Recycled Materials in Play Equipment

landscape structures™

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Responsible recycling involves more than picking up reclaimable trash and shipping it out of town. It also means "closing the recycling loop" by using and creating 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.

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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 cans, bottles and other materials that a community's residents throw away. Using 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.

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 percent of all U.S. steel consists of recycled material. Aluminum products have an average recycled content of 25 percent, but they may contain an even higher percentage. For example, the posts used in Evos™, PlayBooster® and PlayShaper® equipment are made from recycled industrial sources and not virgin-mined materials.

Be picky about plastics

Today, plastic is widely used in playsystems–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 Structure's recycled enclosures, slat-type roofs, picnic tables, Skatewave™ components and benches.
- *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. This material is not typically appropriate for playstructures.

■ *Composites* typically include 50 percent LDPE and 50 percent sawdust or other secondary fiber, like glass fiber. Because the wood fiber is organic and absorbs moisture, composites are vulnerable to moisture deterioration, termite damage and failure at low temperatures. This is not a safe choice for playstructures.

■ *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. This produces structurally unsafe material.

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. Always ask if additives are in the material.

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). Both methods have their place, but extrusion is preferred when making plastic "lumber" such as that used in enclosures, roofs and Skatewave™ components.

The benefits of continuous extrusion include the ability to form a product of any length and fewer voids for more consistent strength. High-quality formed 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.

Landscape Structures' ISO Certification

Landscape Structures received its certification to the ISO 9001:1994 standard in 1996 and to the updated ISO 9001:2000 standard in 2003. We received our certification to the ISO 14001:1996 standard in 1998 and to the updated 14001:2004 standard in 2005. Both standards provide guidelines for establishing a company's quality and environmental management programs.

■ ISO 9001:2000 has a process-oriented structure, is customer focused and emphasizes continuous improvement in quality.

■ ISO 14001:2004 drives us toward operating in a manner that is environmentally conscious.

Our environmental objectives include:

- Reduce scrap
- Reduce the generation of hazardous and non-hazardous waste
- Maintain our current regulatory status

In addition, we also use less water and minimize the need for special handling of waste water with our state-of-the-art paint line. We have also reduced our paper use by using electronic communications whenever possible.

For information on Landscape Structures and our environmental policies, contact your local Landscape Structures representative, or go to playlsi.com

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