

1

Types of wood for recycling

This section shows the main wood types seen in the mixed waste stream. The purpose is to help you to recognise the different wood types that pass through your site and to help you meet your recycler's specifications.

The wood types described here can be categorised as clean wood, laminated wood products and products made from various sizes of wood chip. Compare the types of wood described here with Section Four which you can use to show the specification you are using on site.



Softwood

Softwood is sourced from coniferous trees and tends to be cheaper and less dense (heavy) than hardwood. Softwood is normally used for packaging such as pallets, crates and reels and as framing.



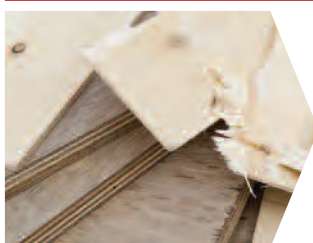
Hardwood

Hardwood is sourced from broadleaved trees. It is often darker in colour than softwood and is longer lasting, denser & more decorative than softwood. Hardwood is typically used in expensive furniture and as a veneer on cheaper materials, such as chipboard or MDF.



Blockboard

Blockboard is made up of a core of softwood blocks (up to about 25mm wide) placed edge to edge and sandwiched between veneers of hardwood. The 'sandwich' is then bonded under high pressure. Blockboard is an old fashioned product now less common than chipboard. It is used in furniture and kitchen applications.



Plywood

Plywood sheets are made by bonding together a number of thin sheets to create a strong flexible product. Plywood has many uses depending on the wood used in the different layers and the bonding agent. It may be used in applications as varied as concrete shuttering, in DIY and marine ply.



Orientated Strand Board (OSB)

OSB is a layered board, made of wafers of softwood with opposing grain to give strength. OSB has similar uses to plywood.



Chipboard

Chipboard panels are made by bonding together wood particles with an adhesive under heat and pressure to form a rigid board with a relatively smooth surface, in which the wood chips are visible. Chipboard is used in most flat-pack furniture, though often with a painted or plastic laminated surface.



Medium Density Fibreboard (MDF)

MDF panels are made from wood fibres glued under heat and pressure. MDF differs from chipboard in that no woodchips are visible. MDF is used as doors and drawer fronts with decorative moulding and in DIY it is often painted or plastic coated.



Hardboard

Hardboard is a thin brown or painted panel in which the wood chips are not visible. Hardboard tends to be used in cheaper furniture as drawer bottoms or backs.

2

Contaminants and the problems they cause the recycler

This section shows the types of contamination you may see coming into your site, where it comes from and the main ways of removing it.

Your recycler may have equipment fitted to remove some contaminants, however prevention of contamination makes it easier to produce a quality product from the wood you collect.

Compare the types of contamination described here with Section Four which you can use to show the specification you are using on site.



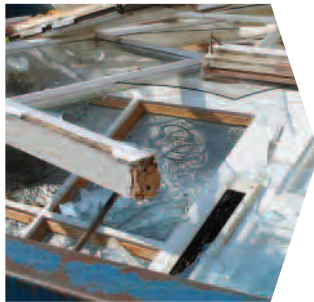
Surface Treatments – paints and varnishes

Surface treatments like paint and varnish are used to change the appearance of the finished product and to protect items from wear and water damage. A particular problem is that paints or varnishes may contain lead or other chemicals which make them unacceptable for some end market uses. Such items can only be removed by picking.



Metal

Metal components, such as nails and screws, are used to join wood together or as fittings for doors and windows. Large pieces of metal can cause damage to wood recycling machinery and can be dangerous to users of products made from recycled wood, for example nails in horse bedding. Ferrous metals, such as nails, can be removed using magnets. Non-ferrous metals, such as aluminium and brass fittings, may be removed by an eddy current separator.



Glass and Putty

Glass and putty are typically found in wooden windows. Putty may melt and soil or blunt cutting equipment. Glass contamination is dangerous to users of products made from recycled wood such as bedding or mulches. Putty contains oils which can affect the manufacturing processes used to create products from recycled wood, such as panelboard. Glass and putty found in doors and window frames should be removed where possible. Glass particles are difficult to remove except with expensive equipment.



Paper

Paper from labels, wrapping or cores in cheap doors affects the performance of products made from recycled wood as it does not behave in the same way as the rest of the wood. Paper should be removed by picking where possible.



Plastic – solid and sheeting

Plastic may be present as a packaging material in wood effect cabinets or as a veneer on chipboard and MDF. Plastic can melt resulting in fouling of the production process. The presence of plastic contamination can affect the end uses, for example they may be unacceptable in biomass fuels. Plastic is best removed by picking.



Rubber, Foam and Fabric

Rubber, foam and fabric tend to occur together in upholstery and, either separately or together, can cause tangles or jam equipment. These materials may burn or melt damaging cutting surfaces and other parts of the equipment. Rubber, foam and fabric are best removed by picking. Rubber, in particular, has a similar density to wood and is very difficult to remove mechanically, except with expensive equipment.



Chemical Treatments

Chemical treatments are usually applied to wood to provide protection against the weather and water. They can typically be recognised as a green or brown stain, for example on garden fencing or sleepers. Ask your site manager for advice as some may be acceptable. A few may be hazardous to health and banned by legislation. Chemically treated wood can be picked out. Remember to wear the correct clothing. New testing kits may help identify treated wood at source. See www.recyclewood.org.uk for more details.

3

Current markets for products made from recycled wood

This section shows the range of products that can be made from wood collected for recycling in the UK.

The cleanliness and type of recycled wood collected will directly affect the final products that can be manufactured. Some examples of the products being produced in the UK are shown here. Ask the recycler you supply which products they produce.

IMPORTANT NOTE:

OF THE 10 USES SHOWN HERE RECYCLED TREATED WOOD CAN ONLY BE USED FOR PANELBOARD MANUFACTURE AND ENERGY PRODUCTION, HENCE THE NATIONAL SURPLUS.



Panelboard

The most common product is chipboard. It is extensively used in construction, furniture and DIY. It may be sold in simple sheet form, or pre-machined for specific uses. It may also be laminated with decorative finishes for such uses as DIY.



Horse Bedding

Horse bedding can be made from recycled wood. Dust and nails must be extracted to protect the horses and only clean packaging wood waste can be used. Woodchip provides a warm and absorbent bedding which lasts for several weeks, reducing the costs and need for mucking out.



Poultry Bedding

Poultry bedding is used in the rearing of poultry for both meat and egg production. For this reason it must be free from health threats to both consumers and birds. The bedding must be light coloured and absorbent.



Cattle Bedding

Recycled wood products can be used successfully for over-wintering of cattle. Large particles are needed to provide free drainage outside. However when inside small particles are required to provide high rates of absorbency.



Pet Bedding and Cat Litter

Recycled wood based products are safe and clean for use as cat litter and pet bedding. The material needs to be very clean and free from contamination.



Horse Arenas and Gallops

The need to be able to train and ride horses despite the weather has led to the development of all-weather surfaces for gallops and arenas, both internal and external. Recycled wood based products work well for all these uses, but all contaminants need to be removed and specific chip sizes are required.



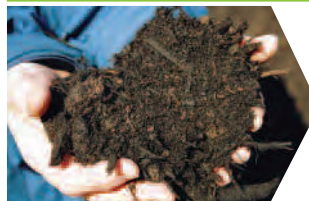
Play Areas

Recycled wood based products are used in significant volumes for play area surfacing and have performance and cost benefits for this application. The material needs to be very clean and free from contamination.



Mulch and Pathway Coverings

Recycled wood chips can be used very effectively as a mulch to suppress weeds, reducing the need for chemical or manual weeding, and as a pathway surfacing to reduce maintenance requirements. These products can also be coloured for creative landscaping.



Composting

The process of composting materials with high moisture content can be improved by adding dry material such as shredded chipboard.



Fuel for Energy Production

Highly efficient boiler systems are now available which burn wood for heat or for electricity generation. Recycled wood is ideal for conversion into fuel pellets or chips, due to its low moisture content.

4

Guidance on separating wood for recycling at source

The Specification – what we want & where it should go

This poster can be used to show the types of wood that typically come on to site. It should be used to show what is wanted and what should not be separated for recycling.

You can put ✓ or ✗ in the last column or you may want to show which skips to use for different types of wood.

Different Wood for Recycling	What it Looks Like	Different Levels of Contamination	Wanted or Where to put it?
Clean white wood and offcuts		Without any nails, fixtures or fittings	
		With nails, including pallets and boxes	
		With nails and other metal fixtures	
Painted or stained wood		Including solid wood furniture with paint or varnished finish	
Panel and sheet materials including offcuts		Plain chipboard, plywood, MDF and blockboard	
		Painted & laminated chipboard, plywood, MDF and blockboard	
TV cabinets and electrical goods		Wood mixed with plastic or electrical items	
Indoor furniture		Chipboard and flat pack	
		Pine and solid wood	
		Upholstered	
Wooden doors and window frames		Without glass and metal fittings	
		With metal fittings	
		With glass and metal fittings	
Outdoor wooden furniture, fencing and fence panels		Anything stained or sprayed with preservative (green or brown)	
Wood mixed with other materials		For example with plasterboard, bricks etc	
Railway sleepers, fence panels and posts		Anything potentially treated with creosote (brown and oily)	
Green waste		Logs, branches, prunings and other freshly cut tree material	



Creating markets for recycled resources

For more information on wood waste please go to www.recyclewood.org.uk or to read more detailed studies on wood waste arisings visit www.wrap.org.uk/materials/wood

WRAP (the Waste & Resources Action Programme) is a major UK programme established to promote resource efficiency. Its particular focus is on creating stable and efficient markets for recycled materials and products and removing barriers to waste minimisation, re-use and recycling. A not-for-profit company, WRAP is backed by substantial Government funding from Defra and the devolved administrations in Scotland, Wales and Northern Ireland. While steps have been taken to ensure its accuracy, WRAP cannot accept responsibility or be held liable to any person for any loss or damage arising out of or in connection with this information being accurate, incomplete or misleading. For more details, please refer to our Terms & Conditions on our website www.wrap.org.uk