

# MATERIALS EFFICIENCY

Fewer resources = more profit

# 09

Straightforward advice to help vehicle repairers get ahead in today's business environment

You can make sizeable financial savings by reducing the amount of materials you buy, waste product that doesn't make it onto vehicles, and liquid and solid waste you pay to have removed. Look at your:

- use of paint and thinners
- use and re-use of solvents
- inventory control and staff training

## USE OF PAINT AND THINNERS

Why use more than you need to? One study\* of six firms showed that the best performers used less than a tenth of the thinners used by the least efficient firms, and produced less than a third of the waste thinners for every car they painted.

Simple tips to help make sure that most of your paint and thinners goes where it is needed instead of into the air or waste streams:

- use paint delivery and storage systems that minimise the potential for spills, drips, leaks or evaporation when in storage or when transferring product to or from storage: stores of tins and drums are most likely to cause product wastage, while bulk liquid deliveries are most likely to reduce it
- handle tins and drums carefully to prevent damage: this retains their storage integrity and makes it easier to keep lids, bungs and spigots secure
- mix paint according to need: provide various sizes of paint mixing and sprayer cups so your staff don't mix too much for small jobs. Although you will need to take more care with colour-matching, paint you don't use costs you money in two ways: it's not making it onto a vehicle and it's a hazardous waste you need to pay to get rid of
- if you do generate small amounts of leftover paint, consider giving it to the customer for touch-up as a goodwill gift
- use high transfer-efficiency spray equipment. Air spray guns are typically 20–40% efficient, but newer guns can be more than 65% efficient. One study\* of nine different spray methods showed that HVLP (high volume, low pressure) turbine guns reduced paint use by a third, and produced a finish quality rated as good to excellent. No operational problems were reported with the equipment and harmful air emissions of VOCs (volatile organic compounds) were much reduced – a health benefit – as well



- air pressure is often set too high, creating a fog of spray mist: getting the pressure right can increase paint transfer efficiency by 30–60%\*
- consider using airless and air-assisted systems in areas where finish quality requirements are weaker, such as for undercarriage, utility and truck equipment
- consider reducing VOC emissions by comparing the respective merits of water- rather than solvent-based paints, medium- rather than high-solvent paints and high-solids paints for their performance, cost and efficiency versus VOC emissions
- train staff so they can help you set and meet goals to progressively increase the efficiency of your materials use



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## USE AND RE-USE OF SOLVENTS

60–70% of solvents bought by six vehicle repair firms\* ended up as waste. Cleaning methods make a big difference to how much solvent you pay for – and how much solvent and contaminated rags and containers you need to pay to get rid of.

### Consider these tips:

- scrape paint cups free of residual paint with a plastic spatula then rinse with a small amount of solvent – this uses much less than washing it all out with solvent
- capture spray gun cleaning solvent by spraying it through the gun into an enclosed spray gun cleaning station where it can be condensed for recovery and re-use or recycling
- recycle solvents on-site or ask your supplier to take it away for reprocessing

## INVENTORY CONTROL AND STAFF TRAINING

Check the effectiveness of your staff training by monitoring their use of paint, thinners, solvents and other materials. Identify the secrets of success of staff who consistently produce good work with low materials use, and encourage other staff to work in the same way.

This will also help you track and improve your business efficiency through the smart business systems summarised in fact sheet 10.

## FIND OUT MORE FROM

- your city, district or regional council
- your local sustainable business network [www.sustainable.org.nz/](http://www.sustainable.org.nz/)
- Christchurch City Council's Target Zero programme [www.ccc.govt.nz/targetzero/](http://www.ccc.govt.nz/targetzero/)
- the Waste Management Institute of New Zealand cleaner production/waste minimisation sector group [www.wasteminz.org.nz](http://www.wasteminz.org.nz) and go to Sector Groups, Businesscare @ Wasteminz
- the New Zealand Business Council For Sustainable Development (NZBCSD) [www.nzbcSD.org.nz/](http://www.nzbcSD.org.nz/)
- the Enviro-mark™ certification programme [www.landcareresearch.co.nz/research/sustain\\_business/enviromark/](http://www.landcareresearch.co.nz/research/sustain_business/enviromark/)
- The Natural Step [www.naturalstep.org.nz](http://www.naturalstep.org.nz)

### Reference

- \* The USEPA (United States Environmental Protection Agency), from its October 1991 Technology Transfer publication, 'Guides to Pollution Prevention: The Automotive Refinishing Industry' (EPA/625/7-91/016).

### Acknowledgements

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