

# Recycled Materials For Play Equipment

Responsible recycling involves more than picking up reclaimable trash and shipping it out of town. It also means “closing the recycling loop” by using products made of recycled materials. For communities, such behavior isn’t just politically correct—it ultimately pays off in reduced disposal costs for solid waste.

On the playground, using equipment made from recycled materials educates children and their parents on the benefits of recycling.

## **Let the buyer be aware.**

The hardest part of buying recycled products is learning how to tell the good from the bad. You can’t assume that every manufacturer is using recycled materials responsibly—but by asking the right questions, you can be sure that you’re making a responsible buying decision for your constituents.

## **Is it really recycled?**

“Recycled” products typically contain one or more of the following materials:

- *Post-consumer waste* consists of the cans, bottles and other materials that a community’s residents throw away. Such material is considered desirable because it otherwise would end up in a landfill.

- *Recovered material* is equally desirable. This consists of reusable material that a municipality or sanitation contractor has separated from appliances and other solid waste.

- *Reclaimed factory scrap*, such as aluminum tubing and steel trimmings, can be used to supplement consumer waste and recovered material. Using manufacturing scrap in recycled products is important because it diverts such material from the solid-waste stream.



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## **Don’t skimp on metal.**

Recycling of steel and aluminum has become commonplace. Every year, more than 60 million tons of steel is recycled in the United States, and 66% of all U.S. steel consists of recycled material. Aluminum products have an average recycled content of 25%, but they may contain an even higher percentage. For example, the posts used in PlayBooster®, PlayOdyssey™ and PlayShaper® equipment are made from 100% recycled aluminum.

## **Be picky about plastics.**

Today, plastic is widely used in play systems—not just for attachments like slides and tunnels, but also for basic structural components.

Unfortunately, there are few industry standards for “recycled plastic,” a generic term that can mean just about anything. High-density polyethylene (HDPE) and low-density polyethylene (LDPE) are the most commonly used plastics in outdoor play equipment. Let’s take a look at the various grades that are available:

- *Purified fractional-melt HDPE* is typically made from milk and detergent bottles. It consists of a single high-density polyethylene resin that has been ground into flakes and washed to remove food residue, waste and adhesives. Only then is the plastic used for molding or extruding. This high-quality recycled plastic is used to make the plastic lumber found in Landscape’s recycled walls and slat-type roofs.



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■ *Multiple-melt flow HDPE/LDPE* is a rung down on the durability ladder. It contains two grades of plastic, including the nonstructural plastic used in bags and films. If the HDPE and LDPE are not purified, cavities of up to 10mm in diameter may be formed during processing. Oils from foods or adhesives can cause deterioration and eventual fracturing of the plastic.

■ *Composites* typically include 50% LDPE and 50% sawdust or other secondary fiber. Because the wood fiber is organic and absorbs moisture, composites are vulnerable to moisture deterioration, termite damage and failure at low temperatures.

■ *Commingled* plastic is a mixture of different resins in percentages that may vary from batch to batch. Durability is always suspect, since chemical additives are dispersed unevenly through resins with different properties. And because the resins in the mixture expand and contract at different rates, internal stresses can cause warping as temperatures rise or fall.

#### **Additives**

Pigments, UV stabilizers and other chemicals are used to color plastic, impart structural strength and improve durability. In quality products, additives can represent half the cost of recycled plastic material—which is another reason why cheap plastics are unlikely to survive the stresses of play, weather and solar radiation.

#### **Extrusion vs. molding**

The two basic techniques used to form plastic are continuous extrusion (which results in lengths of product that can be cut to size) and closed molding (such as roto molding or injection molding processes, which produce individual products by heating the resin in a mold). Both methods have their place, but extrusion is preferred when making plastic “lumber” such as that used in walls, and roofs.

The benefits of continuous extrusion include a more consistent finish, the ability to form a product of any length and fewer voids for more consistent strength. High-quality foamed extrusion has a rigid skin over a fine, consistent cellular core—a design that maximizes strength while reducing weight.

#### **The bottom line: value vs. price**

In plastics as in so many other products, you get what you pay for. Saving a few thousand dollars up front can lead to high maintenance and replacement costs in a painfully short time.

#### **Ask your play equipment manufacturer for details.**

Manufacturers offering “recycled” play equipment should be able to tell you the types and sources of all the materials used in their products. You may also want to ask about the company’s own recycling practices.



#### **ISO 14001 Certification**

Landscape Structures earned ISO 14001 Certification in 1998 for its commitment to protecting the environment and preserving natural resources. Fewer than 200 other U.S. companies have met the voluntary but strict ISO 14001 standards, and Landscape Structures is the first playground manufacturer in North America to achieve this certification.

Besides recognizing our accomplishments, the standards guide our efforts to achieve our future goals. Currently, we’re reducing scrap and eliminating—or minimizing—all hazardous wastes. Some of our efforts include:

- Using less water (and minimizing the need for special handling of waste water) with our state-of-the-art paint line.
- Reclaiming the vast majority of our powdercoat paint.
- Reducing our paper use by using electronic communications.
- Even our packaging is earth-friendly, such as recyclable cartons made from recycled paper products, and biodegradable packing peanuts.

For a detailed list of the recycled and reclaimed materials used in Landscape Structures products, see your local representative.

