

Meeting the need for recyclable tube packaging solutions



Worries, goals and advantages of tube packaging

Growing amounts of plastic waste are among the biggest concerns of Europeans: 87% are worried about the impact of plastic waste on the environment.¹ In order to make an impactful change, the EU also sets clear goals. By 2030 all plastic packaging within the EU will need to be recyclable, 50% of which is effectively recycled by 2025 and 55% by 2030. While actively working on solutions to contribute to reach the goals, we can't ignore the advantages of tube packaging:



Recyclability of tubes today

Tubes are a hybrid packaging with a flexible (body) and a rigid part (shoulder & cap), which leads to tubes will be sorted and recycled in separate PE processes in the EU and USA. As recyclers prefer HDPE material, low-density polyethylene LDPE content must be minimized.

Interesting facts: Tubes do represent only 2-4% of plastic weight in the high-density polyethylene (HDPE) rigid container stream!² At the moment developing final, harmonized design guidelines for optimal recycling are in progress.

How to reach the recyclability of plastic packaging such as tubes?

Meeting the targets requires increased cooperation between all actors involved in plastics' life cycle. Over the long term, modernizing and harmonizing systems for waste management is inevitable. In the nearer term, improvements in the way plastics are designed and produced are already in place. Redesigning multi-material packaging to mono-materials, which are more recyclable in today's comparably rigid recycling landscape, has emerged as a significant aspect of moving toward 2030's lofty goals.

Of the 20 million tons of annual plastic packaging in Europe, multi-material constructions represent 1 million tons³. These include multi-layer tubes containing aluminum, such as standard Polyfoil® tubes, which are not yet collected separately in Europe. As several layers comprising different types of plastic are often problematic in the recycling process, Neopac is dedicated to developing new mono-material structures that are already recyclable in existing streams.



1. Multi-material plastic tubes

20 Million tons of **annual plastic packaging** in Europe, but only 1 million tons are multi-material combinations. **Multi-material** combinations can't be **recycled easily**.



3. Redesigning materials

Following the **industry guidelines** – **PE-based** tube materials are created, which contain less than **5% of foreign materials** to avoid any disruptions in the **recycling process**.



2. Recycling is difficult

Several layers of **different types of plastics**, often also including **aluminium**, are problematic in the recycling process.



4. Solution mono-material

Mono-material tube structures made of HDPE are required for recycling like the **Recyclable high performance Polyfoil® Mono-Material Barrier tube**.

The solution: Recyclable high performance Polyfoil® Mono-Material Barrier tube

Neopac has 70 years of experience in exclusive high-performance tube laminate development. Together with PE foil producers and experts in thin film barrier technologies, since 2019, we have been working on development strategic mono-material recyclable high barrier Polyfoil® laminated tubes.

Our tubes are entirely PE based and contain less than 5% of foreign materials, avoiding any disruptions in the recycling process, in alignment with the industry's design guidelines. The independent institute for assessing and certifying the recyclability of packaging, Institut cyclos-HTP, tested and confirmed the enhanced recyclability of Neopac's new Polyfoil® tubes.

The new, recyclable high performance Polyfoil® Mono-Material Barrier tube provides excellent product protection via certified food- and pharma-grade materials, and supports the heightened eco-friendly packaging goals of companies around the world.

Another goal in the near future is to convert caps from PP to PE.



Our EcoDesign concept is the root of our strategic sustainable developments. The new recyclable high barrier Polyfoil® tube is developed according to this concept - recycling friendly, perfect product protection and reduced packaging weight.

About packaging design guidelines

Guidelines are being developed with value chain by:



CEFLEX for flexible streams

A collaborative project involving over 100 companies from the entire value chain of flexible packaging. The organization's aim is to establish, by 2025, collection, sorting and reprocessing for flexible packaging, including redesigning multi-materials to mono for alignment with existing recycling streams.



MORE RECYCLING for rigid streams

US-based research and consulting initiative, working on guidelines for tube recyclability in rigid streams throughout North America & Europe.



Cyclos-HTP

An independent institute for assessing and certifying the recyclability of packaging. First tests of Polyfoil® MMB are performed by cyclos-HTP.

¹ Source: [Questions & Answers: A European strategy for plastics](#)

² Source: [More Recycling Presentation on Plastic Squeeze Tubes](#)

³ Source: [AMI European Polymer Demand report 2016 – 2015 data](#)