



Packaging for your life.



SUSTAINABILITY GUIDE FOR PLASTIC TUBES

LINHARDT SUSTAINABILITY GUIDE FOR PLASTIC TUBES

At LINHARDT, we create sustainable packaging solutions by following three main principles:

REDUCE: Reduction of the used material

REPLACE: Use of alternative, sustainable materials

RECYCLE: Use of recyclate or increase in recyclability

For the specific configuration of your plastic tubes, we at LINHARDT have a wide range of options to make your packaging more sustainable:

Material

- Use of **mono material** for high recyclability: tube body, shoulder and closure made of PE
- Use of **PCR material** with a variable PCR content of up to 100% and various compliances (Food Grade, REACH, FDA*)

Structure

- Material reduction: Use of the **TopTube** (weight-reduced closure and shoulder) + **reduced wall thickness**
- Avoid or reduce EVOH layer for increased recyclability

Decoration

- Avoid coloured tube body and shoulder
- No full-surface printing
- Use of bright colours
- HD or digital printed mono plastic tubes (instead of flexo printed laminate multilayer tubes)

*FDA not available for all PCR materials.

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SUSTAINABLE TUBE CONFIGURATION OPTIONS

The following points illustrate the various ways in which you can make lasting changes to your tube with LINHARDT. Thereby, all parameters can be combined.

TOP TUBE CLOSURE

Our award-winning material-reduced fliptop closure with ring-shaped mounting to the shoulder eliminates the need for a head plate to the cap.



- ✦ 72% lighter closure, 72% reduced carbon footprint of the closure*, ~15-20% material reduction in the shoulder
- ✦ Mono PE solution for an optimised recyclability
- ✦ Combination with reduced wall thickness
- ✦ Available with diameters 40 & 50 mm (30 & 35 mm following end of 2024) → Ideal for product lines with different tube sizes

* Comparison between TopTube closure 2.01 g and standard fliptop closure 7.3 g, carbon footprint incl. HDPE, injection moulding and material transport

More information



REDUCED TUBE WALL THICKNESS

- Possible wall thickness reductions:
350 μm (\varnothing 19 - 50 mm) → **30% material reduction**
300 μm (\varnothing 19 - 30 mm) → **40% material reduction**
270 μm (\varnothing 19 - 30 mm) upon individual technical feasibility study
- Thinner EVOH layer or material-optimised (15 μm)
- Available as mono PE tube with PE closure
- PCR material possible
- HD printing and other printing techniques

✎ 30% or 40% material reduction in the tube body

PCR MATERIAL

- **High percentage of recycled plastic:**
Up to 100% PCR material possible (PE-HD/LLD PCR)
- PCR tubes possible in transparent, white, coloured, or pearl effect
- EVOH barrier possible
- Available as mono PE tube with PE closure
- Reduced wall thickness possible
- HD printing and other printing techniques

✎ Recycling cycle within Europe for a reduced carbon footprint

✎ Broad choice of different post-consumer recycled plastic materials

✎ Customised configuration suitable for every purpose

MONO MATERIAL

- PE in tube body, shoulder and closure for **increased recyclability**
- EVOH barrier possible
- Reduced wall thickness possible
- PCR material possible
- HD printing and other printing techniques

✎ Fully recyclable mono material

BEST PRACTICE

THE LINHARDT TUBE WITH MAXIMUM SUSTAINABILITY

The NextGen plastic tube shows how a tube can be configured as sustainable as possible. It is the first tube on the market in which both materials (rPE-HD, rPE-LLD) are made from 100% post-consumer recycled material.



- **Material reduction thanks to TopTube closure**
- **Material reduction through reduced wall thickness:**
Possible with 270 – 300 – 350 µm (vs. standard 500 µm)
- **100% PCR material** in tube body, shoulder & closure*
- **Mono material:** PE tube body, PE shoulder, PE closure

* excl. printing ink and additives, and (if used) masterbatch

More information



CosPaTox guideline:



TESTED ACCORDING TO COSPATOX GUIDELINE

As a member of Forum Rezyklat, LINHARDT was actively involved in the development of the guidelines for the safety assessment of recycled plastics in packaging materials.