



Best Practices in Wood Waste Recycling

Wood Waste Feedstock Specification for Mechanical and Thermomechanical Pulp

Material: Wood Waste

Issue: Feedstock quality standards are very high for paper manufacturers, and the most critical characteristics are:

- acceptable wood species
- acceptable size distribution
- acceptable geometry
- allowable contaminant levels
- acceptable color
- acceptable moisture content

A violation of specifications could have serious consequences for the processor, including price reductions, downgrading of the material to hog fuel or complete rejection of it, and/or termination of the supply relationship. Furthermore, processors should bear in mind that specifications for each manufacturer may be somewhat fluid, and could change rapidly due to changes in their manufacturing systems, in their product mix, and in the price, quality, and quantity of competing feedstock.

Best Practice: This best practice recommends that written specifications for acceptable wood waste feedstock be developed and mutually agreed upon along with tests for monitoring compliance with these specifications.

Feedstock specifications will vary from end-user to end-user. These differences are due to differences in processing equipment, handling techniques, and product lines. Specifications can vary for different manufacturers producing the same product or for different plants of the same company which may be producing slightly different products or addressing different customer specifications. These specifications should be made part of a written contract or letter of agreement that stipulates other important conditions (price, volume, etc.).

Wood Species

Acceptable species include Pine, White Fir, Douglas Fir, Hemlock, Spruce and Cedar. Hardwoods are generally not acceptable.

Size Distribution

Length:	max. 1 3/4", min. 1/4" (45 mm, 7 mm)	Overs:	(> 1 3/4"), max. 1-4%
Thickness:	between 5/16" to 3/8" (8 to 10 mm)	Overs:	(> 3/8"), max. 4%
Width:	same as length	Fines:	(< 1/8" or 3 mm) = max. 2%
Dust:	NA		

Acceptable Geometry

Pulp and paper mills prefer a true sliced chip instead of a hogged or shredded shape.

Best Practices in Wood Waste Recycling

Maximum Allowable Contamination Levels

Bark:	0.2 - 0.5%	Rot:	0%
Dirt, rock, sand:	0%	Metals:	0%
Plywood:	0%	Particleboard:	0%
Wood with laminates:	0%	Plastics:	0%
Painted wood:	0%	Treated wood:	0%
Other non-wood materials:	0%		

Color/Brightness

Pulp and paper mills prefer bright wood feedstock over darker, aged material.

Moisture

A range of moisture content, from 30 to 50%, is generally acceptable. However, the moisture content within a specific load of material and from each supplier may need to be consistent so that a paper manufacturer knows how to adjust their pulping process to produce a satisfactory product.

Implementation: In the course of developing and maintaining supply relationships, wood waste processors must work with each manufacturer's fiber buyer to develop and adhere to written specifications that are tailored to that manufacturer's production systems and product requirements. The processor should then monitor their compliance with these specifications through a consistent quality control program. The goal of the quality control program should be to detect and correct any problems before shipping processed wood to manufacturers. When problems do occur, they must be resolved properly. Problem loads should be evaluated and arbitrated quickly and objectively between buyer and supplier. It is especially important that both parties understand, in each instance, whether the problem is due to a failure of the supplier to meet target specifications or to changed expectations on the part of the buyer. This determination will not only affect the settlement of a problem but will help maintain a healthy business relationship. Clear communication on this point can help the wood waste processor, as a supplier, to anticipate and thus avoid future problems.

Benefits: Consistently providing high-quality feedstock will improve the marketability of the processor's material, potentially increasing both the price and volume of the material sold. Arbitrating problem loads promptly, adjusting specifications mutually, and continuously making equipment and process modifications are practices that can improve utilization of wood waste feedstock. These are important elements of creating and maintaining a positive and mutually beneficial working relationship between the processor and manufacturer.

Application Site: This Best Practice applies to wood-waste processing facilities.

Contact: For more information about this Best Practice, contact CWC, (206) 443-7746, e-mail info@cw.org

References:

1. Conaway, Michael. Longview Fiber Co., Longview, WA.
2. Fuller, Bill. TAPPI/Weyerhaeuser, Tacoma, WA.
3. Good Duane. Boise Cascade, Wallula, WA.

Issue Date / Update: March 1997