

 | zerobox



reddot winner 2026



“Waste is a Design Flaw.”

Kate Krebs,
Circular Economy Advocate



Winner of two 2026 Red Dot Design Awards in Sustainable Design and Household Appliances — one of the world's most recognized seals of design excellence.

ZEROBOX represents a new generation of products designed not merely to be recyclable, but to eliminate waste by design.

By transforming packaging into a repairable and reusable modular system, ZEROBOX challenges the disposable logic of conventional packaging and introduces a circular and cost-saving alternative built for a net-zero future.

Double Award Winner 2026:



reddot winner 2026
sustainable design



reddot winner 2026
household appliances design

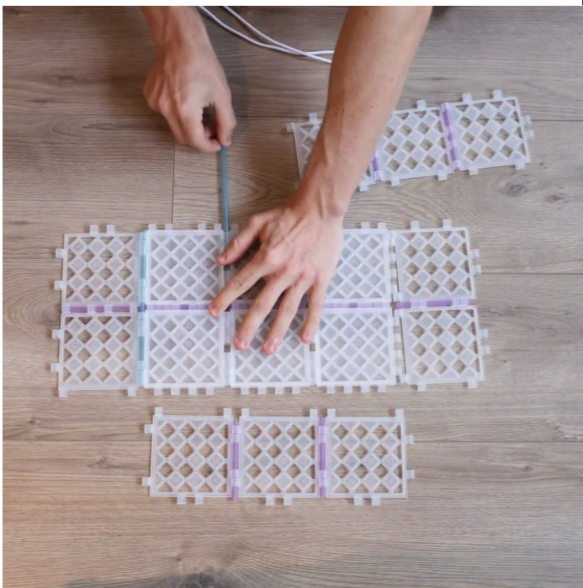


Modular





Size-adjustable

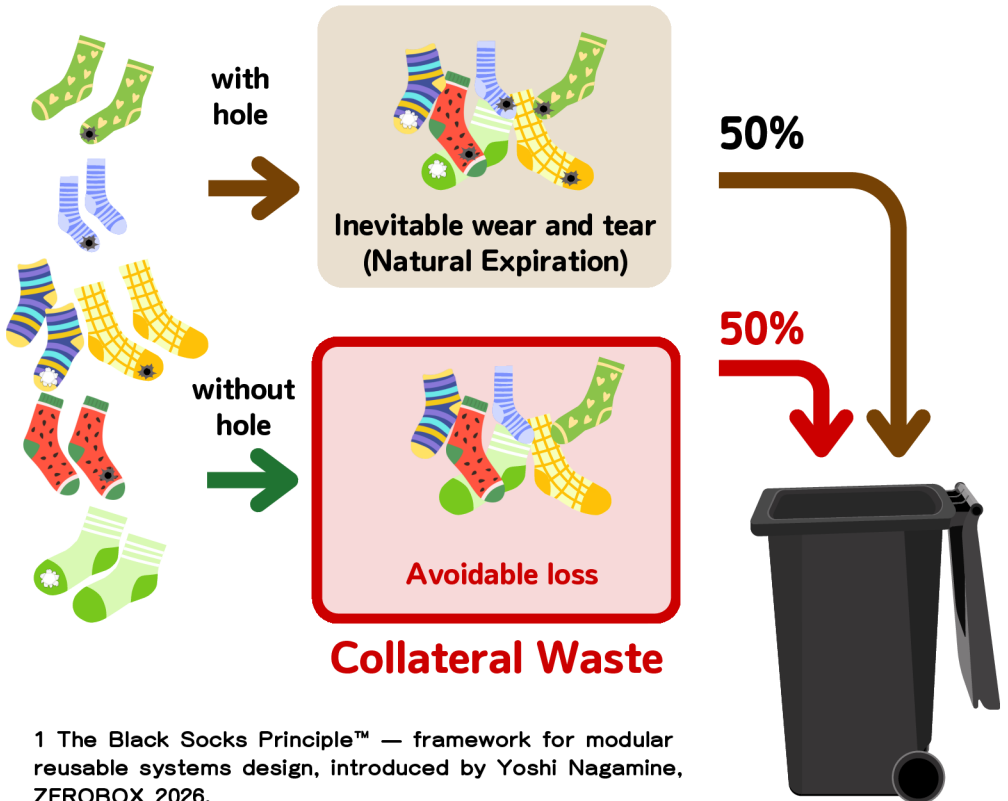


Repairable

**Infinite Loop
of
Zero Waste Cycles**

Black Socks Principle¹ (I)

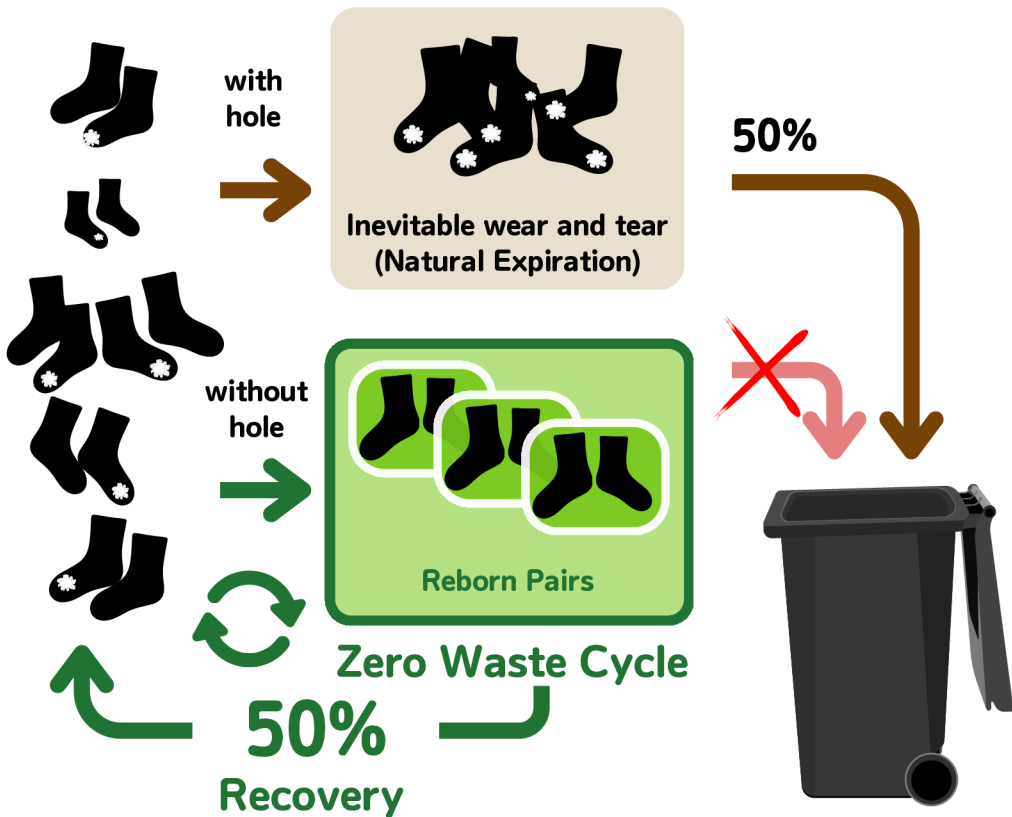
Colorful Socks



1 The Black Socks Principle™ — framework for modular reusable systems design, introduced by Yoshi Nagamine, ZEROBOX 2026.

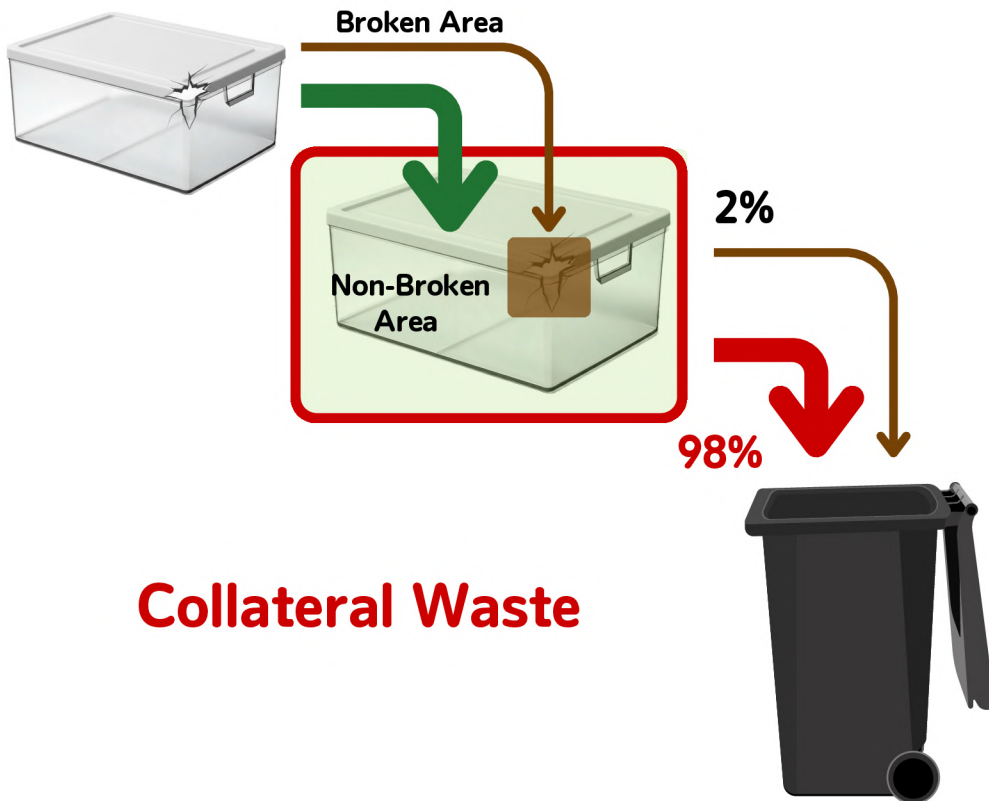
Black Socks Principle (II)

Black Socks



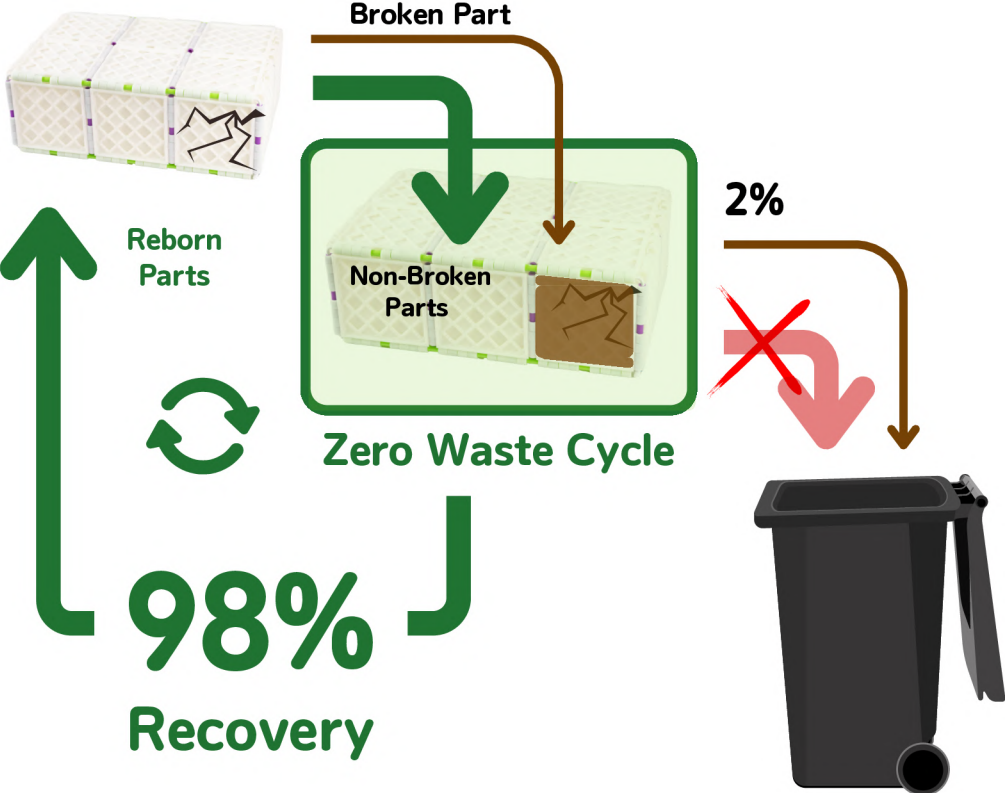
Black Socks Principle (III)

Conventional Box

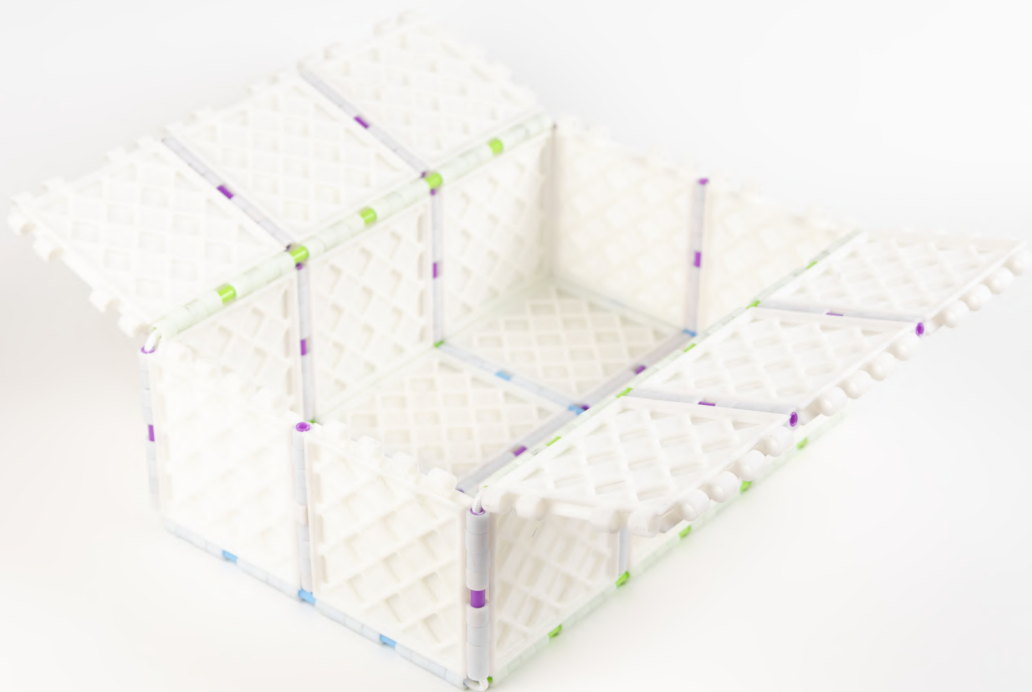


Black Socks Principle (IV)

ZEROBOX

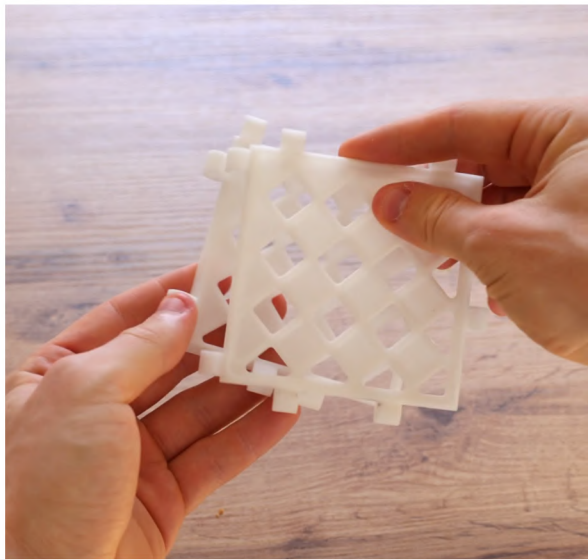


44 Plates...



Model : ZEROBOX / WHITE / S-Size / BOX WITH LID / 3x2x1 / 44 pcs

**...1 broken plate
replaced ...**



**... remaining
43 plates
saved.**

Reducing Waste by

98%

How to Circle the Square

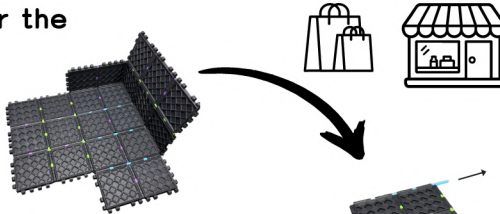


Use

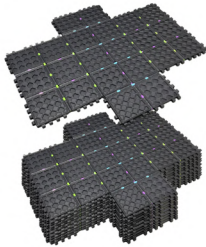
Reuse



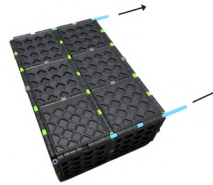
Step 5: Reuse for the next mission



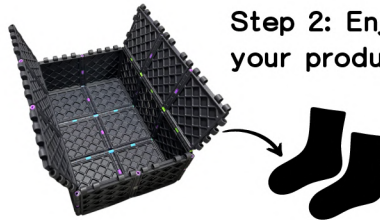
Step 4: Stack the box for easy storage



Step 1: Take out the 2x pipes

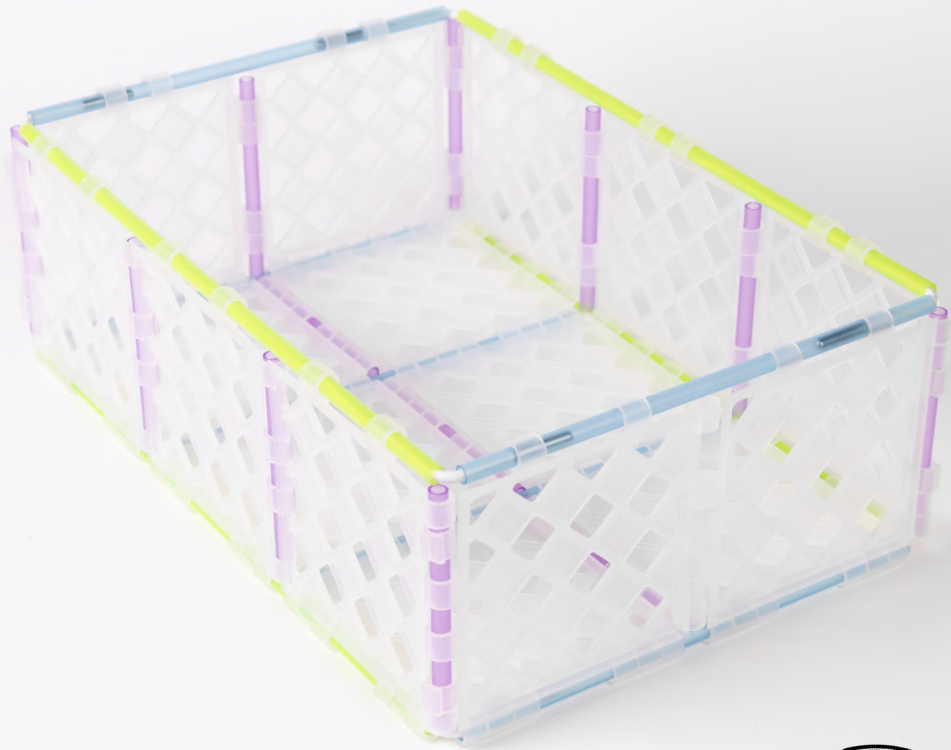


Step 2: Enjoy your product



Step 3: Flatten the box

The above is just one example of how ZEROBOX can be used. It has a wide variety of applications, ranging from the distribution of vegetables and fruits in local supermarkets and e-commerce with a Deposit Return Scheme, to everyday storage boxes in private households.



Model : ZEROBOX / CLEAR / S-Size / CRATE / 3x2x1 / 22 pcs
Sales Point for Retail: [amazon.co.uk/dp/B0G2MC83QP](https://www.amazon.co.uk/dp/B0G2MC83QP)



www.zero.box/ip

**Finance
&
Footprint**

Cost Savings (I)

After 100 Cycles:

VS Cardboard:

74%

Cost Savings

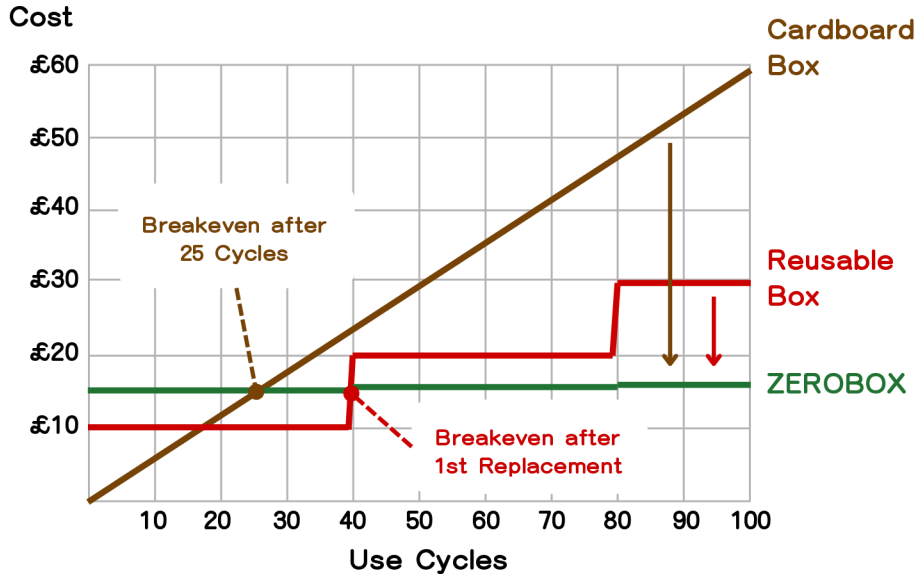
→ Reusability Effect

VS Reusable Box:

49%

Cost Savings

→ Black-Socks Effect



Cardboard Box: Single-Use / Reusable Box: Non-Repairable / See next page for details

Cost Savings (II)

Long-Term View:

	Purchase Price	Life span	Recovery Cost	Cost per Cycle	Cost Savings
Cardboard Box	£0.60	1	-	£0.600	99%
Reusable Box	£10	40	£10	£0.250	98%
ZEROBOX	£15	40	£0.20	£0.005	-

Chart on previous page based on above figures.

Long-run view: Initial purchase price is amortised to near-zero over extended cycles. Figures reflect recurring recovery costs only. For a short-run view (100 cycles), see chart on previous page.

Other Cost Saving Aspects

ZEROBOX	BENEFIT
• 3 Components Only	→ Reduction of Inventory
• Stackable	→ Warehouse Efficiency Gain
• Size-Adjustable	→ Freight Efficiency / SKU Reduction
• Multi-Functional	→ Compatible for Multiple Goods
• Double-Walled	→ Reduction of Damage Cost
• Fully-Reusable	→ Solution for EPR Packaging Tax
• Repairability	→ Minimal Procurement Cost

Carbon Footprint (I)

After 100 Cycles:

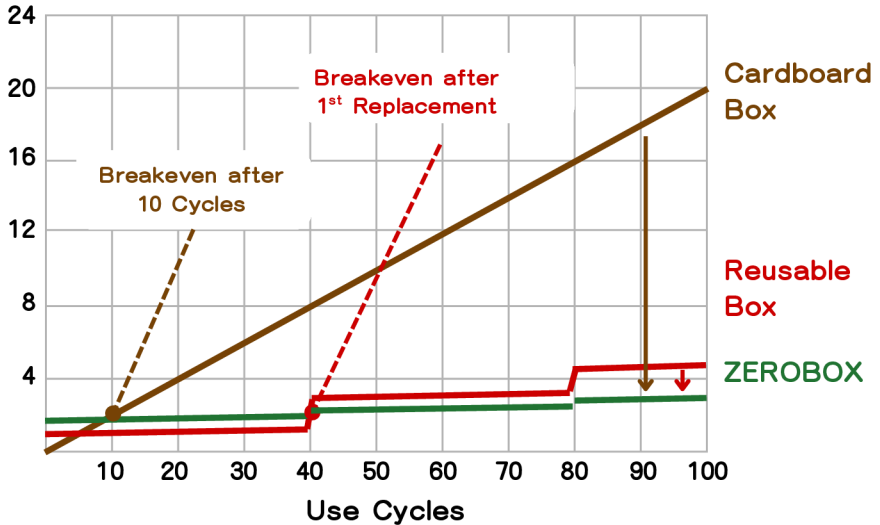
VS Cardboard:
86%
CO₂e Reduction

→ Reusability Effect

VS Reusable Box:
35%
CO₂e Reduction

→ Black-Socks Effect

CO₂e (kg)



Cardboard Box: Single-Use / Reusable Box: Non-Repairable / See next page for details

Carbon Footprint (II)

Long-Term View:

	CO ₂ e per Box	Life span	CO ₂ e from Recovery	CO ₂ e from Transport	CO ₂ e per Cycle	CO ₂ e Reduction
Cardboard Box	0.20	1	-	0.002	0.202	95%
Reusable Box	1.22	40	1.22	0.008	0.038	74%
ZEROBOX	1.96	40	0.06	0.008	0.010	-

Chart on previous page based on above figures.

Assumes transportation of 100km w/ 0.12 kg CO₂e per t·km.

Long-run view: initial production CO₂e is amortised to near-zero over extended cycles. Figures reflect recurring recovery and transport costs only. For a short-run view (100 cycles), see chart on previous page.

Other ESG Aspects

FRAMEWORK	IMPACT
• Scope 3 • Cat. 1	→ Reduce Purchased Goods CO ₂ e
• Scope 3 • Cat. 5	→ Elimination of Full Box Disposal
• EU PPWR (2030 Target)	→ Fully Reusable + Repairable
• Right to Repair	→ Compliant by Design
• CSRD • E1 / E5	→ Massive CO ₂ e Reduction

Model Parameters

A • Product Specifications - ZEROBOX

Parameter	Value	Status	Source
• ZEROBOX dimensions	10 × 20 × 30 cm	Confirmed	ZEROBOX / zero.box
• ZEROBOX weight	0.67 kg	Confirmed	ZEROBOX
• Material	HDPE	Confirmed	ZEROBOX
• Number of plates	44	Confirmed	ZEROBOX
• Plate weight	18g	Confirmed	ZEROBOX
• Production cost (ZEROBOX)	£15.00 (£11 - 15)	Confirmed	ZEROBOX (Depends on Volume)
• Plate unit cost	£0.20 (£0.17 - 0.20)	Confirmed	ZEROBOX (Depends on Volume)
• IP Royalty	USD0.05/plate	Confirmed	Licence Agreement w/ Manufacturer - embedded in unit cost already

B • Product Specifications - Cardboard & Reusable PP Box (Equivalent Size)

Parameter	Value	Status	Source
• Cardboard box cost	£0.60	Estimated	Industry standard
• Cardboard box weight	0.2 kg	Estimated	Industry standard
• Reusable PP box w/ lid cost	£10.00	Estimated	Industry standard
• Reusable PP box w/ lid weight	0.64 kg	Estimated	Swiss Post - Dispobox 11 (As reference)

C • Financial Model

Parameter	Value	Status	Source
• ZEROBOX repair frequency	Every 40 Cycles	Estimated	Based on on-going testing (Conservative)
• Repair cost per event	£0.12 (1 plate)	Modelled	Assumes 1 plate per repair
• Lifespan of Reusable box	40 Cycles	Estimated	Industry dependent (Mkt Avg.)
• VAT / taxes	Excluded	Modelled	Ex-VAT throughout
• Handling / logistics overhead	Excluded	Modelled	Assumed equal for all

D • CO₂e Model

Parameter	Value	Status	Source
• Cardboard CO ₂ e (production)	0.20 kg CO ₂ e / box	Estimated	Brogaard et al. 2014; ~0.94 kg CO ₂ e/kg
• HDPE CO ₂ e intensity	2.90 kg CO ₂ e / kg	Estimated	Benavides et al. 2020 (ScienceDirect)
• PP CO ₂ e intensity	1.91 kg CO ₂ e / kg	Estimated	Vanderreydt et al. 2021, EEA/ETC-WMGE
• Reusable PP box CO ₂ e (production)	1.22 kg CO ₂ e	Modelled	0.640 kg × 1.9 kg CO ₂ e/kg (Dispobox 11)
• ZEROBOX CO ₂ e (production)	1.96 kg CO ₂ e	Modelled	0.674 kg × 2.9 kg CO ₂ e/kg
• Plate repair CO ₂ e	0.04 kg CO ₂ e	Modelled	0.015 kg × 2.9 kg CO ₂ e/kg
• HGV transport emission factor	0.12 kg CO ₂ e / t·km	Estimated	DEFRA 2023 conversion factors
• Default trip distance	100 km	Modelled	Industry dependent (Mkt Avg.)

Working Assumptions

1. Cost figures for cardboard and conventional PP boxes are estimates.

Based on UK market research at time of analysis (May 2026) and will vary by supplier, volume, and geography.

2. Replacement and repair frequencies are working assumptions.

Actual figures will depend on handling conditions, supply chain intensity, and usage environment.

3. CO₂e figures are cradle-to-gate (production + transport).

End-of-life, return logistics, washing/cleaning cycles, and secondary packaging are excluded and may affect the total lifecycle footprint.

4. Transport emissions assume road freight (HGV) only.

Air, sea, or last-mile delivery would alter results materially.

5. All figures are indicative and intended to illustrate comparative magnitude.

A full LCA (Life Cycle Assessment) per ISO 14040/14044 is recommended for regulatory or procurement submissions.

6. Model excludes VAT, handling costs, return logistics, cleaning, and storage.

Equivalent across all three options assumed.

7. CO₂e intensity varies by production process and recycled content.

Virgin HDPE/PP assumed throughout; use of recycled HDPE/PP would reduce production footprint significantly.

Solution for businesses:

**Source ZEROBOX directly from our
licensed manufacturing partners —
maximising cost efficiency and
eliminating procurement complexity.**

Sourcing Solution (Example)

Zetar Mold - Overview



Global Quality Certifications:

ISO 9001, IATF 16949, ISO 14001, and ISO 45001 certified for FDA, REACH, and RoHS-compliant HDPE production.

Frictionless Communication:

20+ fluent English-speaking staff and 7 dedicated engineers ensuring seamless collaboration and 24/7 support.

Proven Export Stability:

20 years of operation, 490+ verified global transactions, and \$5.4M+ in annual export revenue.

Cross-Sector Expertise:

Specialized engineering of high-tolerance HDPE components for the Automotive, Medical, and Electronics industries.

Advanced Infrastructure & Precision:

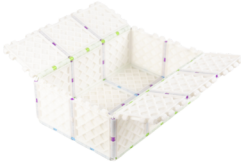
Japanese injection machinery (80T–800T), M7 cleanrooms, and in-house spark erosion tooling guaranteeing ultra-tight ($\pm 0.01\text{mm}$) HDPE tolerances.

Zetar Mold - Pricing

ZETARMOLD
Established 2005

Model :

ZEROBOX / WHITE / BOX WITH LID / 3x2x1 / 44 pcs



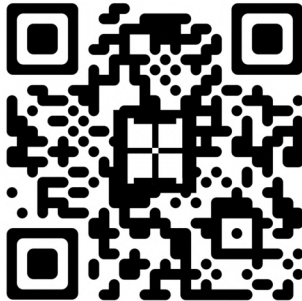
Parameter	Value
Dimensions	10.5 × 20 × 29.5 cm
Weight	674g
Material	HDPE
Color	White
# Plates	44
Lid	Yes
SKU	B_BDBY_321 S_HDWH

Component	(£)		100 boxes		1,000 boxes		10,000 boxes	
	Units	per Unit	per Unit	Total	per Unit	Total	per Unit	Total
Plate	44	0.193	0.193	848	0.176	7,755	0.176	77,550
Clip	20	0.179	0.179	359	0.028	555	0.026	5,100
Pipe No.1	15	0.054	0.054	81	0.054	810	0.054	8,100
Pipe No.2	6	0.075	0.075	45	0.075	450	0.075	4,500
Pipe No.3	4	0.083	0.083	33	0.083	330	0.083	3,300
Assembling	1	1,500	1,500	150	1,500	1,500	1,500	15,000
TOTAL				1,516		11,400		113,550
per Box				15.16		11.40		11.36

Indicative price only, based on indicative FX rate and subject to change. Prices include all applicable IP royalties and are EXW Shanghai - excl. freight, insurance, import duty and VAT. For details and offers, please contact Zetar Mold:

Mrs. Nancy Zhang - sales017@zetarmold.com

Scan me:



True sustainability
isn't about recycling
more — it's about
wasting less.

We are inviting
visionary partners to
adopt our design and
disrupt the packaging
industry together.



Contact Us for a Call:

connect@zero.box

A handwritten signature in black ink, reading "Yoshi Nagamine".

Yoshi Nagamine, CFA
Founder & CEO

We care, we share.



ZEROBOX is a trading name of:

bdxpg ltd | Incorporated in England and Wales | Company Registration no: 15891069 |
Registered Office: 71-75 Shelton Street, Covent Garden, London, WC2H 9JQ, **United Kingdom**

bdxpg gmbh | Incorporated in Zurich | Company Registration (UID): CHE-326.126.377 |
Registered Office: c/o CONSAVO Legal AG, Tödistrasse 55, 8002 Zürich, **Switzerland**

www.zero.box