



Tubes packaging for the future

Sustainable tube packaging „made by Pirlo“



Our sustainable packaging

PirOne 250/8 µm

Recyclability..... 96 %*



Pirlo LOOP

220/11 µm, 250/15 µm, 300/15 µm

RecyClass: In the HDPE bottle stream recyclable



Pirlo RECY 300/15 µm

Recyclability..... 83 %**



Pirlo CHALK BARE 240 µm

Recyclability..... 53 %**

Pirlo PCR solutions

Respective recyclability confirmed and certified by DSD/cyclos-HTP.



* Referred to tube 35/170 mm, S14 with seal

** Referred to tube 35/90mm, FT without sleeve

Advantages

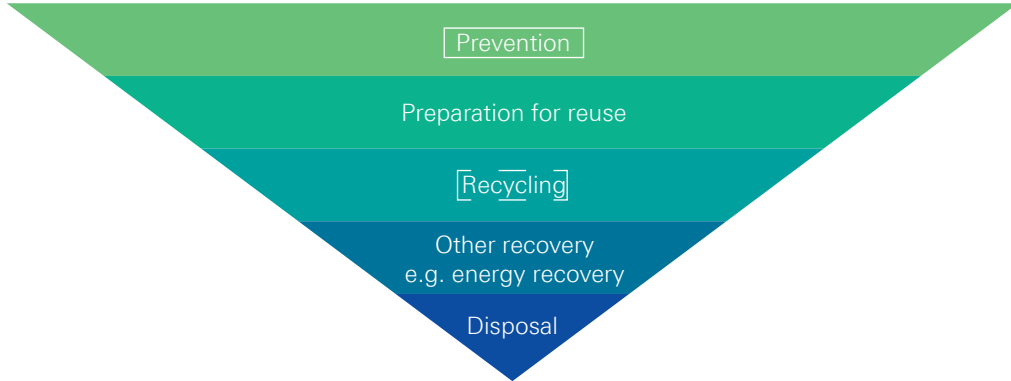
- ✓ Certified recyclability
- ✓ **Protecting the environment** by saving resources
- ✓ High level of **product protection**
- ✓ **Digital printing** – thin film process/low ink application
- ✓ **Different finishing options** (foil lamination etc.)



	Extruded tube	PirOne	Pirlo LOOP			Pirlo RECY	Pirlo CHALK BARE
Share of petroleum-based plastic	100%	100%	100%	100%	100%	< 50%	
Material thickness	400 - 500 µm	250 µm	220 µm	250 µm	300 µm	300 µm	240 µm (ca. 160 µm)
Reduction of petroleum-based plastic	0%	37,5-50%	45-56 %	37,5-50 %	25-40 %	25-40%	60-68%

Main focus Prevention

We understand prevention to be both the conservation of resources and the saving of raw materials in the production of packaging, as well as reducing the volume of waste as far as possible.



Img. 1 Waste hierarchy
Source: <http://www.stiftung-mehrweg.de/oekologische-bewertung.php>

Assessment of Plastic savings

Tube type	Quantity in pcs	Savings of primary plastic and plastic waste in tons*
Extruded tube 500 µm	1.000.000	0
PirIOne 250/8 µm	1.000.000	3,56
Pirlo LOOP 220/11 µm	1.000.000	4,00
250/15 µm		3,49
300/15 µm		2,77
Pirlo RECY 300/15 µm	1.000.000	2,74



◀ Avoidance of product/food waste. Pirlo LOOP and Pirlo CHALK BARE have unprecedented residual emptiability.

* In order to simplify the examination, the uppermost value of LDPE was used for the extruded tube. Differences in density of LDPE, MDPE and HDPE are negligible in this estimation (referred to the tube design 40/125 mm). The exact specification value was used to calculate the savings for the other tube designs.

PirOne PCR - Monomaterial & PCR

Recycling

Optimised for the PP recycling stream.
Recyclability > 90%



PCR

Prevention

Flip-top PCR content approx. 95%.
The entire tube has a PCR content up to 50%.

Saving resources & raw materials by
reducing the wall thickness to 250 µm.

Product range

	PirOne	Pirlo LOOP	Pirlo RECY	Pirlo CHALK BARE
Aluminium-free	✓	✓	✓	✓
Very good residual emptyability (avoidance of product waste)	✓	✓	✓	✓
Protection of the filling material (EVOH)	✓	✓	✓	
100%* Monomaterials (tube body, shoulder and closure)	✓	✓		
Sterilisation/autoclaving possible (food)	✓			
Reducing the use of petroleum-based plastic	✓	✓	✓	✓
Less material required (reduced wall thickness)	✓	✓	✓	✓

* Minor barrier: negligible EVOH content < 5%.

German Packaging Act VerpackG

5
July
2017

Publication of the new VerpackG
(German Packaging Act)

1
January
2019

New registration obligation (§9)
New data reporting obligation (§10)
Commissioning of third parties (§33)
Creation of a Central Authority (§24-30)
Higher recovery requirements (§21)
New and amended definitions (§21)
Licence fees (§21)

20
January
2021

Decision of the German Federal Cabinet to implement the German Federal Government's draft law on the requirements of the Single-Use Plastics Directive and the Waste Framework Directive in the VerpackG. Adaptation of the VerpackG to current EU directives. The Act enters into force on 3 July 2021.

3
July
2021

VerpackG implements the Single-Use Plastics Directive and the Waste Framework Directive into German law.

Packaging can be labelled with information on the material fraction used (möbius loop symbol).



1
January
2022

Obligation of the systems to feed at least the following annual average proportions of the packaging involved to preparation for reuse or recycling (see table on the left).
Duty of proof to provide evidence of compliance with the take-back and recycling requirements and obligation to carry out self-monitoring.

	Glass	Cardboard, paper, carton	Ferrous metals	Aluminium	Beverage carton packaging	Other composite packaging	Plastics
Since 2019	80%	85%	80%	80%	75%	55%	58,5%
Since 2022	90%	90%	90%	90%	80%	70%	63%

Mandatory reuse or recycling rate from January 2022.

1
July
2022

In future, registration will not only be mandatory for packaging subject to system participation, but for all packaging filled with goods, that means also for transport packaging, commercial sales packaging, „system incompatible“ packaging, sales packaging of hazardous filling goods and reusable packaging.

1
January
2025

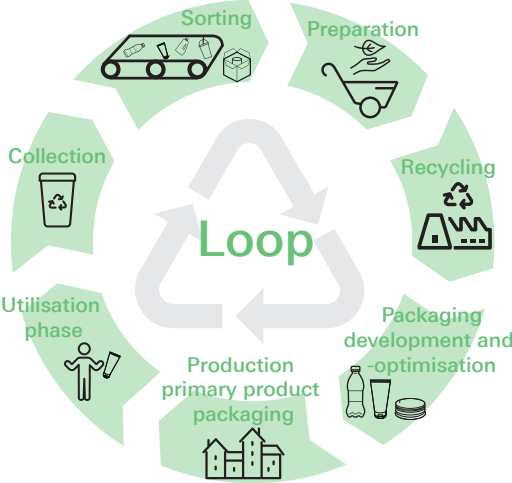
Minimum recycle use for single-use plastic/PET drink bottles
25% (from 1 January 2030: 30%)

Recycling targets of the EU

EU Circular Economy Package/package/waste

	All Packagings	Plastic	Wood	Ferrous metals	Aluminium	Glass	Paper, cardboard/carton
Until 2025	65%	50%	25%	70%	50%	70%	75%
Until 2030	70%	55%	30%	80%	60%	75%	85%

Source: <https://www.europarl.europa.eu/news/de/headlines/society/20170120STO59356/paket-zur-kreislaufwirtschaft-neue-eu-recyclingziele>



Pirlo LOOP - HDPE monomaterial tube



All tube components are made of HDPE and can therefore be fully returned to the HDPE bottle stream after use. The Pirlo LOOP tube is available in three different material thicknesses. The savings in plastic compared to a 350 µm laminate tube are:

Wall thickness laminate tube	Wall thickness HDPE tube	Savings
350 µm	220 µm HD	37%
350 µm	250 µm HD	29%
350 µm	350 µm HD	14%

Your contact persons

for sustainable solutions



Katharina Schreder
Product Management

k.schreder@pirlo.com
+43 5372 649 23 6161



Michaela Kuen
Key Account Manager

m.kuen@pirlo.com
+43 5372 649 23 6142



Alexandra E. Sievers
Key Account Manager

a.sievers@pirlo.com
+43 676 834 523 65



Sonja Harkam
Key Account Manager

s.harkam@pirlo.com
+43 5372 649 23 6143

05/2022



Tubes - like no other!

Pirlo Tubes GmbH
Trautweinstraße 2
6330 Kufstein/Austria

pirlo.com