

Sampling –

Wood Waste Derived Fuel

1. Sampling

Sampling shall be conducted in accordance with this Sampling Plan and EN ISO 18135:2017 “Solid Biofuels – Sampling” to ensure that the samples represent, as far as practicable, the true nature of the lot or the section of the main body of material from which they were drawn. The procedures are designed to achieve this objective, with measures in place to ensure traceability and integrity of the samples throughout the process.

Samples should consist of at least 4 sample increments of approximately equal mass. The amount of material obtained for each sample shall be in accordance with the nominal size (indication of the largest size particle present) of the Wood Waste Derived Fuel being sampled.

All sample increments shall be combined and mixed thoroughly to form a homogenous sample (Composite Sample) prior to dividing or screening of the sample. See Figure 1 below.

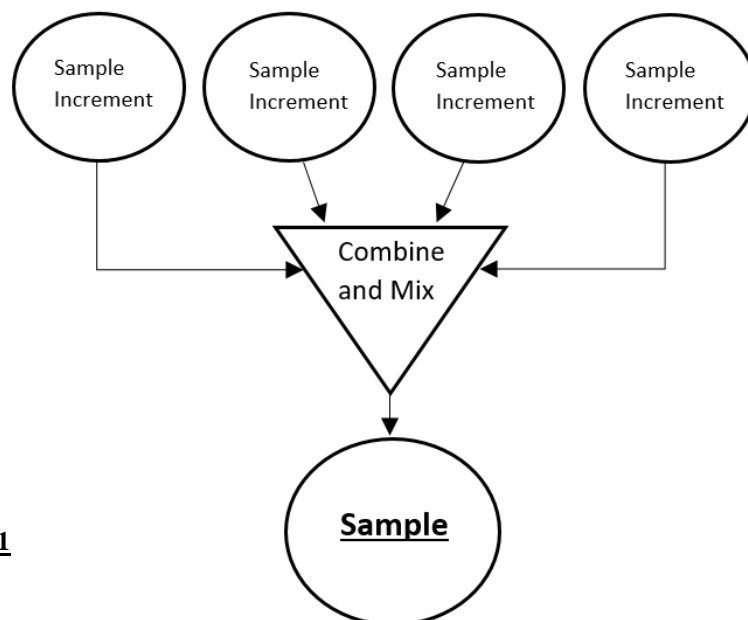


Figure 1

Note: As per WWDF Boral Specification – A composite sample is defined as a sample that combines four (4) discrete sub-samples of equal size into a single sample for the purpose of analysis.

Table 1 - Minimum mass to be retained during sample division stages

Nominal Size, mm	100	63	50	45	40	30	10	5	1	0.25
Mass, g	15000	4000	2000	1500	1000	500	150	100	50	10

Table 2 - Minimum mass per composite sample

Nominal Size, mm	100	63	50	45	40	30	10	5	1	0.25
Mass, g	60000	16000	8000	6000	4000	200	600	400	200	40

Note: It may be necessary to place the combined sample into several containers to facilitate safe handling. If the sample is in multiple containers each container should be numbered together with an indication of the total number of containers used for the sample. For example. ‘Container 1 of 5’

Sampling –

Wood Waste Derived Fuel

2. Sampling in practice

It is important to regularly ensure that the equipment in use is properly cleaned and maintained. If the equipment shows signs of not functioning in accordance with the intended use, action shall be taken to test and repair or replace it.

The integrity of the sampled material should be ensured, e.g. avoiding loss or gain of moisture, fines, etc. This is done by temporarily storing the sample in an airtight plastic container upon collection.

All sampling equipment shall be handled according to the described use, and it is important to ensure uniform extractions in repeated use.

The sampler should always ensure that all extracted material is transferred from the sampling device to a sample container, without loss or gain.

If an increment or combined sample mass (volume) is too large to be handled or transported, the mass shall be reduced according to the methods described in EN 14780.

All personnel performing sampling shall be properly instructed or trained in the specific use of the device or method, and preferably understand the consequences of improper use of it to avoid human influence on sample quality. All rules and legislation about health and safety shall be respected at all times. Precautionary measures such as the wearing of an appropriate dust mask during sample collection should be practiced.

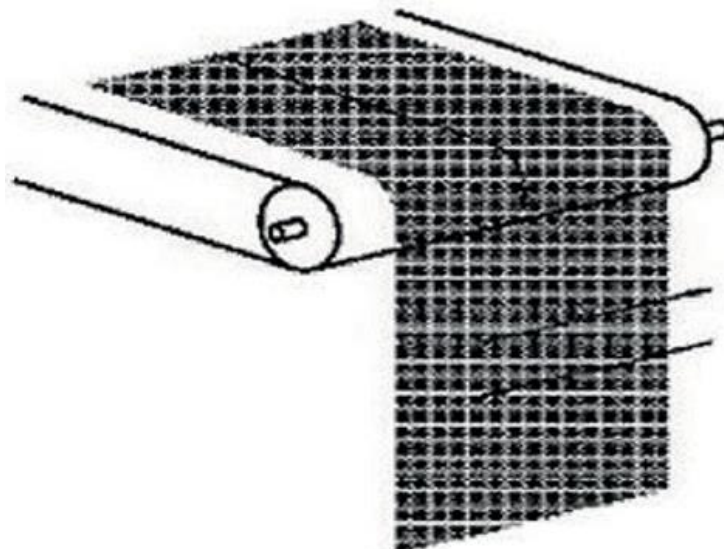
3. Sampling using Falling Stream method (Benedict preferred method)

Sampling shall be carried out using a sampling box (see *Figure 2*) that is passed through the stream of falling material so that it cuts the **whole cross section** of the falling stream.

The procedure for sampling from falling stream shall be as follows;

1. Front end loader to empty bay of excess stock, so that there is a clean, clear and hard surface for sampling
2. Whilst material is flowing, slide sample box across falling stream ensuring a constant velocity.
3. The sample box should not be filled more than two thirds, this is to ensure sample consistency and loss of material
4. Remove sample box and place sample increment into air-tight packages such as plastic buckets (with lids) or plastic bags (to be closed).

Figure 2



Sampling –

Wood Waste Derived Fuel

4. Handling and storage of samples

Packaging and Storing samples

Sample shall be placed in air-tight packages such as plastic buckets (with lids) or plastic bags (to be closed).

1. Sample shall be kept away from direct sunlight if transparent packaging is used.
2. Sample container shall be sealed when it is necessary to guard against aging of the sample.
3. Sample may be stored in a dry cool area for no longer than six months if little or no biological activity occurs.
4. Integrity of the sample should always be safeguarded during storage.

Identification/Labelling

The container shall carry a label showing;

- a) Customer
- b) Product Code/Description
- c) Unique laboratory sample number (e.g. WWDF-01);
- d) Stockpile number/s
- e) Date and time sampled;
- f) Identification of sampler;
- g) Sampling container number (i.e. 1 of 2, 2 of 2, etc.);
- h) Specific sampling procedure used; and
- i) Any other relevant information, as required.

5. Visual Inspection

Visual inspection shall be undertaken to inspect for contamination and its quality is diverging strongly from the one expected, the sampler/inspector shall report without delay to the appropriate party for further instructions. Photographs shall be taken during visual inspection as they can assist with reporting.

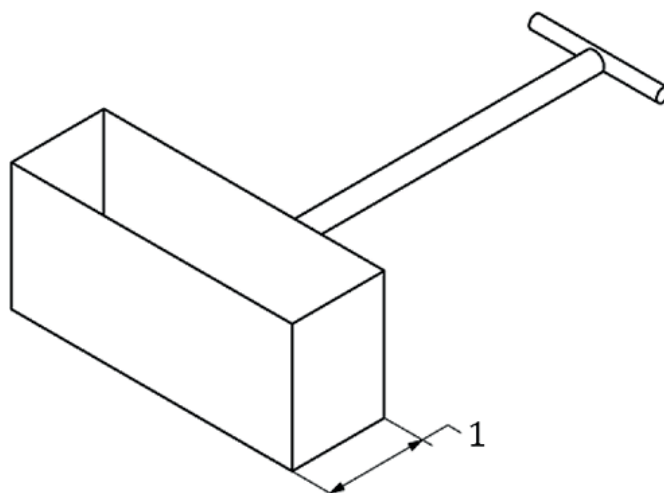
6. Sample Reduction

The WWDF shall be thoroughly mixed and then passed through sample divider or cone & quartering. Refer to 'SOP 023 Sample Division – Cone & Quartering' and 'SOP 024 – Sample Division – Splitter Box'

7. Equipment for Sampling

Sampling Box

The sampling box shall have a square or rectangular opening at the top. The opening width of the top of the sampling box shall be at least 2.5 times the nominal top size and should be large enough for normal oversized material particles to enter the sampling device.



Key

1 width of the sampling box