

RDF FUEL SAMPLING

Background:

This document provides an overview of the key steps to take representative samples of RDF.

The steps are informed by two main standards:

- EN ISO 21645:2021 Solid recovered fuels. Methods for sampling¹
- EN 15443:2011 Solid recovered fuels Methods for the preparation of the laboratory sample²

Please refer to these documents for additional information on RDF sampling.

Sampling Protocol:

The following steps should be carried out using UKAS (or European equivalent) methods.

- 1. Determine the total quantity of RDF (the lot) that the sample will represent. The maximum weight of the lot for the sample is 1,500 tonnes.
- 2. Plan and implement sample access points to the lot. Consider the health and safety requirements of your site in doing so.
- 3. Calculate the particle size of the lot by passing the RDF through a series of sieves. The particle size is the size of the sieve opening through which at least 95% of the RDF can pass.
- 4. Calculate the mass of the sample you will take. Generally, the larger the particle size, the larger the sample. To calculate the sample mass, see Annex E of ISO 21645. The sample size should also be at least as large as the minimum sample mass (the increment mass multiplied by the number of increments (see point 6 and Annex E of ISO 21645)). It must also be large enough for laboratory analysis.
- 5. Prepare equipment to take the samples, ensuring the equipment is three times the size of the particle size. Take a minimum of 24 sample portions across the lot from (in order of preference):

¹ British Standards Institute (2021) Solid recovered fuels - Methods for sampling, 2021

² British Standards Institute (2011) *BS EN 15443 2011 Solid recovered fuels - Methods for the preparation of the laboratory sample,* 2011

- Material on a conveyor which has been stopped.
- A flow of material over the end of a conveyor.
- Static material.

Ensure that the sampling has minimal disruption on site operations and is taken over the production of the lot - this can be spread over a number of days.

- 7. Combine the sample portions into one sample. Ensure that the total weight is at least as large as the calculated sample mass (point 4).
- 8. Where possible, use a UKAS accredited laboratory to reduce the sample particle size. Alternatively, pass the material gradually through a small shredder ensuring that the final size of the particles meets testing requirements.
- 9. Place the sample in a tightly sealed and labelled container that is larger enough to include all material. Store the container in a cold and dry environment (maximum 5°C) for up to one week.
- 10. Send the sample for testing and analysis to a UKAS laboratory accredited for the preparation and analysis of RDF. Accreditation can be checked on the KAS website www.ukas.com.