



# CHOOSING THE RIGHT NOZZLE & GRIT SIZE FOR PATRIOT BLAST

For optimal performance, Ensio Resources recommends the following nozzle and grit sizes for your projects. If you have additional questions, please contact our experts at 603.224.0221.



## NOZZLE SIZE

Choosing the correct nozzle size for your selected material and compressor is essential to ensuring the quality of the completed job. **As a general rule, nozzle size should be 3 times the size of grit size used, minimum.** For compressor output using Patriot Blast Coal or Elite, use between 90 and 110 PSI. For blasting with our Crushed Glass, we recommend between 80 and 90 PSI. Recommended nozzle size by grit size and Patriot Blast product line are below.

**#2**

1/8" orifice (3.2mm)  
COAL or ELITE: 3060 or 4080 grit size  
GLASS: 3060 or 4070 grit size

**#3**

3/16" orifice (4.8mm)  
ELITE: 2040 grit size\*  
GLASS: 3060 or 4070 grit size

**#4**

1/4" orifice (6.35mm)  
COAL or ELITE: 1240 grit size  
GLASS: 1230, 2030, or 3060 grit size

**#5**

5/16" orifice (8mm)  
COAL: 2040 grit size\*  
GLASS: 1230, 2030, or 3060 grit size

## GRIT SIZE

Grit sizes can be easily visualized: 1240 grit is comparable to raw sugar, 2040 is similar to granulated sugar, 3060 can be compared to table salt, and 4080 is as fine as baby powder. In order to create an optimal surface for coating adhesion, abrasive material is used to create a desired profile on the substrate. The depth profile of the pattern is measured in thousandths of an inch, or mils. Recommended Patriot Blast product and grit sizes to achieve a desired profile (within mil spec) are below.

### PATRIOT BLAST Coal & Elite (Iron Silicate)

1240	2.0-4.0 mils
2040	1.5-3.0 mils
3060	1.0-2.0 mils
4080	0.5-1.5 mils

### PATRIOT BLAST Crushed Glass

1230	2.0-4.5 mils
2030	1.5-3.5 mils
3060	1.5-3.0 mils
4070	0.5-1.5 mils

**IMPORTANT: NOZZLE SIZE SHOULD BE AT LEAST 3 TIMES THE SIZE OF GRIT USED!**

\* Nozzle size recommended to prevent needle-like particles of slag from crossing and clogging the machine.



# BLASTING MATERIALS

**P**ATRIOT BLAST products offer a range of properties suited to a variety of projects. For help in selecting the correct product type and grit size for your job, contact one of our experts. Ensio Resources has over four decades of experience in the abrasives industry. All products available in 60lb bags, jumbo sacks, and bulk truckload. We have excellent freight rates with carriers!

## PRACTICAL TIPS

### ESTIMATING MATERIAL USEAGE (DRY BLASTING)

If you are using a #4, or ¼", nozzle, approximately 560lb of material should be expended per hour. This equates to approximately nine 60lb bags of Patriot Blast (coal slag) or Patriot Blast Elite (iron silicate/copper slag).

With a #5 nozzle, you will use approximately 900lb of material per hour, or approximately fifteen 60lb bags of Patriot Blast (coal slag) or Patriot Blast Elite (iron silicate/copper slag).

### IS YOUR NOZZLE WORN? AN EASY TEST

Find a drill bit in a size equivalent to the nozzle orifice (i.e. #4 nozzle = ¼" orifice, look for a ¼" drill bit). Insert drill bit into nozzle - if the fit is snug, the nozzle does not require replacement. If the drill bit is loose or falls in, it's time for a new nozzle tip!

## TERMINOLOGY

**PSI** Pounds per square inch. Measures the amount of pressure placed on a square inch of space. In compressor terms, PSI is the amount of force that an air compressor can deliver.

**CFM** Cubic feet per minute. Indicates the compressor's flow rate - or the amount of air that a compressor can produce at a given pressure level. Typically compressors that have higher CFM ratings are able to provide more air, which makes them ideal for larger applications.

**Orifice** Opening of nozzle

**Mil** Thousandths of an inch; used to measure anchor profiles/patterns in USA.



### PATRIOT BLAST COAL SLAG

Grit Sizes: 1240, 2040, 3060, 4080

Approved by the United States Navy for blasting at our nation's major warship and submarine bases, this is an exceptional silica free blasting abrasive, roofing granule, non-skid, and sealcoating surface material.



### PATRIOT BLAST ELITE IRON SILICATE / COPPER SLAG

Grit Sizes: 1240, 2040, 3060, 4080

Ideal for the blasting required for industrial projects including structures such as storage tanks, water towers, bridges, ships, structural & plate steel, offshore platforms, and oil field maintenance.



### PATRIOT BLAST GLASS 100% RECYCLED CRUSHED GLASS

Grit Sizes: 1230, 2030, 3060, 4070

Green and clean, versatile, and ideal for dustless blasting! Crushed Glass is a cost-effective general-purpose abrasive used in a wide variety of applications, from rust and mill scale removal to delicate restoration work.



For additional information, please visit [ensioresources.com](http://ensioresources.com) or call 603.224.0221