



Painting Outside the Booth

You have a spray booth. You need it to provide a high quality paint job. But booths are expensive, so you only have one. You're careful about doing all painting (other than those really small jobs perhaps) in the booth. Priming, though? Why not? You don't consider priming to be painting...right?

Your thinking is dangerously limited. Spray booths aren't required so you can provide good paint jobs. They're required so your shop doesn't go up in flames. A good booth does more than that – it reduces employee exposure and reduces environmental pollution.

Every time you spray primer, poly primer, or even bumper coating in your shop, you're putting organic solvents in the air. Your employees are breathing those. They get used to it, of course...but that doesn't change what it does to them. People with long term exposure to organic solvents are more likely to have nerve damage, liver damage, and brain damage.

You have people welding in your shop. They use oxyacetylene torches. They use some electric tools. The vapors from the solvents in the paint and primer are heavier than air, and can pool near the floor. Even if concentrations at face level aren't very high, there can be explosively high concentrations near the ground. Not an issue – unless an electrical tool sparks or someone ignites a cutting torch. Spray booths are designed to control those pooling vapors. Your shop is not.

Does that mean you can never spray outside the booth? No. The rules aren't that draconian.

The EPA National Emissions Standard for Hazardous Air Pollutants (40CFR63 6H) doesn't require a spray booth if you're using spray guns with cup sizes under three ounces. This standard is only concerned about hazardous metals released to the environment, though. It doesn't care if everyone in your shop breathes too much solvent, or if your whole shop goes up in flames. The EPA standard applies to all collision repair shops that paint more than two cars per year or are paid to paint vehicles. It has more requirements than just using a spray booth (exhaust filter efficiency, negative pressure in the booth, etc).

OSHA regulates spraying of primer and other coatings under its standard for spray finishing, a standard based on an old version of the fire codes. OSHA allows "small portable spraying apparatus not used repeatedly in the same location." From OSHA's interpretation of that, dated 08.12.2004, "The use of hand-held portable spraying devices is covered by 1910.107 if they are used repeatedly in the same location." "Repeatedly" has been interpreted to mean once a week or more. So a mechanical shop is fine if it uses a spray can to touch up a bit of damaged paint. But a body shop? Not likely to be okay. OSHA's regulations apply to every facility with at least one employee. Joe Amateur doing work alone in his backyard? OSHA regulations don't apply.

The Minnesota Fire Code defers to NFPA 33, the National Fire Protection Association standard for spray finishing. That specifies that it does not cover small portable spraying equipment or aerosol products in containers up to 24 ounces as long as they are not used repeatedly in the same location. Whether that's enforced depends on your local community ("authority having jurisdiction"). Some communities, especially the bigger cities, are aggressive about enforcing the Fire Code. Others, particularly in greater Minnesota, don't have fire inspectors and do little enforcement.

Is there any way to get around these requirements for a spray booth? Short answer: no. Longer answer: if you have a prep station, it probably meets the requirements.

What if you have really good ventilation in your shop? We know of some shops that put in extensive exhaust ventilation systems, lured to do so in part by assurances that they could then prime in their shop. And we've seen portable ventilation units designed to mimic the actions of a spray booth. Wouldn't those suffice?

No.

Spray finishing areas – whether booths or entire rooms – must have these characteristics:

- ◆ Explosion-proof exhaust ventilation
- ◆ Nonflammable construction
- ◆ Fire suppression system
- ◆ Separation from other activities (especially hot work such as welding or grinding)
- ◆ Wiring and lighting designed for explosive atmospheres.

You can prime or spray in the middle of your shop, without a spray booth, **if** you have a sprinklered facility, no electrical components within about twenty feet, and no other activities within three feet and your paint contains none of the regulated hazardous air pollutants. Even if your shop has excellent ventilation, even if priming is done well away from other activities, we doubt that you meet the electrical requirements.

What if you're spraying waterborne paints? Still no. All the waterborne paints we've looked at are combustible, so the same requirements for fire control apply.

The gist: if you're routinely spraying any combustible or flammable coating, whether primer or paint, you need to have a spray booth. Ventilated and sprinklered prep stations with ceilings very often meet the requirements of paint booths. Anywhere in the middle of your shop does not.

For help understanding OSHA requirements for spray booths, employee exposure questions, or other safety and health issues, please contact Complete Health, Environmental & Safety Services, Inc. (CHESS, Inc.) at 651-481-9787 or 1-877-481-9787 (toll-free). CHESS specializes in helping small to medium sized business with occupational health and safety issues. We have been providing services to the automotive industry for over 15 years.

If you have questions about compressed air safety, workplace safety rules, or other safety issues, contact CHESS at 651-481-9787; toll free at 877-481-9787, or carkey@chess-safety.com.