

FAQs: Waterborne basecoat and low-VOC products

Clear answers to your questions about converting your shop to waterborne basecoat and low-VOC coatings

Provided by DuPont Performance Coatings

DuPont Performance Coatings recently completed waterborne basecoat & low-VOC information sessions in 32 cities across Canada. Over 2,500 customers took advantage of this unique opportunity to learn more about Environment Canada's pending low-VOC legislation and how it might impact their collision repair business. For the benefit of the people who were unable to attend the information sessions, here are the answers to the most frequently asked questions.

Q What is the proposed low-VOC legislation and how will it impact the collision repair industry?

A Environment Canada believes as an industry we can further reduce VOC emissions by 2 kilotonnes per year with the newly proposed VOC content regulations. They've defined different product categories and have set aggressive limits for each category. For example: primers and clears would have a VOC limit of 2.1 lb/gallon, and basecoats would have a VOC limit of 3.5 lb/gallon. Based on the technology available today, waterborne basecoats will be required to meet the 3.5 lb/gallon VOC limit. Environment Canada's proposal applies to the paint manufacturer in a prohibition of sale, import and manufacturing, which is more easily enforced than a shop prohibition of use.

The regulation would apply to any coating used or recommended for use in refinishing, service, maintenance, restoration, repair or modification, except metal plating activities, of a motor vehicle (trucks, trailers, passenger vehicles) or mobile equipment (mobile cranes, bulldozers, farm equipment).

The regulation wouldn't apply to any coating applied during manufacture on an assembly line to motor vehicles or mobile equipment, or their associated parts; any coating sold in a non-refillable aerosol container (so cleaners/solvents not considered a coating); any coating sold in 15 gram/0.5 fluid ounce size; or any coating sold for use outside of Canada or shipment to other manufacturers for reformulation or repackaging.

Q How will Environment Canada enforce this legislation?

A The proposed legislation is a prohibition of SALE. That means paint companies and jobbers will not be able to sell any non-compliant product past the proposed date, and it will also be illegal for a shop to import any non-compliant material. Canada Customs will audit any importation of coatings. There are federal auditors in place, there have been enforcement agreements with provincial government agencies, plus there will be audits at the shop level and non-compliance will result in heavy fines.

Q Will shops need any new or special equipment to spray waterborne basecoats?

A A lot will depend on the equipment that the shop already has in place. With waterborne technology, it is beneficial to have a facility that can effect some degree of climate control (temperature and humidity). A down-draft booth with air make up will be very desirable for the future paint shop that uses waterborne base coat.

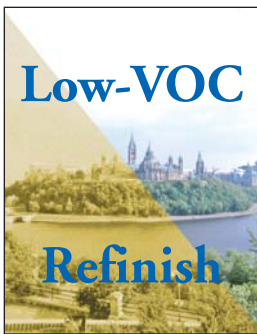
Assuming the shop is well equipped*, some small upgrades will be very helpful to take full advantage of what a waterborne basecoat can deliver. For the down-draft booth, air blowers that create turbulent air over the wet basecoat create a great productivity boost. Several options exist that can be integrated into the spray, dry and cure cycle of a down-draft booth.

Aside from the elaborate booth systems, shops can greatly benefit from portable blower systems. These portable blowers will offer the same drying productivity noted above and can be acquired at a fairly low price. The limitations are the size of the repair and the ability to create the turbulent air over the entire repair surface.

The incentive for the "blowers" are reducing dry times to about 15 minutes from ranges of 30 to 60 minutes depending on film thickness and climate. The blowers will be essential in conditions of very high humidity.

Additional equipment will include dedicated waterborne basecoat spray guns and gun washer; separate waste streams and waste removal. Plastic or lined cans, plastic paint sticks and nylon mesh strainers will be needed. Higher quality tape and masking supplies as well as improved house keep-

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ing in the paint department will also be useful.

** Recommended capabilities for well equipped shop include: air flow greater than 11,000 ft³/min; minimum air speed of 0.6 ft/s; uniform vertical air flow; efficient/sufficient heating system; clean and sufficient process air for spray guns and air blowers.*

Q Is it possible that a paint company will develop a 3.5 VOC solventborne basecoat that is capable of meeting the low-VOC legislation?

A No paint company is currently capable of manufacturing a solventborne basecoat at 3.5 VOC that would provide a commercially acceptable collision repair color match. Waterborne basecoat is the only technology available if a shop wants to stay in the collision repair business.

Q Will there be changes to equipment cleaning and waste management?

A Yes, dedicated guns and gun cleaners will be required, and the solvent and water waste streams must be separate and distinct from clean up to waste removal. Be sure to contact your local waste hauler for information specific to your area.

Q How does the productivity of waterborne basecoats compare with solventborne basecoats?

A Waterborne basecoat can meet or exceed the productivity of solventborne basecoat in a well-equipped shop. Most waterborne basecoat colors hide in 1.5 coats with no flash between coats, providing a distinct productivity advantage in the case of poor hiding solventborne colors. For good hiding solventborne colors, the waterborne basecoat is equal or slightly faster for cycle time. Air blowing systems (booth or portable) will be key to achieve the productivity advantages of waterborne basecoat.

The poorly equipped shop will be at the mercy of the ambient temperature and humidity for the region and the weather conditions of a given day. Air blowing systems (booth or portable) will be key to achieve the productivity advantages of waterborne basecoats.

Q How does the durability of waterborne basecoats compare with solventborne basecoats?

A Waterborne basecoats are already used at over 75% of OEM plants. The majority of shops in Europe are using waterborne basecoats without issue — even those shops operating in countries with a similar climate to Canada.

Q Are waterborne basecoats compatible with solventborne undercoats and clear coats?

A Yes, waterborne basecoat is compatible with solventborne undercoats (including UVA cured primers and sealers) and clear coats.

Q Are waterborne basecoats safer than solventborne basecoats?

A Although waterborne basecoats are water based and emit fewer solvents than a traditional solventborne basecoats, they still contain dangerous chemicals that can be harmful if proper personal protection is not used when spraying or handling. We suggest treating waterborne basecoat with the same respect as you would solventborne basecoat.

Q Are waterborne basecoat products susceptible to freezing?

A Yes, since some waterborne basecoat products are water based, they can freeze if exposed to freezing temperatures, even if for a short period of time.

Q Do waterborne basecoat products have a shelf life?

A Yes, some waterborne basecoat products have a shelf life of as little as 2 years while others can have a shelf life that can exceed 4 years. Most manufacturers package their waterborne basecoat products in smaller can sizes, increasing inventory turns and reducing the need to worry about shelf life.

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