



**Packaging for your life.**



## **SUSTAINABILITY GUIDE FOR PLASTIC TUBES**

# LINHARDT SUSTAINABILITY GUIDE FOR PLASTIC TUBES

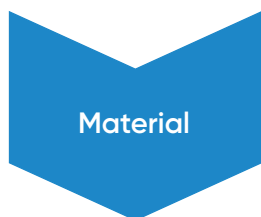
At LINHARDT, we create sustainable packaging solutions by following three main principles:

**REDUCE:** Reduction of the used material

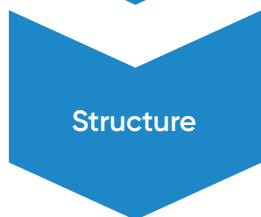
**REPLACE:** Use of alternative, sustainable materials

**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:



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



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



- 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.

## LINHARDT GROUP GMBH

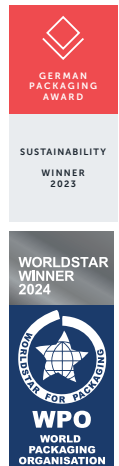
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# SUSTAINABLE TUBE CONFIGURATION OPTIONS

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 flip top closing mechanism with ring-shaped mounting to the shoulder eliminates the need for a head plate to the cap.



- ✎ Up to 76% lighter cap\* and up to 76% reduced carbon footprint of the cap\*\*, ~15–20% material reduction in the shoulder
- ✎ Mono PE solution for an optimised recyclability
- ✎ Combination with reduced wall thickness
- ✎ Available for diameters 30, 35, 40 & 50 mm  
→ Ideal for product lines with different tube sizes

\*e.g. Ø 35 mm: 1.2 g TopTube cap vs. 5.1 g standard flip top closure

\*\*e.g. Ø 35 mm: 3.4 g CO<sub>2</sub>e/TopTube cap vs. 14.5 g CO<sub>2</sub>e/standard flip top closure  
(incl. HDPE, injection moulding and material transport)

More information



## REDUCED TUBE WALL THICKNESS

- Possible wall thickness reduction 350  $\mu\text{m}$  ( $\varnothing$  19 - 50 mm)
- Thinner EVOH layer or material-optimised (15  $\mu\text{m}$ )
- Available as mono PE tube with PE cap
- PCR material possible
- HD printing and other printing techniques

✎ 30% 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 cap
- 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

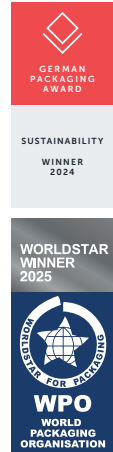
- PE in tube body, shoulder and cap for **increased recyclability**
- EVOH barrier possible
- Reduced wall thickness possible
- PCR material possible
- HD printing and other printing techniques

✎ 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.



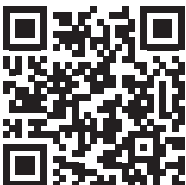
- ✎ **Material reduction thanks to TopTube closing mechanism**
- ✎ **Material reduction through reduced wall thickness:**  
350 µm (vs. standard 500 µm)
- ✎ **100% PCR material** in tube body & shoulder\*,  
80% PCR material in the tube cap\*
- ✎ **Mono material:** PE tube body, PE shoulder, PE cap

\* 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.