

Message in a Bottle:

The Myth of Recycling PVC Building Materials

PVC occupies roughly 2 percent of the US plastic bottle market; far too small a share to support large-scale recycling efforts. More than 75 percent of all PVC plastic is used in building materials. Yet, despite this large share and over a decade of industry attempts, PVC building material recycling is no greater than PVC bottle recycling.

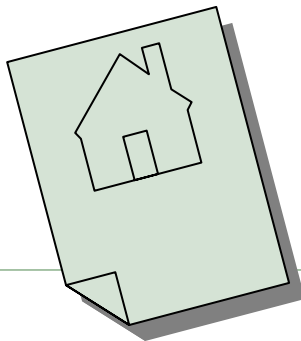
Vinyl manufacturers argue that the long product lifespan of building materials reduces the flow of products into disposal or recycling systems. In truth, however, the installation of pipes, siding and many other materials have always produced scrap waste. Building salvage and deconstruction operations which are accustomed to reclaiming metal pipes, flooring, doors, and siding, do not reclaim PVC components. The fact is, PVC building materials cannot be effectively recycled for the same reasons that PVC bottles and packaging cannot be effectively recycled.

PVC Building Materials

- Pipes
- Siding
- Roofing membranes
- Flooring
- Fencing
- Decking
- Doors
- Windows
- Window blinds

Collection

The cost of collecting and transporting reclaimed PVC is prohibitive in light of two factors: the incompatibility of various PVC formulas with each other and other plastics, and the competition from relatively low cost of virgin PVC.



Compatibility

PVC is manufactured using a wide variety of additives in a myriad of formulations, and has a low burning point. As a result, PVC cannot be mixed with other high value plastics such as polyethylene or it will render the mixed batch unsuitable for reuse except for “downcycled” (low-grade) applications. Nor can various PVC formulations or products be mixed with each other. This makes the cost of sorting, storing and transporting PVC for recycling prohibitive.

Safety Concerns about Stockpiled PVC Scrap

Storing PVC building materials in large quantities can pose a major fire hazard as well. In 1997, at least 400 tons of PVC scrap burned at the Plastimet recycling facility in Hamilton, Ontario. Test results released by the provincial environment ministry on soil, soot and rubble revealed that the site contained 66 times more toxic dioxins than permitted by Ontario Ministry of Environment and Energy guidelines, and 60 times more poisonous lead.

[Source Greenpeace: The Failed Promise of PVC Recycling
http://www.greenpeaceusa.org/media/factsheets/pvc_fail.htm]

More

PVC Recycling Initiatives Wilt Under Scrutiny

The European Recycling Initiative

The PVC industry in Europe has committed to recycling “50% of the *collectible*, available quantity of pipe, fittings and window profile waste by 2005.” However, because of the problems with collecting post-consumer building materials economically, it is foreseeable that this initiative will result in a misleading number that exaggerates the percentage of recycled PVC by excluding “non-collectible” materials, i.e. the vast majority of PVC.

Carpets

Two US-based carpeted companies have initiated programs to recycle the PVC backing of their carpets. To their credit, these are true recycling programs. These programs benefit from three unique circumstances which make them exceptions that prove the general rule that PVC cannot be effectively recycled. First, collection of the scrap PVC backing is incidental to the collection of higher value nylon face fibers – they are attached. Second, the PVC formula is relatively homogenous. Third, the end use, carpet backing, has relatively simple performance and low aesthetic demands.

At this time, both programs require that virgin PVC be mixed with the recycled content in order to produce desired performance. Neither company has committed to 100% recycled PVC content for all carpet backing because of concerns about supply and performance. Even should they succeed in that respect, carpet backing accounts for a *de minimus* amount of PVC use in the building industry, and the program offers neither a market for other post consumer PVC waste nor a model for other PVC recycling efforts.

PVC Recycling Investigations

When the international environmental group Greenpeace investigated PVC recycling claims by building products manufacturers, they found “the PVC industry is supplying false information.” In Germany, Greenpeace tested ‘recycled’ window frames, and found no post-consumer recycled content in most samples and only insignificant traces of post consumer PVC in any sample. The company was using pre-consumer PVC waste from off cuts and coloring the product to resemble a recycled window frame. [source: <http://archive.greenpeace.org/toxics/html/content/pvc3.html#recycle>] The report concluded: “A tour of highly publicized PVC recycling plants revealed that hardly any PVC construction material was being processed at all.”

In 2002, the Basel Action Network (www.ban.org) released a video documentary and report entitled *Exporting Harm*, which exposed sham PVC wire recycling operations in the Chinese “wire burning” village of Guiyu as part of an expose on computer “recycling” in China. There residents, including children, burn PVC coated wire and cabling in open fires in order to extract the valuable copper.

The Healthy Building Network (HBN) is a national network of green building professionals, environmental and health activists, socially responsible investment advocates and others who are interested in promoting healthier building materials as a means of improving public health and preserving the global environment.

For more information, please visit www.healthybuilding.net/pvc/