

MicroBlasting Nozzles and Abrasive Media



COMCO

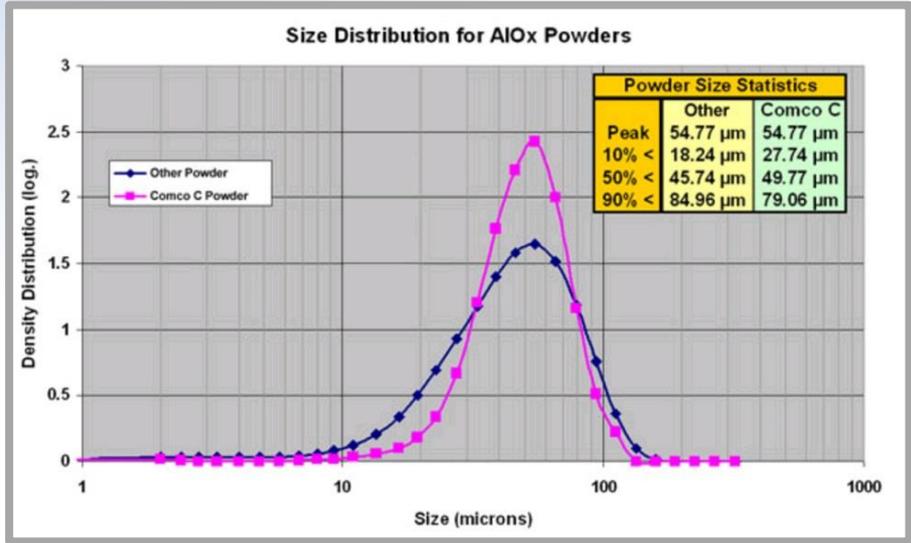
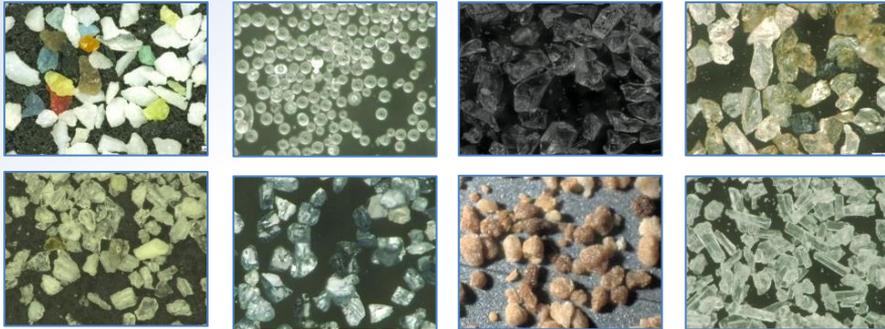
Leading Manufacturer in MicroBlasting Technology

Carefully Sized and Free of Impurities

The abrasive media is the single most important variable in the MicroBlasting process. Working on a micro scale means particle size is important. Large variances in particle size or chemical composition deliver uneven results, therefore a tight classification center within a narrow distribution curve is essential.

Most industrial abrasives allow for a significant amount of drift in their average particle size. This can disrupt the flow of abrasive and cause unpredictable results. We keep our mean particles within a narrow band ensuring a stable flow of abrasive and consistent results.

Consistent abrasive ensures consistent results.



If particles are too fine, abrasive clumps and bursts instead of flowing in a uniform stream. If too coarse, abrasive clogs at the nozzle, or worse, damages your part.

We keep a tight classification on our abrasive sizing and remove more of the fine and coarse particles that can clump and clog in your blaster.

Consistent sizing helps your system run clean.



Moisture-Free Processing



Micro-abrasives easily attract moisture due to their high ratio of surface area to volume. As water molecules stick to a particle's surface, a natural bond forms. This bond causes abrasive particles to clump. Clumps interrupt the flow of an abrasive stream, or worse, clog a blaster.

We employ proper moisture controls during every step of the manufacturing process. Abrasive is packaged in heat-sealed bags and containers for protection against any contamination or moisture during shipment and storage.

**Protect your Investment.
Use Comco Abrasives.**

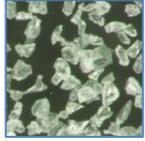
The Comco Difference

A bottle of Comco sodium bicarbonate is not the same as supermarket baking soda or an industrial supply equivalent. Comco abrasive is specifically manufactured for micro-abrasive blasting. Each lot of Comco abrasive is tracked.

We take great care with our abrasive because we care about your investment. We want your Comco MicroBlasting system to last and deliver precise, repeatable results.



A Guide to Abrasive Media



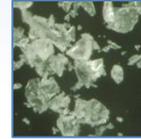
Aluminum Oxide

The go-to cutting abrasive. The shape and hardness of its particle make it an excellent abrasive against metals or hard, brittle parts. Common uses include cutting, deburring, and texturing surfaces.

Part #	Particle Size Micron	Particle Shape	Hardness (Mohs')
PD1001	10	Blocky & Sharp	9
PD1009	17.5		
PD1012	25		
PD1003	50		
PD1029	100		
PD1014	150		

Crushed Glass

Manufactured by crushing glass beads. The result is a mild abrasive media with lots of shard-like edges. Crushed glass delivers a light degree of abrading.



PD1027	50	Blocky & Sharp	5 - 6
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Glass Bead

Useful for applications where stress needs to be relieved but preservation of tight tolerances is critical. Can also lightly deburr or apply a satin-like finish on a part. The spherical shape of its particles prevent them from cutting into most surfaces. Relieves stresses by "pounding" a part surface.

PD1030	35	Spherical	6
PD1004	50		
PD1033	100		

Plastic Media

Created by grinding and carefully sizing recycled plastic. Similar in size to walnut shell, it effectively deburrs machined plastic parts without causing dimensional changes to the part itself. Useful for removing conformal coatings.

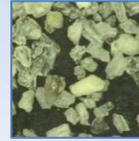


PD1035	50	Blocky	2 - 4
PD1013	200		

The effect of an abrasive material is caused by its three characteristics: particle size, shape and hardness.

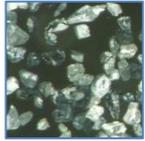
Pumice

Volcanic ash that is formed when lava is permeated with glass bubbles. Lava has similar properties and chemical make-up as glass, which helps make pumice a mild abrasive. Useful on applications when aluminum oxide is too aggressive.



Part #	Particle Size Micron	Particle Shape	Hardness (Mohs')
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PD1015	75	Blocky & Sharp	6
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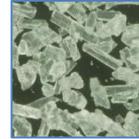
Silicon Carbide

The most aggressive media used for micro-abrasive blasting, with a hardness just under that of diamond. Typically used where material removal must be fast. An excellent abrasive for deburring stainless steel and titanium parts.

PD1005	20	Blocky & Sharp	9+
PD1006	50		

Sodium Bicarbonate

A soft abrasive. Needle-like or "monoclinic" shapes make it excellent for abrading polymers. Its particles cut through soft surfaces where a blockier particle would tend to bounce off. Great at selectively removing coating from wire without damaging the underlying part. Water soluble.



PD1007	50	Monoclinic	3 - 4
PD1031	100		



Walnut Shell

Manufactured by grinding nut shells. Particles are much larger in size than most micro-abrasives. It is used to deburr polymer coatings and deflash molded plastic parts.

PD1008	250	Blocky	3 - 4
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Wheat Starch

One of the softest abrasives. Excellent for abrading pliable materials. Cuts through soft surfaces where a blockier particle tends to bounce off. It is used to selectively remove coatings on circuit boards without damaging components.



PD1017	100	Needle-like	2
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Designed to Deliver More

Comparison of spot size, shape, and depth from standard vs. Hi/Performance nozzles.

A Nozzle with 3-5x More Life

Nozzles are an integral part of the MicroBlasting process. Nozzles provide focus and acceleration to the blasting stream. However, abrasive erodes all that it touches—including its primary conduit, the nozzle.

Our exclusive Hi/Performance nozzles are specifically engineered to withstand micro-abrasive blasting. These nozzles feature superior blasting characteristics and increased wear resistance. Hi/Performance nozzles **last 3 to 5 times longer** than conventional nozzles.

Hi/Performance nozzles are designed to compliment our AccuFlo® and MicroBlaster® model blasters in manual and automated applications.



Hi/Performance AccuFlo Nozzles

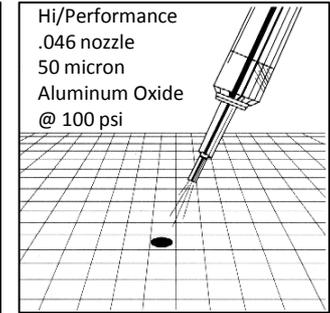
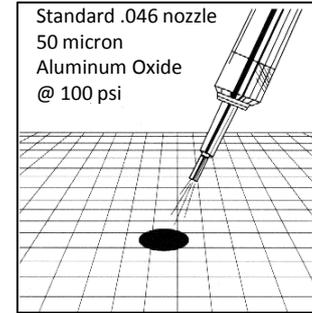
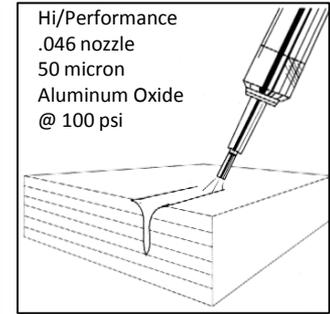
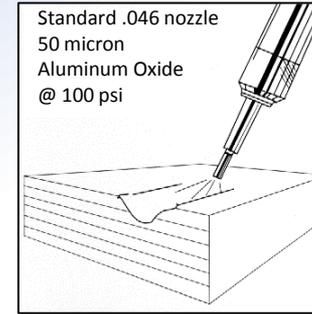
MB2520-18	Violet	.018"	0.46mm
MB2520-30	Green	.030"	0.76mm
MB2520-46	Yellow	.046"	1.20mm
MB2520-60	Red	.060"	1.50mm



Hi/Performance MicroBlaster Nozzles

MB1520-18	Violet	.018"	0.46mm
MB1520-30	Green	.030"	0.76mm
MB1520-46	Yellow	.046"	1.20mm
MB1520-60	Red	.060"	1.50mm

Customers report up to 10x the efficiency with Hi/Performance nozzles.



30% More Focus

The design of the Hi/Performance nozzle **reduces overspray by 30%**. Proper focus of the abrasive increases the efficiency of abrasive use and ensures every particle strikes the targeted area of a part.

30% More Velocity

The internal geometry of the Hi/Performance nozzle **speeds up particle velocities by 30%**. Higher velocities remove unwanted material faster, meaning less time blasting and faster production times overall.

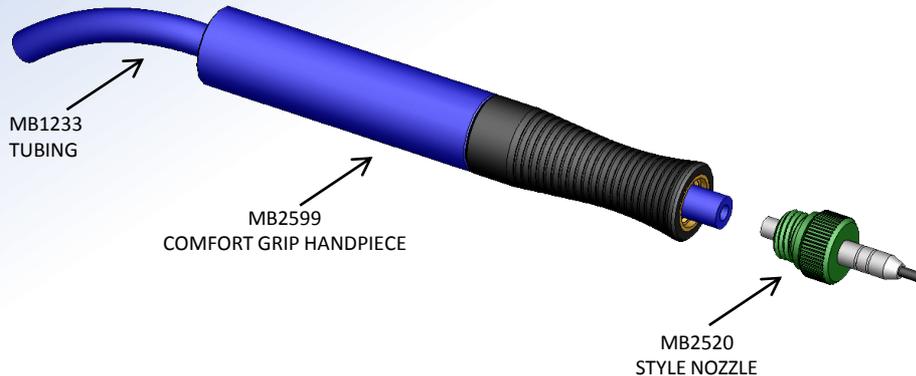


Comfort at Your Fingertips

Long hours blasting need not be hard on your hands! Hi/Performance AccuFlo® nozzles come with the bonus of a well-designed holder. Our ComfortGrip® Handpiece eliminates the need for a nosepiece and locks directly to the nozzle. Plus, it is more comfortable to hold and maneuver for long periods of time.

What makes the ComfortGrip® Handpiece such an asset?

- Patented design provides the ultimate in comfort and performance.
- New ergonomic shape and cushioned grip for a natural feel that's easier for operators to hold.
- Less resistance to motion for enhanced control and reduced fatigue.
- Fewer parts of this design come into contact with abrasive, which means less parts replacement.
- Compatible with most popular nozzle sizes: 0.018", 0.030", 0.046", 0.060" ID.



Easy
Comfortable
Streamlined



Designed to Grow with Your Production

Thinking about Automation?

Using the Comco MB2520 series Hi/Performance AccuFlo® nozzles now will save time when you are ready to automate. These nozzles are ideal for both manual and automation and are specifically designed to help you make the transition smoothly.

Quicknut Compatible

All AccuFlo nozzles are Quicknut compatible, which means installation is quick! The Quicknut need only be finger-tight to lock the abrasive hose onto the back of the nozzle. There's no need for an additional nosepiece, handpiece, or o-ring.

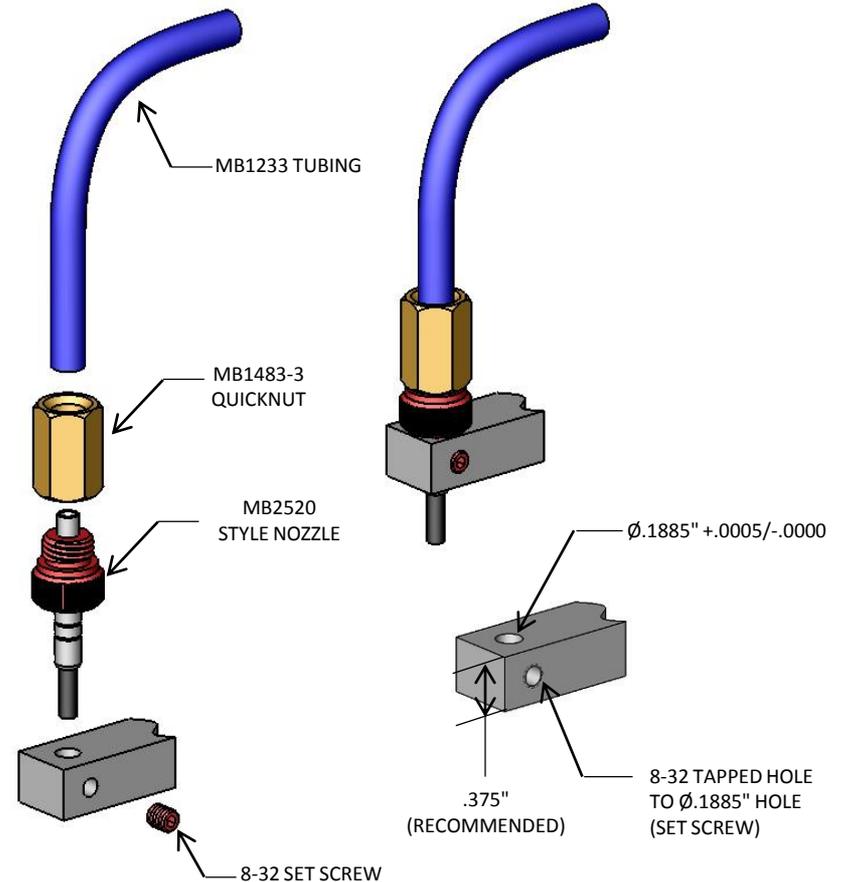
Maintains Nozzle-to-Target Distance

The Hi/Performance AccuFlo nozzle is designed to be held at the base of its carbide tip, which keeps nozzle-to-target distance consistent through hose and nozzle replacements.

Longer Life

Hi/Performance AccuFlo nozzle threads are designed to sit away from the abrasive path in our fixtures. Guarding this significant wear point from the abrasive stream dramatically extends the life of the nozzle.

AccuFlo nozzles are designed to grow with your production.



Standard Nozzles

Our standard nozzles are available in extended, rectangular and extended right-angle designs. Standard nozzles are:

- Manufactured with premium grade Tungsten Carbide for longer life
- Color-coded system for quick & easy identification
- Subject to strict quality control to ensure repeatability with every blast
- Available in a wide variety of shapes, sizes and custom designs

Standard DirectFlo & PowerFlo Nozzles

Straight Round Nozzles

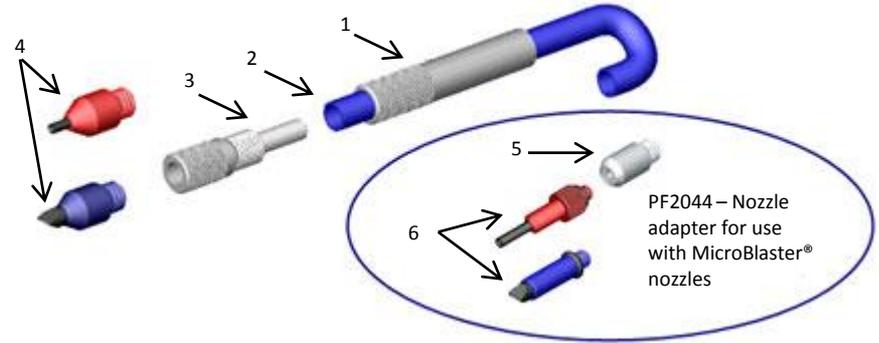


PF2110-1	Red	.060"	1.5mm
PF2110-3	Blue	.080"	2.0mm
PF2110-5	Red	.125"	3.2mm
PF2110-7	Red	.107"	2.7mm



Rectangular Nozzles

PF2110-4	Red	.008" x .150"	0.20mm x 3.80mm
PF2110-6	Blue	.016" x .190"	0.40mm x 4.80mm



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|-------------------------------------|--|
| 1. PF2066 Handpiece tube | 4. PF2100-x DirectFlo/PowerFlo nozzles |
| 2. PF2083 Abrasive hose, blue, 3/8" | 5. PF2044 Nozzle adapter |
| 3. PF2090 Nozzle nose assembly | 6. MB15xx-xx MicroBlaster nozzles |

Quality & Performance with Comco Nozzles

Although the process seems simple, the quality and care we take in manufacturing each nozzle is a key to your MicroBlasting success. The superior quality of our nozzles guarantees the highest level of repeatability with every blast.



Standard Nozzles

Standard MicroBlaster Nozzles

Straight Round Nozzles



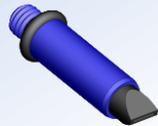
MB1500-28	Grey	.010"	0.25mm
MB1500-10	Silver	.015"	0.38mm
MB1500-24	Violet	.018"	0.46mm
MB1500-27 (thin wall)	Black	.018"	0.46mm
MB1500-37	Orange	.025"	0.64mm
MB1500-11	Green	.030"	0.76mm
MB1500-29	Yellow	.046"	1.20mm



Extended Nozzles (1.5" Long) Round

MB1503-1	Violet	.018"	0.46mm
MB1503-2	Green	.030"	0.76mm
MB1503-3	Yellow	.046"	1.20mm

Rectangular Nozzles



MB1500-26	Orange	.008" x 0.02"	0.20mm x 0.50mm
MB1500-12	Blue	.008" x .040"	0.20mm x 1.00mm
MB1500-19	Red	.008" x .060"	0.20mm x 1.50mm
MB1500-20	Silver	.008" x .080"	0.20mm x 2.00mm
MB1500-22	Olive	.008" x .125"	0.20mm x 3.20mm
MB1500-23	Black	.008" x .150"	0.20mm x 3.80mm
MB1500-32	Blue	.012" x .150"	0.30mm x 3.80mm

Angled Nozzles

45°

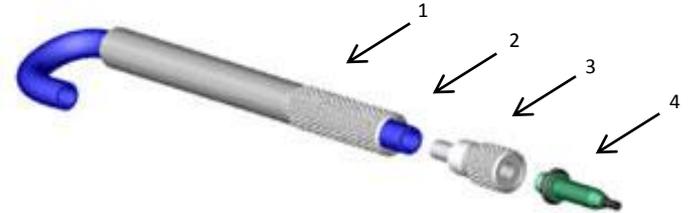


MB1502-3	Violet	.018"	0.46mm
MB1502-5	Green	.030"	0.76mm
MB1502-6	Yellow	.046"	1.20mm

90°



MB1501-25	Violet	.018"	0.46mm
MB1501-14	Green	.030"	0.76mm
MB1501-28	Yellow	.046"	1.20mm



1. MB1012-6 Handpiece tube
2. MB1233-25 Abrasive hose, blue, ¼" 25 foot package
MB1233-100 Abrasive hose, blue, ¼" 100 foot package
3. MB1230-1 Handpiece nose
4. MB15xx-x MicroBlaster nozzles