

# Ten Facts to Know About PVC



Vinyl Council Australia

## 1. PVC adds value to everyday life, contributing to a higher standard of living

PVC (or vinyl) is the leading plastic material for the construction market, where it makes products like electric cable insulation, pipe, flooring, windows and house siding more durable and cost-effective. 70-80% of PVC manufactured in Australia is used in building and construction products. PVC requires less maintenance, frequently outlasts competitive materials and often outperforms them, making quality housing more affordable. PVC piping systems economically and reliably deliver pure water to even the most remote locations; PVC irrigation pipe helps increase crop yields; PVC sewer pipe helps ensure the integrity of waste water handling systems.

## 2. PVC is designed for durability and long life

90% of PVC applications are designed for medium or long-term use. PVC is resistant to weathering, chemical rotting, corrosion, shock and abrasion. The Water Services Association of Australia's Sewer Drain Code gives PVC pipe a Category A rating, signifying a life expectancy of over 100 years. In other applications such as window profiles and cable insulation, studies indicate that over 60 per cent of them will have working lives of over 40 years.

## 3. PVC has low embodied energy

PVC has a lower feedstock energy, especially compared to other polymers and common building materials. It is the least energy intensive of all thermoplastics. PVC resin manufacturing in Australia has achieved considerable energy savings over the last six years and reduced greenhouse gas emissions.

## 4. PVC is partly derived from an abundantly available resource—salt



More than 50% of PVC's feedstock comes from salt, a plentiful resource. It is salt from which chlorine in PVC is derived. The remaining 43 per cent of PVC comes from petroleum feedstock, which means that PVC consumes proportionally less non-renewable resources than other polymers and some common building materials.

## 5. PVC is low maintenance

Vinyl products, such as flooring, wall coverings and windows, require very little maintenance over their lifespan - a benefit both environmentally and economically. PVC windows and cladding, for example, do not require painting, thereby reducing potential emissions. Vinyl flooring requires less cleaning and less use of chemicals than comparable materials.

## 6. PVC can be, and is recycled

Nearly 12,000 tonnes of PVC was recycled in Australia in 2004. Three quarters of this was sourced from durable PVC waste, mainly used electrical cable scrap, piping and conduit and post industrial scrap. The vinyl industry is working with the building and construction sector to establish programs for collection and recycling of PVC building waste. PVC products available with recycled content include: commercial floor tiles; stormwater pipe and fittings; plumbing DWV pipe; conduit and roadside guideposts. At the end of a PVC product's useful life, if it is not feasible to recycle it, it can be safely incinerated or deposited in landfill.

## 7. PVC additives have been carefully researched

Additives used in PVC are regulated by a number of agencies including Australian Standards and the State Environmental Protection Agencies. The use of lead-based stabilisers in some applications is considered safe because the lead is tightly bound into the polymer matrix and does not migrate. PVC is not considered to add significantly to lead in the environment, yet the industry has decided to phase out the use of lead stabilisers in Australia by 2010 under its Product Stewardship Program. The use of cadmium stabilisers by Signatories to the Product Stewardship Program has already ceased.

## 8. PVC's fire performance is well known and well tested

Research and studies of real fires continue to indicate that carbon monoxide - produced by virtually anything that burns - is the primary cause of fire deaths, and early detection and suppression of fires are the key to reducing death rates further. PVC is inherently flame-retardant due to its chlorine base, it does not readily ignite, and most PVC products will not continue to burn once a flame source is removed. The products of PVC combustion are no more hazardous than those produced by other combustion materials, both natural and synthetic.



## 9. The PVC industry subscribes to strict manufacturing standards

The manufacture of PVC, like many other production processes, is closely regulated to minimise its impact on human health and the environment. All air and water emissions resulting from the process are regulated by the state EPAs, and all companies that manufacture PVC or vinyl chloride monomer must report their compliance with these standards. PVC and the PVC production process do not significantly contribute to dioxin emissions.

## 10. PVC's credentials are confirmed by science

The scientific evidence does not support allegations made about PVC. A 1996 study by the CSIRO concluded that: "the adverse environmental effects of using PVC in building products are very small, and no greater than those for other materials." In 2004, the European Union published a review of life cycle assessments of PVC and competing materials and made a similar finding. There is no evidence to support a material bias.

The Vinyl Council of Australia was established in June 1998. Members include manufacturers of vinyl resin, vinyl compounds, vinyl and recycled vinyl products, and suppliers of additives and services to PVC product manufacturers. The purpose of the Council is to strengthen and enhance the sustainability of the Australian PVC industry through a range of activities including the dissemination of information, research, communication, representation and promotion. The formation of the Council was an initiative of the PVC sector members of the Plastics and Chemicals Industries Association (PACIA). The Council's registered office is maintained at PACIA's headquarters in Melbourne.

There are many other useful facts to know about PVC and the Australian industry's Product Stewardship Program. To stay informed, visit the Vinyl Council's website at [www.vinyl.org.au](http://www.vinyl.org.au) or email questions to [info@vinyl.org.au](mailto:info@vinyl.org.au).



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