



# CHOOSING THE RIGHT ABRASIVE

It is important to choose the right abrasive for the job. There are several different abrasives on the market that are used to achieve specific results. Basically, there are two different shapes. Angular which has sharp edges and round with no edges. Angular works great for quick stripping of various coatings while leaving an anchor profile for the new finish to stick to. Round media is used for cleaning or stripping while leaving the surface smooth. Examples of angular shaped media would be crushed glass, slags and garnet abrasives to name a few. Examples of round media would be glass beads, sugar sand and plastic pellets.

An anchor profile is a fancy way of describing the rough surface created during the blasting process. These peaks and valleys are usually measured in mils (1/1000 of an inch). One of the main causes of premature coating failure is an insufficient anchor profile. Its a good idea to understand from the customer what he/she expects when you are done. Some people prefer an anchor profile while others will want a smoother surface.

Understanding the weight or bulk density of the media you are using will also help decide which is best for the process. The heavier the media, the more impact it has on the surface you are blasting. Crushed glass for example has a bulk density of 75-80 lbs per cubic foot while garnet weighs around 145 lbs per cubic foot. So, the two abrasives at the same mesh size and blast pressure will have different results. A 40/70 crushed glass will be more "gentle" on the surface than the same mesh size of garnet at the same blast pressure. The harder and heavier the abrasive is, the rougher the profile will be.

Using larger more coarse abrasives will decrease the run time in your machine. For example, if you are blasting with 40/70 crushed glass and decide to use a larger mesh size of 20/40 you will notice a decrease in run time. If both bags of abrasive are 50 lbs, there are fewer particles in the 20/40 mesh size bag than the 40/70. A larger mesh size will be more aggressive so it will have more of an impact to the surface you are blasting.

There isn't necessarily a right or wrong way to remove a coating. The deciding factors would be speed and end result of the substrate you are stripping. Understanding the impact of different abrasives will help in deciding the best media for the job. The following chart will explain the characteristics of various media types.

ABRASIVE TYPE	BULK DENSITY	HARDNESS MOHS SCALE	SHAPE
CRUSHED GLASS	75 LBS/FT3	6	ANGULAR
BLAST SAND	100 LBS/FT3	7	ANGULAR
GARNET	145 LBS/FT3	7-7.5	ANGULAR
GLASS BEAD	75 LBS/FT3	6	ROUND
WALNUT SHELL	35 LBS/FT3	3	ANGULAR
SODA BICARBONATE	61 LBS/FT3	2.5	ANGULAR
COAL SLAG	85 LBS/FT3	6-7	ANGULAR
SUGAR SAND	100 LBS/FT3	6-7	ROUND

Choosing an abrasive is like choosing sandpaper for a project. More coarse sandpaper like 60 grit or 100 grit will strip quicker and have a rougher surface while finer mesh like 400 or 1000 grit will be slower and have a smoother finish. Finer meshed abrasives are great for softer substrates like fiberglass, concrete and wood, while larger mesh abrasives work best for thick steel or thick coatings.

To sum it up, 40/70 crushed glass is a great general, all around blasting abrasive. If crushed glass is struggling to remove a coating then switching to a heavier abrasive like garnet will work better. Just determine what abrasive the substrate can handle and the thickness or toughness of the coating you are stripping.