



# CHOOSING THE RIGHT ABRASIVE

**EXAMPLES, TIPS & TRICKS**



# ABRASIVE BASICS

The following characteristics will affect your final results, and should be considered when choosing an abrasive.

## Abrasive Shape

Basically, there are two different shapes: **angular** which has sharp edges, and **round** with no edges.



**Angular** media has sharp edges which will cut into the substrate, leaving an anchor profile for the new finish to stick to.



**Round** media is used mainly for cleaning or stripping while leaving the surface smooth. It will not rough up the surface or leave an anchor profile.

## Abrasive Size

During production, most abrasive gets shaken through various screens to determine its **mesh size**.

MESH SIZE	LOOKS LIKE
20/40	
40/70	
60/100	

Larger abrasive is slightly more aggressive than smaller/finer abrasive. However, if you're trying to finish a job faster, you'll see better results when you increase the abrasive density, not size.

## Abrasive Density

Dense particles impact with more energy over a smaller surface area, resulting in a deeper profile. The heavier the media, the more impact it has on the surface you are blasting.

Imagine a golf ball and a ping pong ball. They are the same shape and size, but the golf ball is more dense. If you threw them at someone, the golf ball would hurt a lot more! Similarly, a dense particle will have more impact.

## Abrasive Hardness

Generally, the harder the particle, the deeper the profile it will impart.

Softer abrasives, like organic materials and plastics, are good for removing dirt, oil, grease and paint without removing any of the substrate or creating a profile.

## Comparison Chart

ABRASIVE TYPE	BULK DENSITY	HARDNESS (MOHS SCALE)	SHAPE
Crushed Glass	75 lbs/ft <sup>3</sup>	6	Angular
Blast Sand	100 lbs/ft <sup>3</sup>	7	Angular
Garnet	145 lbs/ft <sup>3</sup>	7-7.5	Angular
Glass Bead	75 lbs/ft <sup>3</sup>	6	Round
Walnut Shell	35 lbs/ft <sup>3</sup>	3	Angular
Soda Bicarbonate	61 lbs/ft <sup>3</sup>	2.5	Angular
Sugar Sand	100 lbs/ft <sup>3</sup>	6-7	Round
Plastic	50 lbs/ft <sup>3</sup>	3-4	Round
Coal Slag	85 lbs/ft <sup>3</sup>	6-7	Angular

## In Conclusion

40/70 crushed glass is a great all-purpose blasting abrasive that is **suitable for almost any job**. If crushed glass is struggling to remove a coating, you can try switching to (or mixing in) a heavier abrasive like garnet.



ABRASIVE CHOICE

# EXAMPLES

## Graffiti on Brick Wall



Photo credit: Dan Danslister

### Customer Expectations:

The customer wants the graffiti removed from this wall, located in a residential area.



### Why choose that abrasive?

You can use an **angular** abrasive because brick is already rough, and you won't affect the texture of the surface.

Crushed glass is a perfect choice for brick. It shatters on impact, so it gets into the small nooks and crannies.

**EXTRA TIP:** Stay away from **soda** on brick. It can cause a chemical reaction on masonry, which creates a white film. Also, you don't want to use soda in a residential area because it will kill nearby vegetation.

## Etching Granite



Photo credit: Pixabay

### Customer Expectations:

The customer wants to etch words into a granite headstone.



### Why choose that abrasive?

For etching, pick an **angular** abrasive which will cut into the substrate.

You also need to choose a **dense** abrasive. This allows you to make fewer passes over the surface. The longer you take, the greater the chance that your stencil will move or shift, ruining the image.

**EXTRA TIP:** Crushed glass not working fast enough? Mix in some garnet. It's a dense abrasive which will give you more cutting power.

**EXTRA TIP:** Need a stencil? Try contacting a local sign shop. They can make it out of vinyl, which will adhere nicely to many substrates like wood, granite, and concrete.



ABRASIVE CHOICE

# EXAMPLES

## Aluminum Gasket Molds



### Customer Expectations:

The customer wants you to remove rust from these gasket molds, without leaving any anchor profile. It's imperative to leave a very smooth surface so the gaskets will release from the molds.

**BLAST DRY WITH SODA**

### Why choose that abrasive?

Something **very fine** and **round** would be a good choice. In the example to the left, our contractor tried fine glass bead first, but it still left a slight etch. Glass bead may have worked on a metal harder than aluminum.

He switched to blasting dry with soda, which is a very **soft** abrasive. It worked much better and left a very smooth finish.

**EXTRA TIP:** Soda used to be for dry blasting only, but ask your abrasive supplier about a new kind of soda which can be used with wet blasting!

## Large Concrete Surface



### Customer Expectations:

The customer wants all the paint removed from this 8,000 square foot surface. It will not be repainted.

**BLAST WET WITH 40/70 GLASS**

### Why choose that abrasive?

Because concrete already has a textured surface, you can choose an **angular** abrasive. Roughing up the surface won't make a difference.

Because you have a large area to cover, you should choose the most **inexpensive** abrasive you can get your hands on.

**EXTRA TIP:** Use an **XL nozzle** or **fan nozzle** to increase your production rate and complete the job faster. You can purchase these nozzles at [store.dustlessblasting.com](http://store.dustlessblasting.com).



# ABRASIVE CHOICE EXAMPLES

## Remove Stain from Wood



Photo credit: Travis Gray

### Customer Expectations:

The customer wants the layers of paint and stain removed from this wood deck.

**BLAST WET WITH  
40/70 GLASS**

### Why choose that abrasive?

Most wood surfaces can withstand blasting with regular 40/70 crushed glass. It's a good all-purpose abrasive.

In some cases, like very soft or old wood, you should consider dry blasting with a **softer** abrasive like corn cob or walnut shell.

**EXTRA TIP:** For a soft substrate like wood, increase your standoff distance and make sure to always keep the nozzle moving. This will avoid profiling the wood.

## Pool Tile Cleaning



Photo credit: Dan Danslister

### Customer Expectations:

The customer wants the calcium deposits cleaned off of the water line in their pool. The pool is located in his backyard.

**BLAST WET WITH  
GLASS BEAD**

### Why choose that abrasive?

You should choose a **round** abrasive because it's not going to remove the color or the shiny finish from the tiles. The customer is not repainting anything, so there's no need to create an anchor profile.

Or, you could pick a relatively **lightweight** abrasive. Something dense like garnet could damage the delicate tiles.

Because the pool is located in a backyard, you should **avoid using soda** because it will damage nearby foliage and affect the pH level of the pool.

**EXTRA TIP:** You could also consider dry blasting with pool salt as your abrasive, which will dissolve in the pool and eliminate cleanup.



OTHER

# CONSIDERATIONS

## Customer Expectations

First, you should always find out what your customer expects, and what he intends to do with the piece after it has been blasted.

### **Does he plan on painting or re-coating the substrate?**

If so, you should use an angular abrasive that leaves an anchor profile for the new paint to adhere to.

**Is he just cleaning a smooth surface that will not be repainted?** In that case, use a round abrasive that will not remove any of the substrate, and will leave a smooth finish.

**Are there very fine details?** If you're blasting an ornate antique, avoid eroding its fine details by using a soft or round abrasive.

**Does he know what kind of finish he wants?** It's not always necessary to completely remove a coating, especially if the surface will be repainted.

## Finishes You Can Achieve

### 1.) Brush Blast

Knocking of loose paint or flaking finishes in order to apply a new top coat for aesthetics purposes.

### 2.) Commercial Blast

This is taking nearly all the top finish away, leaving whatever may be stuck in cracks or crevices that wouldn't cause a new finish to fail anyway. Like cinderblock buildings, line stripes that are going back down in the same spot, etc.

### 3.) Near White

All finish is removed, leaving behind some of the mill scale or some other substance that is part of the substrate itself.

### 4.) White Metal

This means every square inch of paint or finish is removed all the way down to a uniform white metal surface. This is how most car restorations should be done or any substrate getting re-coated by electrolysis or some other special process.

Always discuss the job with your customer and set their expectations correctly. Come to an agreement on what finish you are going to be leaving them, and choose your abrasive and price accordingly.

There is no reason to blast a dumpster the same way you would a car, when the paint will be beat up in a week anyway. No reason to take a commercial truck frame all the way down to white metal when they are just trying to make it look new to sell it.

As long as the customer understands the finish levels you can offer and you charge based on that, you can't lose.

Still have questions? We're here to help.  
Call us at **713-869-2227**