

Shrink Wrap Outer Packaging



Green Benefits

- Less use of non-renewable resources
- Less waste disposal

Introduction

Life Technologies is committed to designing products with the environment in mind—it's one more step toward a smaller footprint. By removing the polyolefin shrink wrap from some of our products, we can eliminate the material consumption associated with the manufacture of this plastic and reduce the amount of waste going to landfills and incinerators. This fact sheet provides the documentation behind these environmental claims.

Product Description

To help ensure products arrive intact and without any unintended

interference, our manufacturing facility in Warrington, UK, has been shrink wrapping our kits (Figure 1).

This shrink wrap consists of linear low density polyethylene (LLDPE). This practice used 950 kg of LLDPE shrink wrap film annually. Due to the limited disposal alternatives available for this particular material, we presume most, if not all, of this shrink wrap is scrapped as waste and not recycled. To minimize the environmental impact of the film, we have replaced it with a small tamper-proof seal (Figure 2) that fits over the kit container closure tab and can be recycled with the kit box.



Figure 1. Before: packaged in shrink wrap



Figure 2. After: packaged with a simple tamper-proof seal

Green Features

Reduced Consumption of Non-renewable Resources

Based on Lifecycle Inventory (LCI) Data from Plastics Europe's Eco-profile programme^{1,2}, we estimate that by eliminating the use of 950 kg LLDPE film per year, we reduce our environmental impact in the following ways:

Indicator	Per Kg LLDPE	Annual Impact
Non-renewable materials		
• Minerals	2.7 g	2.6 kg
• Fossil fuels	1,547.7 g	1,470 kg
• Uranium	0.004 g	0.0038 kg
Renewable materials (biomass)	4.559 g	4.33 kg
Water use (processing only)	2,399 g	2,279 kg
Non-renewable energy resources		
• For energy	23.7 MJ	22,515 MJ
• For feedstock	48.6 MJ	46,170 MJ
Renewable energy resources		
• For energy	0.4 MJ	380 MJ
• For feedstock	0 MJ	0 MJ
Global warming potential	1.89 kg CO ₂ eq	1,796 kg (1.8 Tonnes)

Less Waste

Due to the limited industrial recycling streams available for polyolefin films, we estimate 90% of the shrink wrap that accompanies our products is disposed of as non-hazardous waste. By eliminating the shrink wrap from our kits, we are helping our customers divert 760kg of LLDPE film from landfills or incinerators.

Footnotes

- http://www.plasticseurope.org/Documents/Document/20100312112214-FINAL_LLDPE_270409-20081215-019-EN-v1.pdf
- Data reflect LCI data for the LLDPE Resin. Data for the converted film was not available at the time of this publication. Conversion into film stock requires further energy to extrude the film and materials to wrap onto core; therefore, these data are minimal estimates.

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