

ARE YOU 30% RECYCLED COMPLIANT?

Non compliance
with the UK Plastic
Packaging Tax costs
£228.82 per tonne
- Every tonne,
Every shipment.

30%
RECYCLED
CONTENT
VERIFICATION

The UK Requirement

Under the UK Plastic Packaging Tax (Finance Act 2021, Part 2), plastic packaging is taxed at **£228.82 per tonne** unless it contains **at least 30% recycled content**.

The Problem

Current verification relies on complex traceability systems that are expensive, slow, and vulnerable to error or fraud.

A Smarter Way to Prove Recycled Content

Symphony's **d₂Trace™** and **d₂Tag™** technologies provide a simple, tamper proof method to verify recycled content.

A tiny, invisible marker is added only to the recycled portion during manufacturing. Measuring this marker in the finished product independently confirms the recycled percentage - even if government thresholds change.



d₂Trace™ Essential

High sensitivity XRF
detection for low cost,
high volume production.



d₂Tag™ Advanced

Low cost IR detection for
brand owner programmes,
audits, and field checks.

Why It Matters

- ✓ Independent verification
- ✓ Supply chain transparency
- ✓ Tamper proof compliance
- ✓ Significant savings vs PPT liability



TECHNICAL DETAIL



d₂Trace™ Essential

High sensitivity XRF detector (approx. £30,000) capable of reading extremely low marker levels. Low masterbatch loading results in a cost of **£51.90 per tonne** (1% addition rate, **£5.19/kg**).

Best for:

- ✓ High volume plastics
- ✓ Cost sensitive production
- ✓ Frequent verification
- ✓ Approx. **£176.92 per tonne** savings

d₂Tag™ Advanced

Lower sensitivity IR detector (approx. **£500**) requiring higher taggant loading for reliable detection. Masterbatch cost is **£148.10 per tonne** (1% addition rate, **£14.81/kg**).

Best for:

- ✓ Brand owner assurance programmes
- ✓ Audits and regulatory checks
- ✓ Multi point field verification
- ✓ Approx. **£80.72 per tonne** savings

Technology Summary

Both systems deliver robust authentication, recycled content verification, and supply chain traceability. The choice depends on detector sensitivity, cost structure, and assurance level required.



Comparison Table

Feature	d ₂ trace - Essential	d ₂ tag - Advanced
Positioning	Essential verification	Advanced authentication
Primary objective	Recycled-content verification	Enhanced authentication
Typical applications	High-volume plastics	Higher assurance programmes
Verification approach	Embedded tracer	Embedded taggant
Verification speed	Rapid	Rapid
Supply chain assurance	Good	Enhanced
Brand protection	Moderate	High
Typical user	Converter, recycler, compounder	Brand owner, auditor, regulator

Next Steps

Free testing is available for qualifying sample volumes. Contact Symphony to determine which verification level fits your supply chain.

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