



Best Practices in Wood Waste Recycling

Wood Waste Feedstock Specification for Particleboard

Material: Wood Waste

Issue: Particleboard manufacturers closely monitor their wood fiber supplies. Poor quality feedstock causes costly down-time, excessive equipment maintenance or damage, or end-product quality problems. These types of problems jeopardize the long-term viability of the use of wood waste feedstock. Since wood waste processors are trying to displace the traditional virgin wood fiber suppliers, satisfying the particleboard manufacturer's specifications are critical to sustaining the captured market share. Critical product quality characteristics include: wood species, geometry, color, size distribution, allowable contaminant levels, and moisture content.

Best Practice: This Best Practice recommends that wood waste processors and end-users agree to specific product quality requirements in writing. Wood waste processors need to develop these agreements with each individual customer, since the particular details of feedstock specifications vary from one customer to another. The variations in feedstock specifications are determined by the customer's processing equipment and techniques. Wood waste feedstock requirements include:

Wood Species

Wood species specifications vary by mill and region. Particleboard mills might have a species preference for their feedstock. Some mills set maximum allowable levels of certain species by weight, such as: Cottonwood at 10 percent, Oak at 5 percent, and Cedar at 2 percent.

Size Distribution

Length: 3/4-inch maximum	Fines: (<1/8-inch) maximum 10%
1/8-inch minimum	Dust: (<20 mesh) maximum 0.1%
Overs: (>3/4-inch) maximum, 10% gross	Width: <3/4-inch
(>3-inch) maximum 1%	Thickness: <3/4-inch
(>6-inch) none	

Acceptable Geometry

Particleboard mills accept hogged, shredded, and chipped feedstocks.

Maximum Allowable Contaminate Levels

Non-Wood Contaminants:

- No noticeably large pieces of non-wood contaminant allowed.
- Rubber and plastic materials: maximum allowed is .001% by weight.
- Rocks, Glass, Sand, Non-Ferrous: maximum allowed is .1% by weight.
- Ferrous Metal: maximum allowed is .1% by weight.

Other Contaminants:

- Bark: maximum allowed is 1% by weight
- Wood with Binders (plywood, OSB, particleboard, MDF): max. 10%
- Char: maximum allowed is .001% by weight.
- Rot: maximum allowed is .1% by weight.

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- Painted, Treated, or Laminated Wood: none
- Paper and Cardboard: maximum allowed is .1% by weight.

Color/Brightness

Particleboard mills prefer bright colored wood as opposed to aged.

Moisture

Particleboard mills accept feedstocks of somewhat varying moisture content in the range of 10 to 50 percent. However, consistent moisture level within each specific load of material from the wood waste processor is desired.

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 and adhering to the specifications improves the marketability of the material and potentially increases the price and use 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: Manufacturing Site and Processing Facility.

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

References:

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3. "Investigation of Alternative Markets for Recycled Wood," prepared by International Resources Unlimited, Inc. for the Portland Metropolitan Service District; 1992.
4. Yeasting, John. Re-Sourcing Associates. Seattle, WA.

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