*\* Normpack is a system for internal control of materials and products intended for use in contact with food. A combination of product certificates and routine systems for the member companies' internal control ensures that materials and products comply with current Swedish laws and regulations as well as other rules and regulations*

## 4 Material information

We offer plastic packaging made of polypropylene, a material that can be reused several times and incinerated without leaving toxic residue. Naturally it is also approved for food products. Our plastic packaging has a highly detailed finish to create an attractive exterior. Our products fulfil the requirements according to:

- Regulation (EC) 1935/2004 - *on materials and articles intended to come into contact with food*
- Regulation (EC) 2023/2006 GMP - *on good manufacturing practice for materials and articles intended to come into contact with food*
- Regulation (EU) 10/2011 - *on plastic materials and articles intended to come into contact with food*

## 5 Use of containers

The products manufactured by us are, developed and manufactured as one-way packaging unless otherwise stipulated in a product-specific document. A guarantee for the specified product characteristics is therefore only applied in the context of the initial filling of the container.

## **5.1 Food industry**

Our product has been tested and complies with Normpack's requirements, for further information see our Normpack certificate. Products that are food compatible are marked with a food safe symbol. All our packages leave our factory clean and must be protected from contamination by you to maintain the hygiene. From the time of delivery, you are responsible for complying with food hygiene regulations.

## **5.2 Chemical industry**

Certain substances such as solvents can change the properties of plastic packaging and consequently have an impact on the capacity of the container. Since we cannot guarantee the compatibility of the container in relation to the respective contents, it is important that you perform appropriate storage and transportation tests before filling recipes with aggressive ingredients. These tests are always necessary if you are not sure which substances are classified as aggressive. On request, we are happy to assist regarding compatibility with the ingredients of the product to be filled.

## **5.3 Temperature**

Our products are functional in temperatures from +2 ° C up to + 120 ° C. Freezing conditions require special material available on request. We recommend you to always test our products for longtime storage in hot or cold temperatures or usage in microwave. 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.

## **5.4 Filling**

It is important that you perform appropriate storage and transportation tests before filling recipes with aggressive ingredients. On request, we are happy to assist regarding compatibility with the ingredients of the product to be filled or the filling temperature. Be aware that the packaging can become flexible when subjected to filling of hot content and care must be taken if stacking immediately after hot filling.

## 6 Handling of containers

Our containers require proper handling, due to their specification and composition as well as the individual design characteristics to prevent damage to the products or the filling. To ensure the proper handling of packaging, it is therefore important that you read and follow our recommendations regarding:

- Storage of containers
- Transport security
- Hygiene requirements

### 6.1 Receiving

When you receive our products, always check that the packaging is intact and that the products are of promised quality. Always inform us if the products do not meet the expectations. To facilitate the handling of complaints, the inspection must be carried out no later than one month after delivery. Permissible deviations in ppm are listed in the appendix.

### 6.2 Storage

Due to climatic vulnerability of the products and outer packaging we recommend storage indoors in a clean and dry space. If this is not possible the products need to be stored protected from damp, low temperatures (below 0°C) and UV radiation. The products are treated with antistatic additive to decrease the risk of contamination of dust and dirt, but we cannot guarantee that there is no risk for contamination. The products should therefore always be stored in a clean space. Damage caused by the slicing of the pallets with a knife can lead to increased risk of breakage. For this reason, the use of special foil knives is essential. Before filling our products should be stored without outer film packaging at least 24 hours in temperature between 5°C and 25°C and humidity between 30-60%. We recommend a maximum storage time of three years to ensure product performance.

### 6.3 Transport security

During the transport and the subsequent storage of goods special stresses occur. Therefore, effective measures for cargo security are essential. This includes the preception of the individual freight units, such as the pallets on the cargo area of the respective means of transport (truck, trailer, railway, carriage, ship, containers, aircraft loading, etc.). The packaging must be protected against external influences such as slipping, falling and other mechanical damage. Protection against contamination, moisture and direct sunlight must also be ensured (see also section 5.1, Storage). Generally, our products are designed for transport on load carriers (Euro pallets). Single shipment by packaging services can occur due to specific properties only after consultation with us.

## 6.4 Hygiene requirements

All our packages leave our factory clean and must be protected by you to maintain the hygiene from contamination. This means: from the time of delivery you are responsible for complying with food hygiene regulations.

# 7 Product Properties

In the following, the characteristics of the products are described in terms of capacity, density and design options. Here, the following characteristics and explanations refer exclusively to our standard product designs. They give no information on packages that differ from the standard (see point 6.7 "Individual requirements of product properties").

## 7.1 Loading capacity

The underlying standard load for the period of six months from delivery refers, unless otherwise specified, to finished products which are stored and transported on a flat Euro pallet at a temperature of 20°C (dynamic). The performance of the product/pile of products can be influenced due to many different conditions and needs to be tested in each case. Factors that may affect loading capacity are for example:

- Filling content
- Filling temperature
- Storage temperature
- Stacking height
- How the pallet and the product interact
- Number of pallet stacked
- 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

Also note that containers made of transparent PP have reduced impact strength, resulting in a reduction of the standard load capacity. Therefore, only low static and dynamic loads are permitted for filling, storage and transport. As part of the transport processes the loads indicated are to be understood as referring to shrunken pallets (see also point 7 "Transport security"). Pallets with filled products must never be stacked on each other. Pallets with unfilled products may be stacked as most two pallets high.

## **7.2 Barrier**

We can offer a range of barrier options which have been tested due to oxygen breakthrough measured in [ml O<sub>2</sub>/liter x 24 hours]. However, it is always necessary to consider whether the barrier properties for the specific application are sufficient.

## **7.3 Decorations**

Several different decoration options are offered to create the right product look from simple adhesive labels, offset printing, IML to digital printing.

### **7.3.1 IML**

During in-mould labelling (IML) the selected label is inserted into the injection mould and integrated into the production process of the packaging. Connection of the IML with the packaging occurs due to the temperature of the liquid plastic and no adhesive layers is used. Through the direct integration of the IML in the production process of packaging, the packaging and IML form an inseparable unit.

### **7.3.2 Offset**

Offset is an indirect high-pressure printing process with true colors. All colors are first printed wet in wet onto a rubber cloth and transferred to the container. For this all colors must be omitted against one another because no additional color can be produced by the printing of two or more primary colors together. Pressure variations within the spectrum considered acceptable should not be considered a defect.

## **7.4 Impermeability**

To ensure the quality of our products, the leakage is tested according to the ELP's hydrogen method. The product is classified in three levels of density. You should always test that the product reaches the density required for you application.

## **7.5 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.

## **7.6 Static charge**

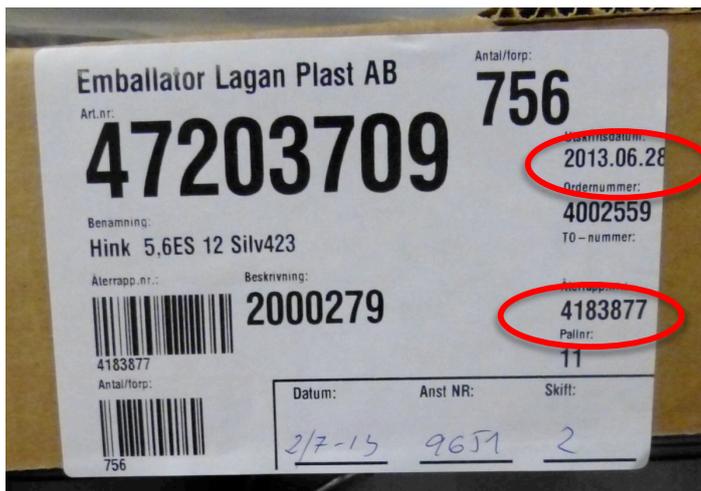
The products are treated with antistatic additive to decrease the risk of contamination of dust and dirt, but we cannot guarantee that there is no risk for contamination. The products should therefore always be stored in a clean space.

## 7.7 Individual requirements of product properties

Individual requirements of product properties apply to packaging that differs from our standard product designs. These requirements include handling, filling, storage, transportation etc. If your product is different from the standard versions, you are responsible for gathering the appropriate information about correct product handling, proper storage and use to avoid possible damage or contamination. We can implement your individual product requirements and customize products with special capacity demands (e.g. hot filling).

## 8 Traceability

Each pallet / carton can be identified and traced through the production label. On the label you can find article number, order number, pallet number and manufacturing date that allow tracking to the last link in the production chain. In case of complaint, we need order number and pallet number from this label to track the products and investigate the complaint.



## 9 Disclaimer

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

In case of complaints, contact Emballator Lagan Plast as soon as possible. An investigation must always be done before any crediting. We also want to receive comments on deviations within permitted ppm numbers in order to be able to improve.

We work continuously with improvement activities throughout the organization and in order to satisfy you in the best possible way and further develop our relationship, we value all improvement potentials and questions. We would like this information at the following email address: [quality@lagan.emballator.se](mailto:quality@lagan.emballator.se)

## Appendix

Defect	Allowance in ppm
<b>General</b>	
Pollution / dirt / foreign objects	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	500
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 sleeve	500
<b>Co-packing</b>	
Too few or too many articles	

