

# Need Information? Join the Shot Peening Universe Forums

[www.shotpeener.com](http://www.shotpeener.com)

**DO YOU HAVE A QUESTION** related to shot peening or blast cleaning? The Forum at [www.shotpeener.com](http://www.shotpeener.com) is a great place to post a question and get answers from industry experts around the world. The Forum is also a good way to share your expertise with others. These topic areas are open for discussion:

- The Shot Peening Process
- Specifications
- Equipment, Machines, Accessories
- The Abrasive Blast Cleaning Process
- Media, Shot, Beads, etc.
- Ask Dr. Peener

The following are a few of the current discussions in The Forum.

## MIXED SHOT IN MACHINE

What would be the effect of accidental introduction of larger shot due to sieve failure during peening? Should you re-peen the part?

Pete  
Bristol, UK

As with most problems of this type, “the devil is in the details.” If the peening intensity is still being maintained within the user’s required range and if the shot mixture still satisfies the specification for its size, then there should be no need to re-peen. If these requirements are not being met then re-peening will only serve to hide the larger indentations—which is not advisable.

Socrates

If there were about 20% larger shot in the machine by the end of processing, then I guess that the intensity would drop off. With the same air pressure the larger shot will be slower and possibly ‘choke’ the pipes.

I’ll check start and finish arc height and see where we are then. Thanks.

Pete

Larger media with a given air pressure will increase intensity as the mass is larger while the velocity is the same.

If “choking” is significant enough to decrease CFM that would lead to lower velocities thus lower intensities. While possible, I wouldn’t think a 20% increase in size would/should do that.

Dave  
USA

Sorry my last message was unclear. We’ve had S170 contaminated with about 20% of S280. With increase of x2 in volume and almost x3 in cross sectional area with the larger shot, I thought choking would be likely.

Pete  
Bristol, UK

Sorry, I did misunderstand. Choking aside, If you have 20% contamination of larger shot (determined via sieve testing), you’re likely out of spec.

The discontinued AMS-S-13165 uses a single sieve for in-use media and would not disqualify the sample, however, it is a discontinued spec and you should follow AMS-2430.

AMS-2430 allows only 1/2% of the test sample on a #25 sieve, where you’ll be clearly out of spec.

If the media does flow freely through the nozzle you still may achieve acceptable confirmation arc heights. You should generate new saturation curves. The larger media will increase the intensity but will take longer to saturate, thus resulting in a “double hump” saturation curve. If you chose to pursue this as a learning experience, make sure to have extra Almen strip data points at longer than normal exposure times.

Dave  
USA

## SHOT PEENING IN ROTATING BASKET

Where do I mount Almen strip holder? Do I test with springs in basket or do I run empty first?

Robb

How many parts are typically in basket and how big are they (size and weight)? What type of machine are you using? Is it wheelblast or airblast? Describe how the basket is placed in the machine.

Jack  
Mishawaka, Indiana, USA

About 100 pcs per basket, 1" od 1" long in Empire 3640SRC Airblast. Basket is mounted on the door at about a 30-degree angle.

Robb

It's more about the volume of parts and the weight of the individual part. You don't want the tumbling action of the parts to impart more compressive stress into the part than the peening action itself.

Walter  
East Hartford, Connecticut, USA

Are there guidelines available? I am looking for a place to start; any help would be appreciated.

Robb

What specification are you working to? AMS 2430 forbids tumble/batch peening. What type of part are you planning on tumble peening? If it's a spring or a stamping, you are probably okay. If you're planning on tumble peening a machined part, I would advise that you don't.

Walter  
East Hartford, Connecticut, USA

### CLEANING AFTER SHOT PEENING

My problem is cleaning the surface after receiving it back from shot peening. We have aluminum shot peened with int.0.014A on many different sizes of parts that range from 2 feet to 15 feet. I have noticed that the dust from the peening process is very difficult to get out of the divots. We do have some parts that go back on the machine for boring and, of course, now we have coolant to deal with. Is there a cleaning solution available and rags that won't tear apart while scrubbing the peened surface? Any information on this would be appreciated. Thanks.

Ken  
Montana, USA

There are a couple of ways to solve this problem. However, in order to do any of them you would have to check with the end user to be sure it is acceptable.

- 1) Nitric Acid Clean at in a solution 30-50% acid to water
- 2) Glass Bead blast clean .002-.006N intensity

Or you might want to look into this link: <http://www.finishing.com/476/07.shtml>. There is a reference to a citric-based cleaner that I have tested. It worked fairly well but not as good as the Nitric acid. We have not been able to use the citric-based cleaner as it is not yet approved by our aerospace customers.

Walter  
East Hartford, Connecticut, USA

Thanks, Walter, for the advice and the link, I will check on specs and see if those solutions would be acceptable.

Ken  
Montana, USA

## Visit the new Shot Peener magazine website

[www.theshotpeenermagazine.com](http://www.theshotpeenermagazine.com)

- ▶ Download the latest issue
- ▶ Get advertising rates
- ▶ Request a free subscription
- ▶ Read past issues

