

Allston Collision Center Auto Body Shop Switches to Water-Based Paints

Summary

[Allston Collision Center](#), a third generation family-owned auto body shop, opened in Boston in 1928 and moved to its current location, at 420 Cambridge St. in Allston, MA, in 1961. The current owner, Paul Chaet, and president, Elaine O'Neill, have proudly made their family history more “green” by making the switch from solvent-based to water-based paints, recycling and reusing paint thinner, and recycling spray gun washer.

Toxics Use Reduction

Water-Based Paint

Allston Collision Center was one of the first Massachusetts auto shops to switch to water-based paints, having made the switch to [PPG's Aquabase Plus](#) in 2008. These paints are prepared using water, rather than solvent. Allston Collision Center's supplier estimates the switch to water-based paint eliminates over 1,200 pounds of Volatile Organic Compounds (VOC) from their yearly emissions.

To reduce paint waste, Allston Collision Center began using a more efficient computer system that determines how much paint is required for each job. The use of detachable paint cups that can be stored for later is also being employed. When the use of water-based paint is compared to solvent-based paint the result is less overspray, due to the chemical properties of the product. This means more paint on the car and less in the air.

The business owners, spray technicians, and customers are very pleased with the performance and quality of the water-based paint line. Since the full conversion, only one car has ever required a solvent-based paint due to an intricate color-match. Allston Collision Center notified the manufacturer who now supplies that particular color in water-based paint.

Although water-based paints are more expensive than solvent-based paints, Chaet and O'Neill are very happy with the end product and are committed to helping protect their workers, the neighborhood, and the environment.

Paint Thinner Recycling

In 2001, Allston Collision Center purchased an onsite solvent recycling machine which allows paint thinner to be recycled and reused. Prior to this, Allston Collision Center disposed of 220 gallons of used paint thinner as hazardous waste each year. The solvent recycling machine diverts 160 gallons of thinner from being disposed of as hazardous waste per year, a 72% reduction, saving Allston Collision Center \$1280 in paint thinner purchasing and approximately \$650 in hazardous waste disposal. (See Table 1)



Table 1

	Cost Prior to Onsite Recycling	Current Cost	Yearly Savings
Purchase of Paint Thinner	\$1,760 (220 Gallons)	\$480 (60 Gallons)	\$1280
Disposal of Paint Thinner	\$1000	\$346.50	\$653.50
Total Yearly Savings			\$1,933.50

Spray Gun Washer

The shop has a dual spray gun washer: one side cleans the guns used for water-based paint application and the other side cleans the guns used for clear coat application (the shiny coating that goes over the basecoat color for protection). Currently, there is no water-based clear coat available on the market. The spray guns are cleaned with a regular gun washing paint thinner, which is then recycled onsite, using the aforementioned solvent recycling machine.



Spray Gun Washer

The water-based gun cleaning solution is called OneChoice SWX100 Waterborne Gun Cleaner and the main ingredient is cyclohexanone. The cleaning chemical is designed to be used with a coagulating agent, called [COAG Kleen Flocculant Powder for Water-Borne Paint](#), which allows gun wash material to be internally recycled. The main ingredients in the coagulant are sodium carbonate, aluminum sulphate, and crystalline silica as quartz.

Recycling of Non-Hazardous Material

Allston Collision Center significantly reduced the amount of waste that previously went to a landfill by recycling

materials removed from a car during repair. These materials include windshields, tires, sheet metal, and plastic car

materials. The shop also recycles plastic bottles, office paper, and cardboard. In addition, all hazardous materials, such as solvents, are recycled.

Conclusion

The small, family-owned business, Allston Collision Center, is committed to protecting the health of its employees and the surrounding community. The shop switched to water-based paints, installed a solvent recycling machine, and began an extensive recycling program. The owners have since been celebrated for their environmental consciousness and received the [Green Business Award](#) in 2010 from the Mayor of Boston, as well as being featured on [Channel 5's Going Green](#) program. The surrounding community noticed and appreciated the change to greener practices and the company has remarkable customer loyalty. Some customers even demand their insurance company allow their vehicles to be serviced solely at Allston Collision Center.

This case study was prepared by the Office of Technical Assistance and Technology (OTA), a branch of the Massachusetts Executive Office of Energy and Environmental Affairs. The OTA helps businesses and other organizations improve their environmental performance by helping them comply with relevant regulations, reduce toxics use, and conserve energy, water, and other resources.

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