

FINTEC
METAL FINISHING TECHNOLOGY

Abrasive: Glass Bead

Material Composition: Soda-Lime Glass (Contains No free Silica)

Media Life: Depends on blast pressure and parameters but average passes through nozzle are 6-8 passes.

Material Sizing Chart: See Attachment A (below)

AGB Specification Sheet: See Attachment B (below)

Potters A Series Technical Chart: See Attachment C (below)

Applications:

Glass beads are used in the following industries: Automotive, Aerospace, Rubber Mold, Glass Mold, Paint Removal, Rust Removal, medical, Fasteners, Dies and Taps, Surface Prep Food Surfaces, Electronic, Weld Mark Removal

Typical Uses:

Cleaning: Cleans and prepares surface of metal parts without introducing ferrous contaminants and without changing tolerance:

Peening: Reduces the tensile stress in metal parts and thus increases the service life of most components and reduces stress corrosion cracking

Finishing:

- Used to help cover and blend marks and discolorations created by welding, grinding and fabrication processes
- Creates repeatable aesthetically pleasing finishes on a wide range of metal substrates

Deburring: Peens and removes burrs this leaving a cosmetically friendly surface.

Advantages over other abrasive medias:

- Less material delivery energy needed when compared to steel shot
- Less equipment wears than angular abrasives
- Environmentally safe
- No free Silica
- Landfill clean

- More particles impact per second when compared to steel shot
- Can be delivered precisely where needed through a blast nozzle
- Consistent sizing help facilitate a uniform repeatable finish
- Due to round shape (round) and material composition the media is non-destructive and will not deteriorate material substrate.

Glass Bead Sizing Chart

Nominal Diameter of Ballotini™ Metal Finishing Beads Supplied for the U.S.A.						
Potters Designation	US Sieve	Inches Max	Inches Min	Microns Max	Microns Min	Min % Round
A	20-30	.0331	.0234	850	600	65
AAA	25-45	.0278	.0139	710	355	65
B	30-40	.0234	.0165	600	425	65
C	40-60	.0165	.0098	425	250	75
AA	40-70	.0165	.0083	425	212	70
D	50-70	.0117	.0083	300	212	75
AB	50-80	.0117	.0070	300	180	70
AC	60-120	.0098	.0049	250	125	80
AD	70-140	.0083	.0041	212	106	80
AE	100-170	.0059	.0035	150	90	85
AG	120-270	.0049	.0021	125	53	85
AH	170-325	.0035	.0017	90	45	85

MIL-PRF-9954C						
Potters Designation	US Sieve	Inches Max	Inches Min	Microns Max	Microns Min	Min % Round
3	20-30	.0331	.0234	850	600	65
4	30-40	.0234	.0165	600	425	70
5	40-50	.0165	.0117	425	300	70
6	50-70	.0117	.0083	300	212	80
7	60-80	.0098	.0070	250	180	80
8	70-100	.0083	.0059	212	150	80
9	80-120	.0070	.0049	180	125	80
10	100-170	.0059	.0035	150	90	90
11	120-200	.0049	.0029	125	75	90
12	140-230	.0041	.0025	106	63	90
13	170-325	.0035	.0017	90	45	95

Glass Bead AGB Specification

SAE AMS 2431/6A

U.S. Std. Mesh/ Screen	Microns	AGB-200 80% Rds	AGB-170 80% Rds	AGB-140 80% Rds	AGB-100 65% Rds	AGB-70 65% Rds	AGB-50 70% Rds	AGB-35 70% Rds	AGB-30 70% Rds	AGB-25 80% Rds	AGB_18 80% Rds	AGB-15 80% Rds	AGB-12 85% Rds	AGB-9 90% Rds	AGB-6 90% Rds
7	2800	100													
8	2360	95-100	100												
10	2000	0-10	95-100	100											
12	1700		0-10	95-100											
14	1400			0-10	100										
16	1180	0-3			95-100										
18	1000		0-3		0-10	100									
20	850			0-3		95-100									
25	710					0-10	100								
30	600				0-3		95-100								
35	500						0-10	100							
40	425					0-3		95-100	100						
45	355							0-10	95-100	100					
50	300						0-3		0-10	95-100					
60	250									0-10	100				
70	212							0-3			95-100	100			
80	180								0-3		0-10	95-100	100		
100	150									0-3		0-10	95-100		
120	125											0-10	100		
140	106										0-3			95-100	
170	90											0-3		0-10	100
200	75												0-3		95-100
230	63														0-10
270	53													0-3	
325	45														
400	38														0-3

VERIFICATION: Sieve sizes and standards according to A.S.T.M. Norms (ASTM-D-1155-53)

A-Series Technical Quality Products



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A-SERIES TECHNICAL QUALITY SOLID GLASS SPHERES

TYPICAL PROPERTIES

PHYSICAL

Density g/cc	2.50
Weight Pounds Per Gallon	13.3
Weight, Pounds Per Liter	3.70
Refractive Index	1.51 - 1.52
Crush Resistance psi	14,000 - 36,000
Hardness, MOH	5 - 6
Hardness, Knoop 100g load	515 Kg/mm ²
Coefficient of Friction, Static	0.9 - 1.0

CHEMICAL

Composition	Soda-Lime Silica Glass
Free Silica	None

APPLICATIONS

- Pigment Deagglomeration for coatings and inks
- Mineral Processing
- Magnetic Tape
- Paper/Textile Coatings
- Mechanical Plating
- Pharmaceuticals
- Agriculture Products
- Cosmetics
- Dye Stuffs
- Chromatography
- Fillers and Extenders
- Fluidized Beds
- Optical Frame Molding
- Polishing/Vibratory Media
- Decorative
- Instrument Calibration
- Heat Transfer
- Filtration

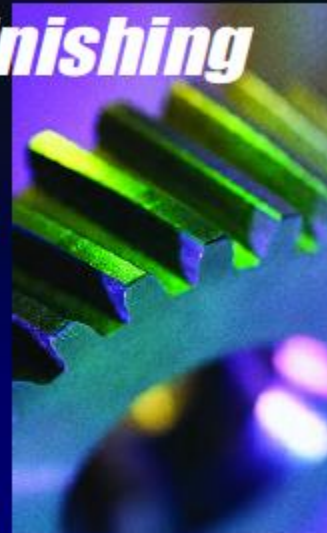
Stock Number	Size (mm)	U.S. Sieve	% Round
Premium 5MM	4.7-5.3	N/A	90
Premium 4MM	3.7-4.3	N/A	90
Premium 3MM	2.8-3.2	N/A	90
Premium 2MM	1.8-2.2	N/A	90
Premium 1.5MM	1.3-1.7	N/A	90
A-205	1.7-2.3	8-12	80
A-170	1.4-2.0	10-14	80
A-130	1.2-1.7	12-16	80
A-120	1.0-1.4	14-18	80
A-100	0.8-1.2	16-20	80
P-0337	0.60-0.85	20-30	80
P-0280	0.71-0.50	25-35	80
P-0230	0.43-0.60	30-40	80
P-0170	0.30-0.43	40-50	90
P-0140	0.25-0.35	45-60	90
P-0120	0.21-0.30	50-70	90
P-0100	0.18-0.25	60-80	90
P-0080	0.15-0.21	70-100	90
P-0070	0.12-0.18	80-120	90
P-0060	0.10-0.15	100-140	90
P-0040	0.10-Finer	140-Finer	90



Potters Metal Finishing Glass Beads

For Cleaning, Finishing, Peening And Deburring Applications

- Impart A Controlled, Clean Finish On A Variety Of Metals
- Clean Quickly Without Significant Metal Removal
- Clean, Finish, Peen And Deburr At Once
- Provide A Unique Surface Finish
- Can Be Recycled Many Times
- Contains No Free Silica
- Environmentally Safe
- Backed By Potters Technical Support
- Meets Both Mil And AMS Specs For Heavy Metal Limits



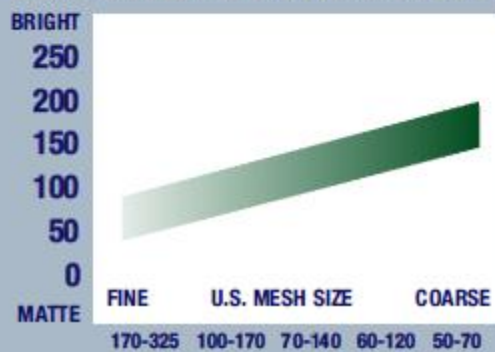
SPEED OF CLEANING

Target - 2024-T351 Aluminum (Time to clean 12 sq. in.)



SURFACE PROFILE

Target - 2024-T351 Aluminum, Surface Finish (Microinches RMS/Ra)



Potters Metal Finishing Glass Beads

For Cleaning, Finishing, Peening And Deburring Applications

Glass Bead Media:

- Are consumed at a slow rate and can survive multiple impacts, allowing for continuous recycling of the media.
- Are chemically inert and will not leave ferrous or other undesirable residues on the surface of the workpiece.
- Impart a controlled, clean finish on a variety of metals.
- Clean quickly without significant metal removal.

TYPICAL APPLICATIONS:

Cleaning

- Cleans/preps surface of metal parts without changing tolerances, or imparting ferrous pollutants.
- Combines cleaning, finishing and peening in one operation.

Finishing

- Creates a wide range of unique surface finishes that are easy to reproduce.
- Blends machine marks, seals pores and the results offer the advantages of glass bead peening.

Peening

- Reduces the tensile stress in metal parts, increasing the fatigue limit.
- Reduces stress corrosion cracking.

Deburring

- Removes burrs without damaging the parts and offers a peened surface in one operation.

POTTERS' ENVIRONMENTAL COMMITMENT

Potters respects the environment by recycling over one billion pounds of glass each year. Potters works closely with regulatory agencies and responsible customers around the world to ensure that we provide glass beads that do not harm employees, contaminate water supplies or land around roadways. Potters has set its own strict standards and voluntarily performs XRF analysis and other quality control procedures on incoming raw materials to ensure its glass beads are safe and meet heavy metals limitations.

GLASS BEAD FACTS:

Coarse Beads

- Remove larger, tougher soils; Peen to more intense levels; Peen to deeper zones in surface; Produce higher surface RA; Produce brighter surface; Consume faster at same pressure as fine beads; In practice, may consume slower than fine beads.

Fine Beads

- Remove smaller, lighter soil; More impacts per pound; Clean faster; Peen to less intense levels; Peen outer zones of surfaces; Reach into keyways, filletes and small areas; Produce lower surface RA; Produce matte finish; Consume slower at same pressure as coarse beads; In practice, may consume faster than coarse beads.

All Beads

- Contains no free silica (environmentally friendly); Recycle many times; Clean efficiently at 45°- 60° nozzle angle.

Bead size, shape of the workpiece, angle of the nozzle, distance of the nozzle to the surface area, air pressure, and the type of delivery system (suction versus direct pressure blast) are factors affecting final surface appearance and media consumption parameters.

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		Inches		Microns			
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