



FACT SHEET

Plastics Analyser

Supporting your plastic data needs

Resource Futures are now able to increase our offering to help our clients understand in detail the plastic materials they work with.

Backed by our extensive experience in designing sector representative studies to understand the range of materials in the waste stream, we now have the ability to rapidly differentiate unmarked polymers found in your products, recycling and residual waste, without the need for lab testing.

Introducing the Plastics Analyser

Where you have unmarked plastic products or packaging and wastes, we can positively identify targeted, non-target or contaminant plastics at the desired stage of your operations and processes. The analysis process also has the big advantage of being non-destructive and samples do not need to be prepared prior to testing.

Plastics Analyser applications include:

- Film and rigid plastic composition and polymer analysis.
- Distinction between mono polymer materials and multilayer materials
- Testing of materials or plastic output grades for polymer types.
- Plastic output or product quality threshold and contaminant levels testing.
- End of line plastic analysis at Material Recovery Facilities (MRFs).
- Local authority and contractor assessments of plastics at transfer stations or HWRCs where unmarked products can cause a headache for operatives.
- Polymer identification of marine plastic and other plastic litter.
- Construction, commercial and industrial plastic identification.
- Carpet and textiles identification and grading by polymer type or cotton content.

How the Plastics Analyser works

The handheld device used is a Near InfraRed Spectrometer. The analyser is placed onto the surface of each plastic item which is 'scanned' and the result returned within seconds. Using an internal bulb to produce light, an inbuilt sensor then measures the wavelengths of light reflected back from the surface and structure of the plastic being tested.

Each plastic polymer type reflects wavelengths of light differently as a distinct 'signature' or 'fingerprint'. In addition to the pre-installed library of known 'signatures' from common plastic polymers, we have developed additional capabilities to distinguish between some multilayer materials and can develop further libraries for other materials. At the squeeze of a trigger it is possible to check if an item is made of one of these common polymers.

The list of plastics we are able to identify includes 30 common polymers; PET, PP, PE, PVC, PS, PA (nylon), ABS, PI, PSO, PPS, TPV, PTT, PC, PMP, PBT, PETG, PLA, SAN, EVA, PB, PPO, CA, PMMA, PUR, PI, PLA, Ionomer, Styrenic terpolymer, Elastomer, POM, and Nylon + ABS.

We can further differentiate between some common multilayer materials.

Although it can be used to identify common plastic types, one of its greatest strengths is the ability to identify plastic products which are not currently marked, most notably plastic films.

The analyser is made by a leading global manufacturer of scientific equipment and is backed by their extensive experience and materials verification process.

Where the Plastics Analyser can be used

Because the analyser is small and lightweight it is highly portable, making it ideal for fast identification of materials in the field. With no advance preparation needed it is extremely versatile and can be used anywhere.

In addition to sorting materials to a very high level of detail, Resource Futures also has the capability to support sample design, auditing and testing of output quality where materials or samples need to meet set thresholds, including where blended or multiple polymer combinations and laminates are in use.

Ways Resource Futures can help your operation

We can;

- Verify your systems' performance through detailed Waste Composition Analysis and representative and statistically robust sample design
- Build greater understanding of polymers without need for lab level testing
- Help you understand what film types are in your feedstocks
- Assess viability of introducing film separation based on percentage of film arriving
- Establish a baseline and help fine tune your sorting operations to identify greater volumes of recyclable rigid plastics and films
- Provide solutions to increase recovery, reduce disposal fees and increase revenue

If you would like to discuss how we might be able to help you, please contact Pete Wills on 07903 867 803 or email Peter.Wills@resourcefutures.co.uk