

# Blast Cleaning Can Blacken Your Bottom Line

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If you currently use grinders, wire brushes, flap wheels, hand sanding, or chemical processes to prep parts, your application may be a candidate for air blast cleaning. Each of these processes can be appropriate for particular applications, but blasting is often a viable alternative that can reduce labor expenses and turn out a superior product. Blasting applications fall into several common categories: surface preparation, cleaning, finishing, and shot peening. The focus of this article is the broad range of cleaning applications that are perfect for air blast cleaning and how the benefits of the process help companies save time and money.

Because, these days, just about everything boils down to economics, business owners and managers realize that to succeed, everything they do must be done in the most economical way. Fabricating new parts, rebuilding and refurbishing components, maintaining capital equipment—all such industrial activities can benefit from cost-saving efforts. Blasting speeds the process, and adds value by improving the quality of the end product.

Abrasive blasting quickly and efficiently removes mill scale, corrosion, coatings, carbon build-up, heat treatment discoloration, weld spatter, or other physical defects. As such, blast cleaning is usually a preparatory step for a product that will be painted, anodized, plated, powder coated, otherwise finished. A blast-cleaned part more readily accepts a coating and improves the integrity and life of that coating. Done correctly—with the appropriate media, pressure, and technique—blast cleaning leaves a uniform anchor pattern on the part being blasted. This anchor pattern substantially strengthens the bond between the surface and the coating or metallizing material to be applied.

Many familiar products owe at least part of their functionality or appearance to abrasive blasting. From the artist who meticulously etches a beautiful design into crystal for one client to the factory worker who turns out hundreds of identically finished castings each shift, blasting offers a tangible benefit in myriad operations. Products of all shapes and sizes can be blasted—from dental appliances treated in small hand cabinets to C130 cargo aircraft stripped in gargantuan enclosures.



## Benefits of Blast Cleaning

The process is enclosed, protecting the surrounding work area. Enclosed dry blasting in cabinets and blast rooms is efficient and economical because the process is contained, protecting the immediate environment.

The process is economical; media can be recycled. The blast media does the job over and over again as most media can be recycled and therefore offers multiple re-uses.

The process reduces labor cost. Although blast cleaning can be used for occasional and intermittent work, it is most commonly prized for its beneficial impact on production runs. Blasting speeds the process, quickly turning out uniformly clean parts much more quickly than parts cleaned with a manual process.

The blast cleaning process improves efficiencies. Labor expense is reduced through higher production output as each man-hour turns out dramatically greater numbers of parts.

## What cleaning applications enjoy the benefits of blasting?

The answer to that question is far from 'cut and dried'. Manufacturers and refurbishers alike across many industries use blast cleaning as part of their fabricating and rebuilding processes as well as for the maintenance of their capital equipment.

Blasting is commonly used in the automotive sector for engine starters, engine heads, electric motors and armatures, valves, gears, brake calipers and caliper cups, turbocharger wheels, pistons, disc brake rotors, and vehicle wheels are some of the components commonly blast cleaned in cabinets. Vehicle maintenance cleaning jobs include auto bodies, body parts and vehicle chassis. These are processed in blast rooms. All manner of OEM and after-market parts are cleaned and refurbished with blast cleaning. See the chart on page 30 for automotive and aviation applications.

Many other industries commonly use blasting for cleaning: cookware, surgical instruments, texturizing prosthetic appliances, microphones, thermos bottles, water pump

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housings, saw blades, photocopier rolls, masonry bricks, food processing equipment, fire extinguishers, golf clubs, dental instruments, bicycle frames, mower blades—and this list can go on and on.

In an industrial setting, blasting takes place in an enclosure: either in a cabinet with glove ports and the operator fully outside the blasting process, or a blast room where the suitably clothed and protected operator works inside the room. Both cabinets and rooms must be fitted with appropriately sized dust collection to enhance visibility and keep the surrounding environment contaminant-free.

Cabinet blasting involves choosing between two types of blast methods: suction blasting or pressure blasting. The best choice depends upon the work to be done and the desired results. Suction blast cleaning, especially with glass beads, is best for easy cleaning jobs when the contaminant to be removed is relatively soft and the substrate itself is soft or delicate, such as aluminum, copper, brass, plastic, wood and other relatively soft materials. Suction blast cleaning with glass beads is popular because it cleans without removing base metal or causing tolerance changes.

Pressure blast cleaning at higher particle velocities is usually employed for tough cleaning jobs and on harder surfaces, such as carbon steel, tool steel, and stainless steel and for removing durable coatings and other forms of contamination. Pressure blasting offers production rates 300% to 400% greater than suction blasting at the same pressure. Many cabinet applications and virtually all blast rooms employ pressure blasting because of the higher production rates achieved. Blast rooms are appropriate for large parts. But choosing between suction and pressure blasting is a topic for another article.

In my many years working with ZERO blast cabinets and industrial equipment, I've helped thousands of customers fine tune their process to achieve savings and higher quality products. If your application is not among those mentioned, it's not necessarily because I've not done it—I may very well have – but if I haven't — I'm anxious to help you find a new and different and better way to make your operation more efficient.

Let's clean the parts but blacken your bottom line.

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# Blast Cleaning Applications

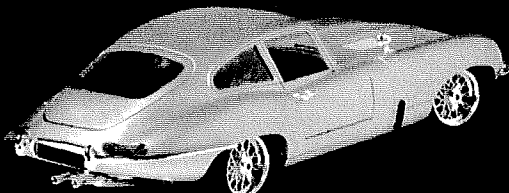
## Industry

## Application

## Reason for Cleaning



- Aircraft Wheels                      Coating Removal
- Jet Engine Vanes                    Remove Surface Contamination
- Jet Engine Blades                  Remove Grinding & Tooling Marks for Uniform Appearance or Ra Requirements
- Helicopter Parts                    Adhesive Removal
- Aircraft Engine Shafts              Remove Surface Contamination



- Carburetors                          Carbon & Dirt Removal
- Starter Housings                    Rust & Dried Grease Removal
- Starter Armatures                  Inspection & Testing
- Valves                                  Grinding & Inspect for Cracks
- Brake Calipers                      Rust & Dirt Removal
- Brake Caliper Cups                Rust Removal
- Gears                                    Descaling
- Auto Body Parts                    Paint & Rust Removal
- Vehicle Bodies                      Remove Rust, Coatings, Surface Prep