



Flex-O-Lite®
The ultimate
in glass
bead
technology



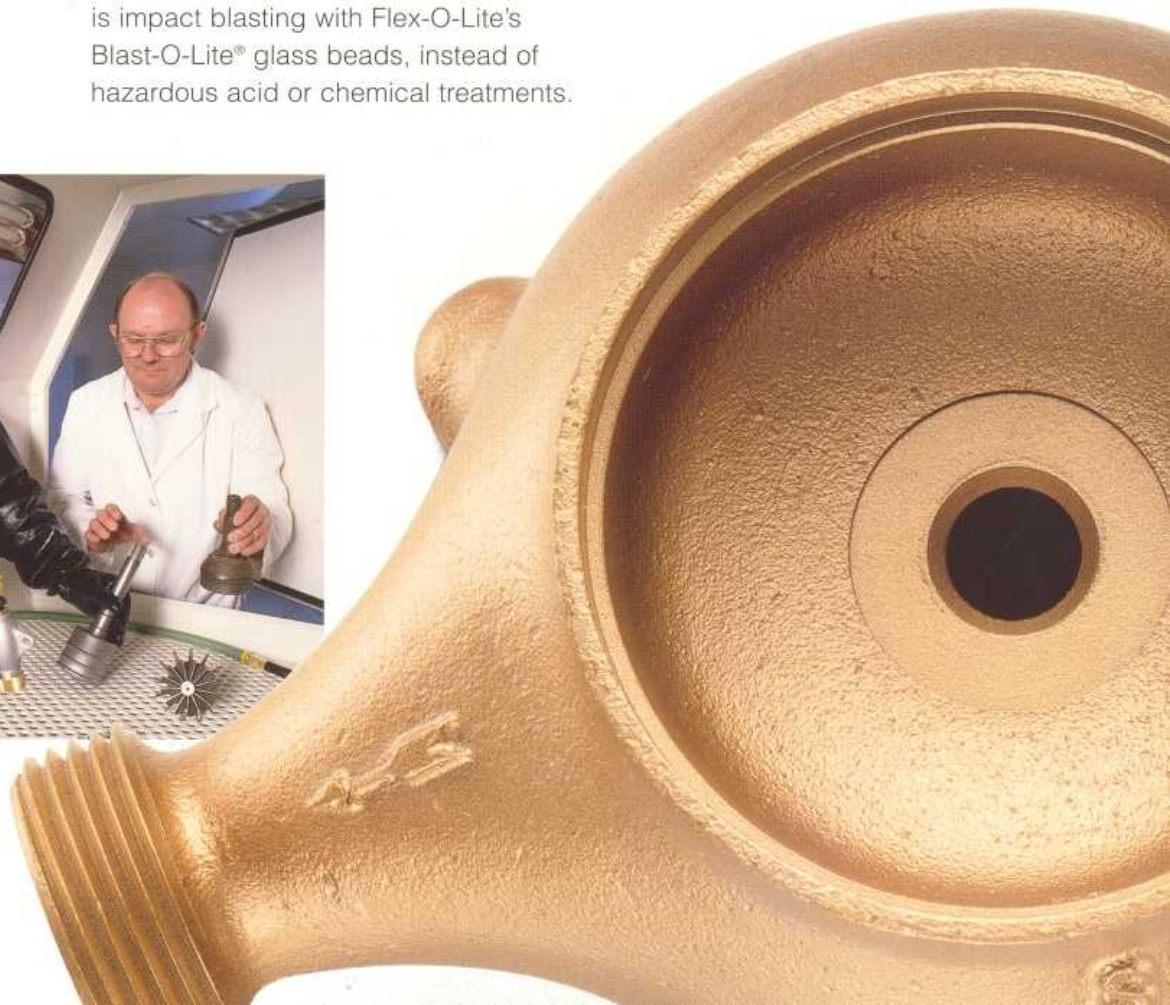
APPLICATIONS:

- Carbon Deposit Removal From Automotive Parts
- Dies, Pipes, Plates
- Excess Solder Removal
- Heat Scale and Discoloration
- Interior Surfaces
- Investment From Castings
- Jewelry
- Molds:
 - Glass, Metal,
 - Plastic & Rubber
- Precious Metals
- Stainless Medical Equipment
- Statuary
- Vats, Tubes & Trays
- Weldments



Manufacturing processes often result in parts becoming contaminated with residues which impair performance, and most metals are required to be metallurgically cleaned before painting or plating. The contaminant-free, environmentally friendly choice is impact blasting with Flex-O-Lite's Blast-O-Lite® glass beads, instead of hazardous acid or chemical treatments.

Blast-O-Lite® glass beads are formulated of chemically inert soda-lime glass to produce a metallurgically clean surface for parts and equipment. The beads are spheres of uniform size and hardness to impact the surface of the part. Blast-O-Lite® glass beads meet OSHA standards for cleaning operations, and release no free silica or toxins that may harm workers or the environment. Breakdown of glass beads is generally caused by fracture and does not contaminate workpieces. Another advantage of using Blast-O-Lite® glass beads is disposability; spent glass is environmentally friendly as compared to chemical cleaning methods. Normally this simplifies the disposal which results in reduced cost and required paperwork.



CLEANING WITH GLASS BEADS

Prevents Contamination Of Products



Cleaning and finishing
of stainless
steel weldment



BEFORE

AFTER

Typical cleaning...
heat treat scale



The impact of the beads removes foreign substances from the base surface without dimensional change. The beads are available in a wide range of sizes to clean hard-to-reach fillets and interstices easily and quickly.



FINISHING WITH GLASS BEADS

Variety Of Finishes In One Operation



Blast-O-Lite® Glass Beads...
finishing of
stainless steel cookware

APPLICATIONS:

- Blend Surface Defects
- Improves Sealing
- Improves Lube Holding Capability
- Improves Appearance
- Food Processing Equipment & Cookware
- Medical Equipment
- Industrial and Stainless Steel Cookware

Using a variety of different Blast-O-Lite® glass beads, a broad range of materials including plastic, glass, metal and rubber can be finished. A finer, smoother non-glare finish is achieved with smaller spheres, while larger spheres produce a more textured finish. The bright satin finish is the desired effect in parts ranging from medical equipment to stainless steel propellers. Special effects are easily achieved through simple masking before the blasting process, and every type of finish is reproducible, time after time.

The impact of Blast-O-Lite® glass beads smoothly blends away surface defects, and improves the corrosion resistance of the finished surface. Blast-O-Lite® glass bead finishing is accomplished

without dimensional change to the metal surface, and does not impart contamination or residue, unlike other finishing methods.

For moving parts, finishing with Blast-O-Lite® glass beads improves lubrication and reduces friction. Glass bead finished surfaces create a sealing action that reduces susceptibility of aluminum, magnesium and other metal surfaces to chemicals and corrosion, therefore, extending partlife. The glass bead finishing process also improves adhesion capabilities with paint, plastic and rubber coatings.



DEBURRING

WITH GLASS BEADS

Low Cost High-Precision Method



Finishing and removal
of loose burrs
on compressor wheels

Removing burrs, feathered edges and nicks from tools, equipment and parts is a risky operation. Dislodged burrs can infiltrate machinery or work areas and cause damage or injury. Corners and edges must be deburred with precision to assemble and operate properly. No base metal must be removed from the surface of the part.

Blast-O-Lite® glass beads, manufactured to conform to Industrial Specifications, offer a one-step, low-cost, deburring alternative that reduces risk. Glass beads, utilized in impact blasting operations, accelerate rapidly and efficiently into an air stream, reaching the target at extremely high velocity to safely blast and smooth burrs and rough edges in one step.

The impact blasting process is fast for energy efficiency, and the bright, clean, precision finish is reproducible, even on materials with close tolerances.

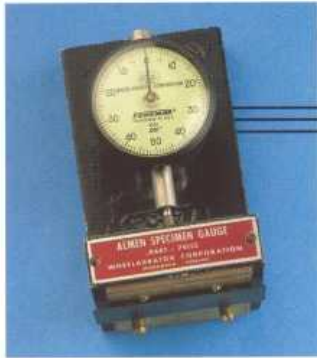
APPLICATIONS:

- Axles & Shafts
- C V Joints
- Dies
- Drills
- Files
- Gears
- Injector Components
- Machined Parts
- Mating Parts
- Piston Rings
- Punches
- Stainless Steel Products
- Stamped Parts
- Valve Bodies



PEENING WITH GLASS BEADS

Reduces Metal Parts Fatigue



Almen Gauge...
glass bead peening

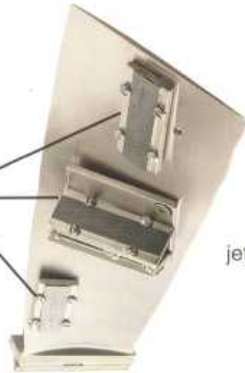
Special steel almen strip(s) are blasted with glass spheres on one side to measure peening intensity of a particular application.

The compressive stress induced by the peening action causes the almen strip(s) to bow in the direction of the blast.

The height of the arc is measured by the Almen Gauge. This is referred to as the "arc height peening intensity."

APPLICATIONS:

- Aircraft Parts:
 - Blades
 - Landing Gears
 - Stators
 - Vains
 - Valves
- Bond Testing:
 - Chrome Plating
 - Silverplate
- High Performance Rods,
Shafts, and Valves
- Mag Wheels
- Weldments



Almen strips
attached to
jet engine blade

Flex-O-Lite's Blast-O-Lite® glass beads are manufactured to conform to Industrial Specifications to offer a low-cost, one-step finishing alternative. Peening with Blast-O-Lite® glass beads creates a uniform surface layer of compressive stress, which acts to combat stress cracks and corrosion, therefore, increasing the life of metal parts. Blast-O-Lite® glass beads offer uniform size and a high degree of roundness to precisely control the process performance for stress relief.

Peenning with Blast-O-Lite® glass beads leaves no metallic contamination on the workpiece. This eliminates the second step of removing metallic contamination left by steel shot or other peening media. For delicate thin-walled parts and thin welds, peening with Blast-O-Lite® glass beads provides the right balance of stress relief without over-stressing and causing damage.



BLAST MEDIA COMPARISON

	GLASS BEADS MEDIA	FINE ANGULAR ABRASIVE Aluminum Oxide	COARSE ABRASIVE Sand	METALLIC ABRASIVE Steel, Iron Shot or Grit	ORGANIC ABRASIVE Nut Shells
APPLICATIONS	Cleaning Finishing Light to Medium Peening Deburring	Cleaning Smooth Finish and Surface Contamination Are Not A Factor	Cleaning Surface Integrity and Surface Contamination Are Not A Factor	Heavy Cleaning High Intensity Peening	Light Deburring Cleaning of Fragile Items
SPECIFICATIONS					
US Mesh Range	20 to 325	80 to 325	8 to 200	6 to 80	60 to 325
Hardness (Mohs)	5.5	9.0	7.5	7.5	1.0
Specify Gravity	2.45 to 2.50	2.40 to 4.0	2.45 to 2.70	7.60 to 7.80	1.30 to 1.40
Configuration	Spherical	Angular	Granular	Spherical / Mixed	Mixed
Free Silica	None	Less Than 1%	100%	None	None
Free Iron	Less Than 1%	Less Than 1%	Less Than 1%	95% to 100%	None
Toxicity	None	Low	High	None	None to Low
Contamination	None	Moderate	Moderate	Moderate / Heavy	Moderate / Heavy
Color	Clear	White to Brown	Light Brown	Grey	Light Brown
APPLICATIONS					
Dry Blasting Usage	Excellent	Excellent	Excellent	Excellent	Excellent
Wet Blasting Usage	Excellent	Poor	Poor	Poor	Poor
Cleaning Speed	Moderate / High	High	High	Moderate / High	Low
Metal Removal	None / Low	High	High	Medium / High	None
Surface Finish	Diverse Matte	Diverse Matte	Rough Anchor	Shot = Peened Grit = Rough Anchor	Smooth
Peening Capability	Excellent	None	None	Excellent	None
ECONOMIC					
Depletion Rate	Low	Medium	High	Low	High
Price Comparison	Average	Average / High	Low	Low	Average / High

PARTICLE SIZE TABLE SIEVE INFORMATION ASTM E - 11

SIEVE SIZE	OPENINGS		
	U.S. Mesh	Inches	Microns
710	0.0787	2000	2.00
12	0.0661	1700	1.70
14	0.0555	1400	1.40
16	0.0469	1180	1.18
18	0.0394	1000	1.00
20	0.0331	850	.85
25	0.0278	710	.71
30	0.0234	600	.60
35	0.0197	500	.50
40	0.0165	425	.425
45	0.0139	355	.355
50	0.0117	300	.300

SIEVE SIZE	OPENINGS		
	U.S. Mesh	Inches	Microns
60	0.0098	250	.250
70	0.0083	212	.212
80	0.0070	180	.180
100	0.0059	150	.150
120	0.0049	125	.125
140	0.0041	106	.106
170	0.0035	90	.090
200	0.0029	75	.075
230	0.0025	63	.063
270	0.0021	53	.053
325	0.0017	45	.045
400	0.0015	38	.038

GLASS SHOT FOR PEENING AMS 2431/6A SAE

Designation Number	U.S. Sieve	Diameter Inch Max	Diameter Inch Min	Max Trace Retrain	U.S. Sieve Size Min 95% Pass	U.S. Sieve Size Max 10% Pass	Max 3% Pass	Min % True Spheres	Max % Sharp Particle	Millimeters Max	Millimeters Min
AGB-200	-8+12	0.094	0.066	7	8	12	14	80	0.5	2.39	1.68
AGB-170	-10+14	0.079	0.056	8	10	14	16	80	0.5	2.01	1.42
AGB-140	-12+16	0.066	0.047	10	12	16	18	80	0.5	1.68	1.19
AGB-100	-16+20	0.047	0.0331	14	16	20	25	65	3.0	1.19	0.841
AGB-70	-20+30	0.0331	0.0234	18	20	30	35	65	3.0	0.841	0.594
AGB-50	-30+40	0.0234	0.0165	25	30	40	45	70	3.0	0.594	0.419
AGB-35	-40+50	0.0165	0.0117	35	40	50	60	70	3.0	0.419	0.297
AGB-30	-45+60	0.0139	0.0098	40	45	60	70	70	3.0	0.358	0.249
AGB-25	-50+70	0.0117	0.0083	45	50	70	80	80	3.0	0.297	0.211
AGB-18	-70+100	0.0083	0.0059	60	70	100	120	80	3.0	0.211	0.150
AGB-15	-80+120	0.0070	0.0049	70	80	120	140	80	3.0	0.178	0.124
AGB-12	-100+140	0.0059	0.0041	80	100	140	200	85	3.0	0.150	0.104
AGB-9	-140+200	0.0041	0.0029	120	140	200	270	90	3.0	0.104	0.074
AGB-6	-200+270	0.0029	0.0021	170	200	270	400	90	3.0	0.074	0.053

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