**01 Biomass Quality Manual**

**This is the processes and data recording forms for:**

[Company Name]

Quality Representative – [Name]

Depot address:

[XXX

XXXX]

Post Code: [XXX]

**Contents & Required Actions**

*Please only complete the section relevant to your fuel.*

 [Introduction 3](#_Toc150762302)

 [Document Templates 3](#_Toc150762302)

**Woodchip**

[1 Product Lines Definition - Woodchip 4](#_Toc150762303)

[2 Manufacturing Process Controls - Woodchip 5](#_Toc150762304)

[3 Critical Quality Control Points – Woodchip 5](#_Toc150762305)

4 [Documentation Requirements – Woodchip 6](#_Toc150762305)

**Firewood**

[1 Product Lines Definition - Firewood 7](#_Toc150762303)

[2 Manufacturing Process Controls - Firewood 8](#_Toc150762304)

[3 Critical Quality Control Points – Firewood 9](#_Toc150762305)

4 [Documentation Requirements – Firewood 10](#_Toc150762305)

**Wood Briquettes**

[1 Product Lines Definition – Wood Briquettes 11](#_Toc150762303)

[2 Manufacturing Process Controls - Wood Briquettes 12](#_Toc150762304)

[3 Critical Quality Control Points – Wood Briquettes 13](#_Toc150762305)

4 [Documentation Requirements – Wood Briquettes 14](#_Toc150762305)

# Introduction

The aim of the fuel supplier’s manual and procedures are to satisfy the documented quality requirements to meet the Woodsure fuel approval scheme.

The overall purpose of the scheme is to recognise fuel suppliers that can demonstrate good practice and a commitment to consistently source raw materials, process and package wood fuel so the end user has confidence in a supplied fuel.

This manual is offered to satisfy the requirements of the Woodsure fuel approval scheme.

Note that the Woodsure scheme operates to BS EN ISO 17225 standard. Woodsure can certify to withdrawn standards such as Onorm or BS EN 14961 but these must be requested at the point of application. Most boilers that are claiming RHI will need BS EN ISO 17225 specification as this will be detailed on their Emissions Certificate.

**Documentation Templates**

We will need copies of each of the following documents as part of your Quality Manual - if your business already has its own documentation versions, please include these.

Otherwise, feel free to edit the templates below to reflect your business and fuel:

**Supplier List**

**[5.1 supplier list](https://www.woodsure.co.uk/app/uploads/C1-Approved-Supplier-List.docx)**

**Equipment List**

[**5.2 Equipment list**](https://www.woodsure.co.uk/app/uploads/C4-Equipment-list.docx)

**Training Record**

[**5.3 Training Record Form**](https://www.woodsure.co.uk/app/uploads/C5-Training-Record-Form.docx)

**Complaints Record**

[**5.4 Customer Complaints Master**](https://www.woodsure.co.uk/app/uploads/D1-Customer-Complaints-Master.xlsx)

**Site Map**

[**5.5 Site Map**](https://www.woodsure.co.uk/app/uploads/E1-Site-map.docx)

**Point of Sale Record**

[**5.6 Point of Sale Record**](https://www.woodsure.co.uk/app/uploads/F1-Point-of-Sale-List.docx)

**Customer Order Forms**

[**5.7 Customer Order Forms**](https://www.woodsure.co.uk/app/uploads/F2-Customer-Order-Form.docx)

# 1 Product Lines Definition- Woodchip

Set of characteristics for each product offered for sale. Please complete the below for each product in the Woodsure scheme.

Product: Woodchip (delete any that are not appropriate)

|  |  |
| --- | --- |
| Size class(es) | P16S, P31S, P45S, P16, P31, P45 Other (please specify): |
| Moisture content(s) | M20, M25, M30, M35, M40, M45, M50, M55Other (please specify): |
| How it is sold (delete any that are not appropriate) | Heat/volume/weight |

Raw materials (delete any that are not appropriate)

|  |  |
| --- | --- |
| A1 | virgin wood and chemically untreated wood residues with low ash content (little or no bark) |
| A2 | virgin wood and chemically untreated wood residues with a higher ash content |
| B1 | includes other material such as short rotation coppice, wood from gardens and plantation and chemically untreated industrial by products and residues. |
| B2 | includes chemically treated industrial by products and residues and used wood. Timber that has heavy metals or halogenated organic compounds are excluded |

# Manufacturing Process Controls-Woodchip

This relates to the processes for one product line, and the controls in place to monitor and verify product specification. For this example it is assumed that the feedstock is virgin timber.

*NB – if your process differs from the below, please provide supplementary document outlining this.*

|  |  |
| --- | --- |
| Process: | Responsible Person: |
| 1. Material Received - Check delivery matches order. |  |
| 2. Store and season - Ensure timber is correctly stored and identified. Leave for the number of months detailed below and then check moisture content monthly until less than moisture content detailed below.Moisture - Choose an item.Number of months - Choose an item. |  |
| 3. Chip using experienced operator, maintained blades and appropriate speed for the quality required. Monitor particle size and adjust speed as required. |  |
| 4. Force drying of chip describe processChoose an item. |  |
| 5. Ensure store is maintained, dry and well ventilated. Monitor moisture content of product.  |  |
| 6. Loading – Use correct volume/weight is monitored by Choose an item. |  |
| 7. Delivery – Check fuel quality and quantity against delivery note for products required, address and time and date of delivery. Final check of moisture content.  |  |

 **3 Critical Quality Control Points- Woodchip**

To ensure that the products are being inspected to a set criteria.

*NB – if your process differs from the below, please provide supplementary document outlining this.*

|  |  |
| --- | --- |
| Procedure | Checklist |
| Raw material quality and species are checked on delivery against the checklist and the delivery note is signed as an acceptable delivery. Any rejected timber is marked/ quarantined or returned to the supplier | YES | NO |
| Pre-processing raw material is stacked on bearers  | YES2 | NO |
| Identification of seasoned roundwood/ stock rotation | YES | NO |
| Pin meter test of roundwood | YES | NO |
| Processing and size according to product specification is tested using the method identified on the flow chart at the points identified on the flow chart and recorded on the form | YES | NO |
| Moisture content test of chip (if more than one method is used, add each that is relevant).Choose an item. | YES | NO |
| Quantity and quality of product at point of sale is tested using the method and at the points identified on the manufacturing process controls (as per section 2 point 6 above) | YES | NO |
| Contamination is kept to a minimum by checking the delivery vehicle and loading equipment are clean prior to loading | YES | NO |
| All goods are inspected whenever it is handled and any sub-standard product is removed or segregated | YES | NO |

**4 Documentation Requirements - Woodchip**

The areas below must be documented in a formal written process which will be reviewed at the time of audit. If the answer to any of the below is ‘no’ – please provide equivalent documentation or explanation in separate document.

Woodsure has prepared templates on the next page to assist with this.

|  |  |  |
| --- | --- | --- |
| 5.1 The purchase agreement with our supplier(s) shall include evidence of legality and sustainability, the raw material is suitable for the fuel and fuel process. (approved su | YES | NO |
| 5.2 I confirm that we have the necessary equipment to demonstrate the fuel quality. Checks are performed to ensure the equipment is working e.g. one pin meter test alongside another or against an oven test or self-calibration test.  | YES | NO |
| 5.3 It can be demonstrated that all employees/operatives are trained and competent to operate any machinery and control product quality.  | YES | NO |
| 5.4 I confirm that we have a formal documented process for handling and recording complaints which will be made available for Woodsure administration/Woodsure auditor to review. | YES | NO |
| 5.5 Our site is laid out so that we can recognise different quality of products and segregate non-conforming product or raw materials.  | YES | NO |
| 5.6 It is clear to my customer what products I sell and which are certified through Woodsure schemes.  | YES | NO |
| 5.7 I confirm that we can demonstrate our customers order requirements (size specification moisture content etc)  | YES | NO |

*\*End of Woodchip section\**

# Product Lines Definition- Firewood

Set of characteristics for each product offered for sale. Please complete the below for each product in the Woodsure scheme.

|  |
| --- |
| Product Line Description |
| Sales Unit volume & Dimensions |  |
| Length |  | Width |  | Height |  |
| Wood Type (Tick one) | Hard |  | Soft |  | Mix |  |
| Volume Type Comparison | Loose  |  | Stacked |  |
| Maximum Moisture Content  |  |
| Length of Log |  | Cm / inches |
| Country of origin  | A2B |

|  |
| --- |
| Additional Information (where applicable) |
| Diameter (max) |  | Cm / inches |
| Energy content | KWh/m3 loose - | KWh/kg -  |
| Species (highest abundance first) |  |
| Customer Storage Information |  |
| Customer delivery information |  |
| Method of Drying | Natural / Kiln |

# Manufacturing Process Controls-Firewood

This relates to the processes for one product line, and the controls in place to monitor and verify product specification. For this example it is assumed that the feedstock is virgin timber.

*NB – if your process differs from the below, please provide supplementary document outlining this.*

|  |  |
| --- | --- |
| Process: | Responsible Person: |
| 1. Material Received - Check delivery matches order. |  |
| 2. 2. Store and season - Ensure timber is correctly stored and identified. Leave for no. of months detailed below and then check moisture content monthly until less than moisture content detailed below.Moisture - Choose an item.No. of months - Choose an item.. |  |
| 3. Split. Monitor log length and adjust as required |  |
| 4. Force drying of logs describe processChoose an item. |  |
| 5. Ensure store is maintained, dry and well ventilated. Monitor moisture content of product. |  |
| 6. Where the fuel is sold in packaging e.g. bags/nets/ 1m3bulkbag or sold by the vehicle load, the volume is confirmed through measurements and compared with reference to 1m3 sided box to ensure volume is standardised. |  |
| 7. Loading – Use correct volume/weight is monitored by Choose an item. |  |
| 8. Delivery – Check fuel quality and quantity against delivery note for products required, address and time and date of delivery. Final check of moisture content. |  |

 **3 Critical Quality Control Points- Firewood**

To ensure that the products are being inspected to a set criteria.

*NB – if your process differs from the below, please provide supplementary document outlining this.*

|  |  |
| --- | --- |
| Procedure | Checklist |
| Raw material quality and species are checked on delivery against the checklist and the delivery note is signed as an acceptable delivery. Any rejected timber is marked/ quarantined or returned to the supplier | YES | NO |
| Pre-processing raw material is stacked on bearers  | YES2 | NO |
| Identification of seasoned roundwood/ stock rotation | YES | NO |
| Seasoned – Processed timber is stored for seasoningKiln Dried – Moisture content testedFinished – Moisture content tested | YES | NO |
| Moisture content test of product.Choose an item. |  |  |
| Quantity and quality of product at point of sale is tested using the method and at the points identified on the manufacturing process controls (as per section 2 point 6 above) | YES | NO |
| Contamination is kept to a minimum by checking the delivery vehicle and loading equipment | YES | NO |
| All goods are inspected whenever it is handled and any sub-standard product is removed or segregated | YES | NO |

**4 Documentation Requirements - Firewood**

The areas below must be documented in a formal written process which will be reviewed at the time of audit. If the answer to any of the below is ‘no’ – please provide equivalent documentation or explanation in separate document.

Woodsure has prepared templates on the next page to assist with this.

|  |  |  |
| --- | --- | --- |
| 5.1 The purchase agreement with our supplier(s) shall include evidence of legality and sustainability, the raw material is suitable for the fuel and fuel process. (approved su | YES | NO |
| 5.2 I confirm that we have the necessary equipment to demonstrate the fuel quality. Checks are performed to ensure the equipment is working e.g. one pin meter test alongside another or against an oven test.  | YES | NO |
| 5.3 It can be demonstrated that all employees/operatives are trained and competent to operate any machinery and control product quality.  | YES | NO |
| 5.4 I confirm that we have a formal documented process for handling and recording complaints which will be made available for Woodsure administration/Woodsure auditor to review. | YES | NO |
| 5.5 Our site is laid out so that we can recognise different quality of products and segregate non-conforming product or raw materials.  | YES | NO |
| 5.6 It is clear to my customer what products I sell and which are certified through Woodsure schemes.  | YES | NO |
| 5.7 I confirm that we can demonstrate our customers order requirements (size specification moisture content etc)  | YES | NO |

*\*End of Firewood section\**

# Product Lines Definition-Briquettes

Set of characteristics for each product offered for sale. Please complete the below for each product in the Woodsure scheme.

|  |
| --- |
| Product Line Description |
| Sales Unit volume & Dimensions |  |
| Length |  | Width |  | Height |  |
| Wood Type (Tick one) | Hard |  | Soft |  | Mix |  |
| Country of Origin |  |
| Dimensions of Briquette  | Length |  | Diameter |  |
| Maximum Moisture Content  |  |
| Classification | A1 |  | A2 |  | B |  | Ungraded |  |

|  |
| --- |
| Additional Information (where applicable) |
| Processing additive - %db2 |  | Ash content - %db |  |
| Net calorific value – Mj/kg or kWh/kg as rec’d3 |  | Density – g/cm3 |  |
| Nitrogen content - %db |  | Sulphur content - %db |  |
| Chlorine content - %db |  | Arsenic content – mg/kg db |  |
| Cadmium content – mg/kg db |  | Chromium – mg/kg db |  |
| Copper content – mg/kg db |  | Lead content – mg/kg db |  |
| Mercury content – mg/kg db |  | Nickel content – mg/kg db |  |
| Zinc content – mg/kg db |  |  |

%db – Dry basis

# Manufacturing Process Controls-Briquettes

This relates to the processes for one product line, and the controls in place to monitor and verify product specification. For this example it is assumed that the feedstock is virgin timber.

*NB – if your process differs from the below, please provide supplementary document outlining this.*

|  |  |
| --- | --- |
| Process: | Responsible Person: |
| 1. Material Received - Check delivery matches order. |  |
| 2. Store and season - Ensure timber is correctly stored and identified. Leave for no. of months specified below and then check moisture content monthly until less than moisture content specified below.Moisture - Choose an item.No. of months - Choose an item. |  |
| 3. Chipping and chip storage - If applicable, process incoming raw material into chip. Transfer to storage. (applicable only if your raw material is timber and you chip beforehand) |  |
| 4. Force drying of raw material describe process (if applicable)Choose an item. |  |
| 5. Feedstock crushing - Material from the dryer is passed through a hammer mill fitted with the correct screens to produce feedstock for briquetting. |  |
| 6. Briquetting - Check and control temperature and moisture content of material going through press. Visual check of briquette quality as it exits the press.. |  |
| 7. Packing plant - Visual check of briquette quality prior to packing. Check weight of packed bags at regular intervals (eg density, colour, length etc). Describe process if further packaged onto pallets or into dumpy sacks.  |  |
| 8. Loading – Use correct volume/weight is monitored by Choose an item. |  |

**3 Critical Quality Control Points-****Briquettes**

Purpose

To ensure that the products are being inspected to a set criteria.

*NB – if your process differs from the below, please provide supplementary document outlining this.*

|  |  |
| --- | --- |
| Procedure | Checklist |
| Raw material quality and species are checked on delivery against the checklist and the delivery note is signed as an acceptable delivery. Any rejected timber is marked and returned to the supplier | YES | NO |
| Pre-processing raw material is stacked on bearers and seasoned | YES2 | NO |
| Initial chipping of the raw material is carried out. Product is tested at regular intervals during this operation and the results noted. The chipped material is stored in a designated area ready for the next step in the process | YES | NO |
| The moisture content of this chipped material is measured just prior to feeding into the dryer. This measurement is used to control the operation of the dryer to ensure dried material is suitable for further processingChoose an item. | YES | NO |
| The dried chip is fed through a hammer mill fitted with the correct screen to produce a briquette feedstock. Regular samples are taken to verify the feedstock meets the required size and moisture content for briquette making | YES | NO |
| The feedstock is fed to the briquetting press from the storage silo in a controlled manner to ensure smooth operation of the press. The briquette nozzle temperature is monitored and adjusted as necessary. A visual check is made of briquette quality at regular intervals during a production run and adjustments made to the press as required | YES | NO |
| After cooling, the briquettes are cut to length using a crosscut saw. Length is checked at regular intervals and the saw setting adjusted accordingly | YES | NO |
| The briquettes are packed. A visual inspection is carried out at this stage and any sub-standard briquettes are discarded and/or sent for reprocessing. The weight of the final bagged product is checked at regular interval during a production run and recorded | YES | NO |
| All inspection requirements for the manufacturing processes are included in this Quality Manual and recorded on the Process forms and kept for traceability | YES | NO |
| Any packaging is checked prior and at the point of delivery for defaults that may affect the quality of the product | YES | NO |
| All goods are inspected whenever it is handled, and any substandard product is removed | YES | NO |
| All measures, sizes, and acceptable quality standards to be taken from the Product Specifications Sheet | YES | NO |

**4 Documentation Requirements- Briquettes**

The areas below must be documented in a formal written process which will be reviewed at the time of audit. If the answer to any of the below is ‘no’ – please provide equivalent documentation or explanation in separate document.

Woodsure has prepared templates on the next page to assist with this.

|  |  |  |
| --- | --- | --- |
| 5.1 The purchase agreement with our supplier(s) shall include evidence of legality and sustainability, the raw material is suitable for the fuel and fuel process. (approved su | YES | NO |
| 5.2 I confirm that we have the necessary equipment to demonstrate the fuel quality. Checks are performed to ensure the equipment is working e.g. one pin meter test alongside another or against an oven test.  | YES | NO |
| 5.3 It can be demonstrated that all employees/operatives are trained and competent to operate any machinery and control product quality.  | YES | NO |
| 5.4 I confirm that we have a formal documented process for handling and recording complaints which will be made available for Woodsure administration/Woodsure auditor to review. | YES | NO |
| 5.5 Our site is laid out so that we can recognise different quality of products and segregate non-conforming product or raw materials.  | YES | NO |
| 5.6 It is clear to my customer what products I sell and which are certified through Woodsure schemes.  | YES | NO |
| 5.7 I confirm that we can demonstrate our customers order requirements (size specification moisture content etc)  | YES | NO |