



how to be
a master blaster
with

**STAR
BLAST**®

BLASTING ABRASIVE

DU PONT®

Master the dollars and the sense

This booklet's going to give you helpful tips about blasting in general, and why, in particular, it makes sense to blast with Starblast® abrasive.

First, look at the money Starblast® can save. In a test of cleaning mill-scale-covered steel to a white-metal finish, Starblast® cost the least per square foot of cleaned metal:



Silica Sand: 36¢



Coal Slag: 62¢



Copper Slag: 38¢



Starblast®: 33¢

Figures represent total labor, equipment and material costs divided by total square feet cleaned.

The shape that saves

Grains of Starblast® abrasive are rounded, subangular and dense, not jagged like sand or slag. Starblast® knocks scale off instead of cutting it off.

This shape/high density combination means:

- Less abrasive per job
- Less dust/improved visibility
- Less equipment repair
- Fewer embedded particles.

In other words,
Starblast®
cleans more
surface metal.

Faster.

With less
abrasive.

And less
dust.

What's

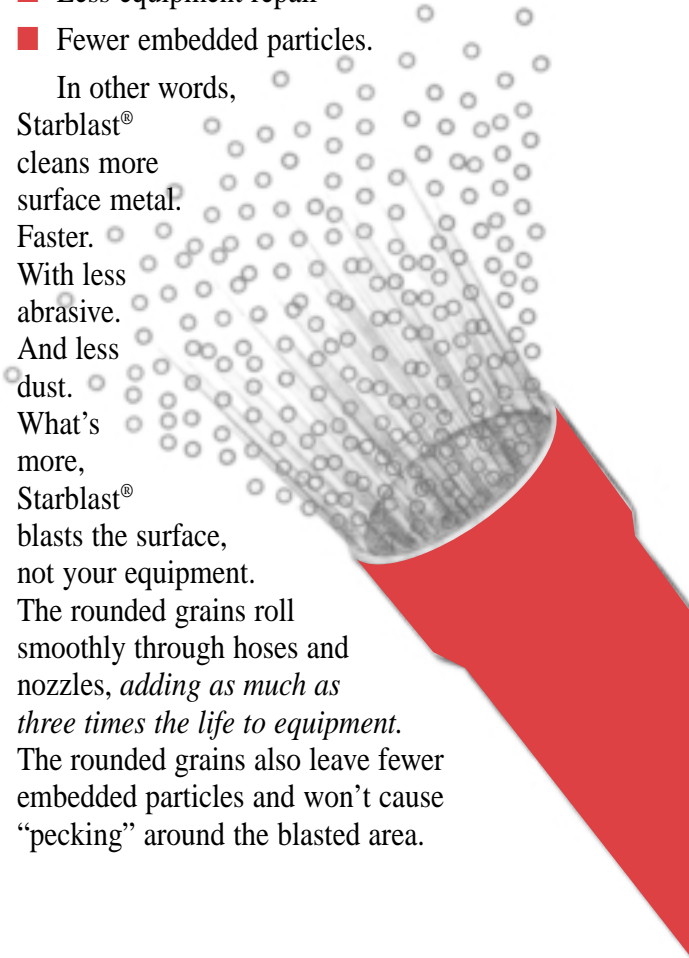
more,

Starblast®

blasts the surface,
not your equipment.

The rounded grains roll
smoothly through hoses and
nozzles, *adding as much as
three times the life to equipment.*

The rounded grains also leave fewer
embedded particles and won't cause
"pecking" around the blasted area.



Don't let equipment stand between you and your best work

Gear up for safety

Begin with safety. Be sure your gear includes a long-sleeved protective suit, gloves, an OSHA approved air-fed helmet and respirator—with an air source that can't be contaminated by you or your coworkers' blasting. By following all local, state and federal regulatory requirements you help protect yourself. And using the right abrasive can help protect others around you.

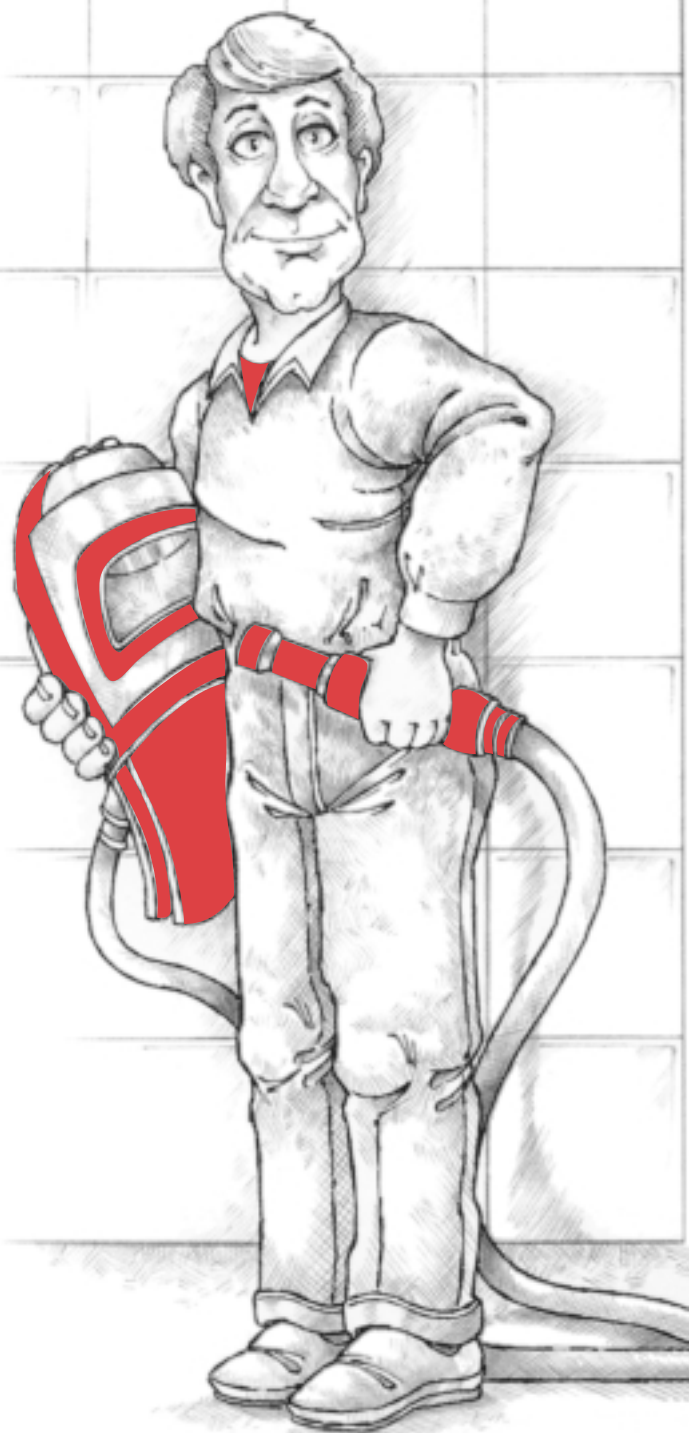
In open air blasting with Starblast®, airborne free silica levels have measured 25 to 30 times *below* OSHA requirements at the work area boundary. Nevertheless, be certain you and others are safe before the blasting begins.

The compressor

A well-maintained compressor of adequate capacity is essential to efficient dry abrasive blasting. Assume the output is less than rated—simply due to age and tolerances. After all, when was the last time you used a brand new compressor?

Operate the compressor at a 110 to 120 psi discharge pressure or higher if specifications allow.

But keep in mind, nozzle pressure doesn't come from compressor capacity alone. All of your equipment must be properly sized to maintain optimum working pressures.



Pots/blasting machines

If equipment isn't correctly sized or maintained, you could find a 35 psi drop through your machine. That's why you've got to match piping to inlets and outlets for maximum air flow. Make all connections air-tight. And keep the abrasive metering valve in good operating condition, so you can accurately meter feed and avoid slugging. And remember, as with all abrasives, it's important to keep moisture out of pots, hoses and connections.

Pipes and hoses

One thing to remember about the lengths of pipes and hoses: keep them to a minimum. You can lose 3 psi per 100 feet of hose.

And something to remember about bends in pipes and hoses: keep them to a minimum, also. Bends of 90° or more cause rapid wear and blowouts.

A rule of thumb for optimum ID sizing is that hose ID should be 3 to 5 times blast nozzle ID. That should prevent clogging, but maintain maximum air flow.

Nozzles

Nozzle pressure is key to blasting productivity. For every pound below 100 psi, your productivity drops 1.5%. We recommend you keep minimum pressure above 95 psi.



An inexpensive needle gauge inserted near the nozzle gives you the most accurate measure of nozzle pressure. The hose seals itself once you remove the needle.

Always select the largest nozzle appropriate for the work surface and which your air flow can support. No sense using a nozzle that delivers less work than the rest of your equipment's set to handle.



Blasting with Starblast[®]: from start to finishes

Less is more in mixtures

The leaner the abrasive/air mixture, the more productive you'll be. Because abrasive grains collide with each other in a rich mixture, they lose energy and hit the blasting surface with less impact. And they do less blasting.

What's worse, the more abrasive you put in the mixture, the more dust you'll create. And the more you'll have to clean up afterwards.

Getting the right mix

To set the proper abrasive/air mixture:

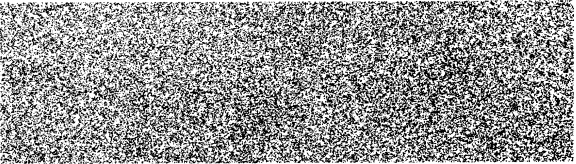
- Start with the abrasive feed line closed to purge the line.
- Slowly open the feed until you see the abrasive stream—this is too much abrasive.
- Slowly close the feed until you can't see the abrasive stream—now you've got the right mixture.
- If the mixture's too lean, you'll hear a high-pitched whistling. Close the feed and repeat the above steps.
- You're ready to blast.

White-metal finish

Blast with the nozzle at an angle 15° to 30° off perpendicular to the surface. Hold the nozzle about 26 to 34 inches from the surface.

Here's where you'll see another advantage of Starblast®. Use smooth, flowing horizontal and vertical strokes with little overlap. Avoid the short, rapid, heavily overlapped strokes other abrasives require.

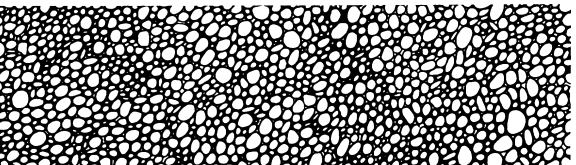
The difference shows in the finished surface. More even appearance. Fewer imperfections and imbedded particles. And a better overall profile.



Near-white, commercial and brush-off

Set the abrasive/air mixture in the same way. But to get a finish requiring less surface preparation, simply sweep the nozzle faster. Or hold it farther away from the blasting surface.

You'll also get excellent results when you use Starblast® for feather-edging, precision cutting and confined spot preparation.



Starblast[®] does more, so you do less

You'll blast faster with Starblast[®]—and use less abrasive. That means a lot less mess to clean up. And a lot less space taken up by the Starblast[®] you store at your work site.

In a typical millscale application, one company averaged two 25-ton truckloads of Starblast[®] every six weeks, where it had needed nine truckloads of silica sand. A rule of thumb for millscale applications: a job will require



4 times as much silica sand, 2.5 times as much coal slag and twice as much copper slag by weight as Starblast®.

And if you're recycling your abrasive right now, you'll be able to recycle Starblast®, too.

For the name of your nearest Starblast® distributor, or for more information on blasting with Starblast®, call DuPont: (800) 441-9487.



For more information on
DuPont Titanium
Technologies:

(800) 441-9485

Chestnut Run Plaza 728/1229
P.O. Box 80728
Wilmington, DE 19880-0728



(11/02) Printed in U.S.A.
[Replaces: H-00991-1]
Reorder No.: H-00991-2

**DuPont Titanium
Technologies**