Wood Waste Feedstock Specification for Unbleached Kraft 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 developing written specifications for acceptable wood waste feedstocks. The specifications should also include quality control tests for complying with the specifications and other important conditions such as price and volume. This becomes the contract or letter of agreement between the wood waste processor and the paper manufacturer. Feedstock specifications varies from one end-user to another. These variations are determined by processing equipment, handling techniques, and product lines. Oftentimes, specifications varies for different manufacturers producing the same product, or facilities of the same company producing slightly different products and addressing different customer specifications. Common feedstock requirements include:

Wood Species

Acceptable wood species include Pine, White Fir, Douglas Fir, Hemlock, Spruce and Cedar. Hardwoods are acceptable but must be kept separate.

Size Distribution

Maximum Length: 1 3/4-inches (45 mm)
Width: *see length*
Fines: (<1/8-inch or 3mm), Maximum 2%
Overs: (> 5/16-inch or 8mm), Maximum 4%
Minimum Length: 5/16-inch (8 mm)
Overs: (> 1 3/4-inch or 45mm), Maximum 4%
Thickness: Maximum 5/16-inch (8 mm)

Acceptable Geometry

Paper manufacturers prefer a true-sliced chip instead of a hogged or shredded shape.

Maximum Allowable Contamination Levels

Rot:	0%	Bark:	0.5 - 1.0%
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%		

*A trace of aluminum is generally accepted.

Color/Brightness

Paper manufacturers prefer bright wood feedstocks as opposed to darker, aged material.

Moisture

Moisture content ranging from 10 to 50 percent is generally acceptable. However, a consistent moisture content within a specific load of material from each supplier might be required. Communicating with the paper manufacturers is suggested so that their pulping process is adjusted to produce a satisfactory product.

Implementation: Wood waste processors should work with each manufacturer's fiber buyer to develop and adhere to written specifications for their unique production systems and product requirements. A quality control program should be in place to ensure product consistently complies with the paper manufacturer's specifications. The goal of the quality control program should be to detect and correct any problems before shipping the processed wood to the manufacturers.

However, if problems are identified, they should be resolved properly, quickly, and objectively. Regardless of whether the supplier (wood waste processor) failed to meet the required specifications or the buyer (the paper manufacturer) changed the agreed upon specifications and expectations, both parties should work together to resolve the problem. Maintaining an open communication and diplomacy throughout the settlement process would foster a healthy business relationship and avoid future problems.

Benefits: Consistently providing high quality feedstock improves the marketability of the material and potentially increases the price and volume of it. Arbitrating problem loads promptly, adjusting specifications mutually, and continuously making equipment and process modifications are practices that could improve the use of the wood waste processor's material.

Application Site: Processing Facility and Manufacturing Site.

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

References:

1. Conaway, Michael. Longview Fiber Co., Longview, WA.
2. Fuller, Bill. TAPPI/Weyerhaeuser, Tacoma, WA.
3. IRU Group, Inc. Eugene, OR.

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