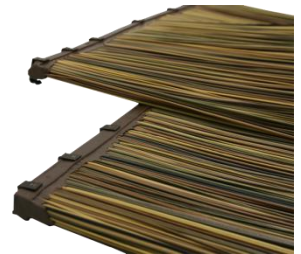


Why Choose Art Thatch™ Polypropylene Thatch over PVC

In response to threats from PVC's toxic lifecycle, and the difficulties in PVC disposal, many policymakers around the world are phasing out PVC and shifting focus to sustainable development and turning to healthier and renewable plastic products like Polypropylene (PP), also known as polypropene.



Quick Facts about Art Thatch™ Polypropylene Thatch versus PVC Plastic

Here's a brief look at some of the health and environmental issues with PVC.

Polypropylene (PP)	PVC (Polyvinyl Chloride)
100% Renewable	Not Renewable
Biodegradable, can go in landfills	Banned from many landfills
Can be recycled	Dangerous, difficult, and expensive to recycle
No heavy metals in product	One of most toxic plastics, often banned
Not irritating to skin or eyes in gaseous state	Creates deadly gas from burning in fires
No toxic chemicals released during life cycle	Dioxin & carcinogens released during lifecycle
Runoff harmless to plants, animals, & water	Runoff toxic to water tables & marine life

PVC Health & Environmental Concerns

The thatch, landscaping, interior design, wildlife conservation, theme park, entertainment, and marina industries, as well as government policymakers, have become concerned about the health and environmental impact of PVC.

PVC (Polyvinyl Chloride) was developed after World War I by German company I.G. Farben. It has been widely used since, but the health concerns and environmental impact issues began to be recognized in the early 1980s. As a result of the rising concerns about health and sustainable development, many decision makers are turning away from the more dangerous PVC to plastics like Polypropylene (PP) that are more renewable and safer plastics than PVC.

PVC Manufacturing

Manufacture of PVC uses and produces many toxic metals, chemicals and carcinogens. Lead, for instance, is used to stabilize PVC during processing.

Some of the dangerous toxins produced and used during PVC manufacture are hydrochloric acid, vinyl chloride, dioxin, and chloro-ethene. Many of these chemicals persist in the finished PVC product and can be released through its life cycle or via accidental fire.

Dioxin is created during the production of PVC. This carcinogen is the most potent known and is a persistent Organic Pollutants (POPs) compound, a class of chemical contaminant that bio-accumulates throughout a food chain and environmental system.

Dioxin breaks down so slowly that past releases of the chemical from fires and industry still exist in the environment. This carcinogen accumulates in human and animal tissue and a 2012 study, partly funded by the National Institute of Environment Health Sciences (NIHES), found that Dioxin can affect not just the exposed individual but also their unexposed descendants.

Chloro-ethene is another carcinogen released during the PVC creation process. It can also be present in the final PVC thatch product and be released during its lifecycle as the vinyl product degrades.

Another health and environmental hazard from PVC manufacture is that it needs a large amount of lead to stabilize it during processing. Lead is toxic and poses a health hazard at all points of a product's life cycle; from manufacture, to install duration, to disposal of degraded product.

PVC Life Cycle Degradation, Water Runoff, and Fire Dangers

It's not just during manufacture that toxins produced during manufacture are released, though. PVC thatch releases these hazardous chemicals over the course of the product's life cycle as it degrades. Exposure to these toxins has been documented to produce severe illnesses like cancer, diabetes, neurological damage, as well as reproductive and birth defects.

Toxic Runoff from Roofing and Installed PVC Thatch Products

When PVC thatch is used for roofing it creates a serious health risk due to run to water run off. As the PVC product degrades over the course of its lifecycle, it releases many toxins. These heavy metals and chemicals get pulled off the roofing material during rains. This toxic runoff from roofs, umbrella and shelter coverings using PVC thatch gets into nearby landscaping, reefs, animal enclosures, and drinking water.

One of the dangers of toxic chemical runoff from PVC roofs into landscaping is that children are inclined to put everything in their mouths. A habit that creates a double danger where park landscaping has toxic chemicals present in the areas that families picnic and play.

Toxic Gases from Burning PVC

There are hundreds of accidental fires in business, homes, and public places every year. When PVC burns the plastic releases toxic gases that kill almost instantly, leaving people no chance to escape the building or evacuate valuable animals.

There are many toxic chemicals and carcinogens released as byproducts when PVC burns, whether from accidental fire or intentional incineration during disposal. Some of these are dioxins (the most potent carcinogens), chlorocarbons, and hydrochloric acid.

The health threat from toxic PVC fumes released during a fire is so great that several cities have chosen to restrict its use in electrical wiring. In 1982 the New York Transit Authority chose to cease using PVC electrical tubing in subway stations after health officials warned of the dangers posed by the plastic when burned. That decade the Chicago City Council also decided against including PVC as electrical conduit in the city's building code after testimony by toxicologists

PVC Disposal Issues, Recycling Difficulties, and Sustainable Development

Chemicals used to manufacture and process PVC make it hazardous and difficult to dispose of. The fact that these toxic chemicals and carcinogens are also released during PVC's life cycle and during fires complicates proper disposal of the product and brings into question whether it's a healthy building material.

Difficulties of PVC Disposal and Recycling

Many countries, as well as American municipalities, have banned the disposal of PVC in landfills. In addition to landfill bans and limitations for PVC, the plastic can't be incinerated safely due to the toxic gases and ash released when the plastic burns.

What recycling there is available for PV is mostly post-industrial scrap reuse via mechanical processing. Post-consumer recycling is largely not profitable and so is fairly negligible.

Is PVC a Healthy Building Material?

The U.S. Green Building Council, the nation's largest sustainable building and ecological development organization, released a report on PVC that concluded it's not a healthy building

material. When they accounted for human health impacts of PVC across its lifecycle, disposal issues, and occupational exposure, the Council found that PVC use leads to the release of dangerous quantities of Dioxin and other carcinogens. The report's authors also found that, "When we add end of life with accidental landfill fires and backyard burning, the additional risk of dioxin emissions puts PVC consistently among the worst materials for human health impacts..."

Sources

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