



# APPLICATIONS: Plastic Pallets

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**F**iber bags may be the recommendation for “green” shoppers. But plastic pallets draw praise for moving goods.

Plastic pallets allow a manufacturer to get many trips from a single investment, translating to environmental points for reuse. Still, wooden pallets are easily recyclable. And the question of which type of pallet treads more softly on the Earth finds advocates on both sides.

Plastic pallets beat wooden pallets on certain criteria, such as compactness when stacked between

trips (thanks to nesting pegs), weight (lighter), and appearance (perkier to some eyes). Because they can be easily cleaned, plastic pallets are more useful to some industries.

In the food distribution sector, especially with concerns about food-borne bacteria, plastic pallets are gaining ground on wooden ones. In addition, with regional and international restrictions on wood because of insect pests that may inhabit untreated (by heat or chemical) wood, plastic is assured a place in commerce. (Treating wood adds cost.)

Wooden pallets continue to dominate among the platforms that support most goods moving around the world. Yet more plastic pallets are entering and staying in the pool, and they now make up as much as five percent of it.

Given that market share of plastic pallets is growing and many plastic pallets must be cleaned, a power washing contractor ought to be asking if there is an opportunity to add a new application. A power washing contractor that is operating at 80 percent capacity might want to start knocking on doors of companies that use plastic pallets and asking whether they require someone to clean them locally.

The biggest users of plastic pallets either clean in-house with automated equipment or belong to consolidating groups that collect, clean, and return pallets to members. Yet companies that use only a modest number of plastic pallets may be interested in contracting with a local power washing company that can prove it is both ready and reliable.

To get started, know plastic, the equipment, and where to find customers. Then, give it a try.

### Plastic

Not all plastic pallets are alike. Some are molded from liquid, or resin, and some are formed from already solid petroleum-based materials, such as sheets of polyethylene that are heated and reformed. There are many variants on the injection molding and

thermoforming processes that produce plastic pallets.

Knowing how the pallet is made and whether it is hollow or solid will enable a contractor to develop an approach to cleaning it. Hollow plastic pallets can be washed, but any puncture may lead to water accumulation inside the rungs (stringers) of the pallet. Be cautious on that point if the customer wants a



sanitized pallet, as it may not be possible to promise it.

The chemicals most likely to be used in making plastic pallets are high density polyethylene (HDPE), polypropylene (PP) and polyvinyl chloride (PVC). Virgin petroleum products are generally used to make plastic pallets, although one of the environmental selling points of plastic pallets is that the material can be reused in the manufacture of other plastic products (just not more plastic pallets).

### Technique

Many factors affect the way plastic should be cleaned. "Most important, what I would ask my customer, at first, is what the application is," says U. Eric Zimmermann, division manager for water technology at Putzmeister America, Inc., Sturtevant, WI.

Then, a series of other questions should follow, explains Zimmermann. "Which material has to be removed?

What is the thickness and how old is the material? Did they use any other equipment before and what were the results?"

"Heat" can be extremely important when cleaning plastic, says Zimmermann. It augments the power of water pressure and flow rate in a very desirable way, he explains.

"Some materials do dissolve or clean off better [when] heat is applied,"

says Zimmermann. "[That] lowers the need of pressure and allows more cost-effective cleaning."

Heat also may reduce stress on the plastic. "When it comes to cleaning plastic..., the third dimension, heat, can be a very useful option, as material can be removed with much lower pressure, which guarantees that the water jet will not harm the plastic material," says Zimmermann.

### Equipment

Units used to clean plastic pallets may be large and stationary. But there are small units that a contractor could adapt to a mobile service.

For instance, Cherry's Industrial Equipment Corp. makes what it labels an "entry level" pallet washer, which is designed for compactness and runs by attaching an existing pressure washer. The unit is stainless steel and has a reservoir for collecting wastewater. The same company also makes conveyor systems.

Another maker of conveyor-type plastic pallet (and dunnage) washing systems is Proceco, which offers an automatic washing and drying system for dunnage, trays, and pallets. The system ([www.proceco.com/standard\\_products/14\\_Dunnage-washer.asp](http://www.proceco.com/standard_products/14_Dunnage-washer.asp)) uses a hot, aqueous cleaning solution to remove materials of all sorts, including oils from machines, coolants, dust from transport, and metal chips.

A quick look at patents related to pallet cleaning systems reveals that many manufacturers are looking to add such equipment to their offerings. Of course, some systems for washing plastic pallets are custom designed for large operations.

For example, HW Management, LP, Findlay, OH, offers warehousing and logistics solutions. It does pallet washing with a custom machine equipped with 52 spray heads that dispense water at 2.5 gpm at 170 F and 65 psi. (See [www.hwmanagement.com](http://www.hwmanagement.com).)

Yet big players should not be a deterrent to contractors looking for opportunities. Large companies that do washing may need assistance washing pallets that do not fit their mechanized systems, or what the pallet industry types often call odd-ball pallets.

The company Zimmermann is with offers equipment for the entire range of cleaning options. And like other custom-capable manufacturers, it is ready to configure equipment for unique applications such as plastic pallets.

"Our units come either as mobile units driven by a diesel or a gasoline engine or with electric motor," says Zimmermann. "Our mobile units come in pressure ranges from 3500 psi to 7500 psi or as trailer-mounted units with a diesel engine from 3500 psi up to 40,000 psi. We also do have hot water units with pressure ranges up to 11,500 psi."

### Sectors

Few industries do not use plastic pallets. Because wood beats plastic for strength in weight bearing and flexibility, wooden pallets and skids provide security under the heaviest equipment and packages. But plastic pallets will continue to gain share.

"We constantly get inquiries from chemical companies, food processing companies, construction companies where these companies require the cleaning of their plastic tanks, container, or pallets," says Zimmermann. He is sure those inquiries will keep coming.

In January, Salyer American Fresh Foods announced that it would use only plastic pallets in its domestic food distribution. Anticipate more switches in the same direction given the enormous attention fixed on food safety.

The Grocery Manufacturers of America (GMA) sets a standard for a 48-inch by 40-inch pallet (known as a 48x40) that is so widely adopted that a GMA pallet means a 48x40 that meets certain minimum weight-bearing requirements. Expect to see a lot of GMA pallets, both plastic and wooden.

Some companies set their own standards for cleaning pallets. But government entities such as the Food and Drug Administration (FDA) and U.S. Department of Agriculture (USDA) also set requirements for pallets that are being reused. With many plastic pallet manufacturers promising their products can be reused 20 (or even 100) times, there are many opportunities for cleaning.

The equipment made to clean plastic pallets is typically adaptable. It can be used to clean wooden pallets or plastic totes, too. So consider all the possibilities when exploring opportunities.

Time and money must be invested. But the application of cleaning plastic pallets deserves serious consideration because the number of such pallets is growing, the pallets require cleaning, and local cleaning is an economical service to customers. *CT*

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they are going to need it" is the one true challenge of the job. Having "product on the shelf" is a priority for her employer.

Although she is not a pro, Thompson is quite a competitive golfer. "I try to go to as many different golf courses [as possible]," she says. It's another way to be tested and improve.

Wood carving, which Thompson took up 15 years ago, is a genuine avocation. "My husband is an antique refinisher," she explains. The couple was at a craft show when Thompson met Konstantinos Papadakis, a master wood carver. Captivated by Papadakis' carvings, she eventually was able to take several lessons from him.

Working in a small section of her home, Thompson has carved crosses, headboards, table tops, and mirror frames. Walnut is the wood she prefers because it burnishes so well, and it is an enticing emitter of shadows and highlights.

Thompson buys rough-cut lumber from a local mill and then planes it herself. A full workshop built in a spare garage is in the works.

Full-throttle engagement with life extends to Thompson's landscaping. A recent project entailed placing 300 one-foot boulders on her property to accentuate the play between organic and inorganic worlds. The boulders complement a fire pit and more.

Vocation and avocation have even met on occasion. "I've carved employee appreciation plaques," explains Thompson. She also designed and carved the rose motif that decorates her office.

Thompson is mother to two sons and grandmother to six. The family members are in frequent contact.

A feeling of family extends to Thompson's workplace. Her employer "treats all its employees like a family," she explains.

"Dedication, perseverance, and a willingness to help people," says Thompson, are part of her philosophy of life. "I'm just pretty much an optimist. I just like challenges. I like solving problems." *CT*