

**SURFACE TREATMENT PRODUCTS AND METAL IMPORT  
INDUSTRY AND TRADE LIMITED LIABILITY COMPANY**

**GLASS BEADS TDS**



## INDUSTRIAL SOLID GLASS BEADS

Surface treatment, shot peening, road marking, reinforcement of synthetic resins, production of fire protective materials, and many other fields utilize sandblasting.

It is produced in modern facilities equipped with the latest production technology of micro glass beads and high-quality control systems

Our company's products fully meet our customers' expectations in terms of quality and quantity with continuous improvement and innovative features. We have expert personnel in our company who provide technical support to customers regarding various applications of the products and enhance their performance.

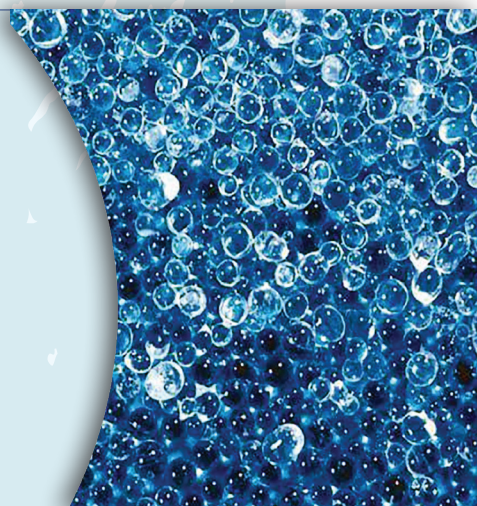


## Industrial Applications

Our glass bead products are specially designed for sandblasting and shot peening surface treatment processes. They are trusted by many of our customers for their high performance. These products can be used for cleaning, deburring, radiusing, etching, satinizing, surface preparation, and shot peening processes of materials made of metal, plastic, wood, glass, rubber, and similar materials. These products are particularly preferred for surface treatment processes of soft metals such as aluminum and bronze.

**There are many advantages of glass bead surface treatment processes :**

- • It allows achieving the desired surface profile and enables reapplication on the same material if needed.
- • It enhances the corrosion resistance of the blasted materials.
- • It prevents contamination.
- • It provides the desired surface roughness with the required precision without damaging the material.
- • It achieves the desired surface effect, such as matte or polished finishes.
- • It gives the material a cosmetic (decorative) appearance and a smooth surface.
- • It provides the desired level of roughness for surfaces that will be painted or coated.



## Glass Bead & Shot Peening Application Areas

### Surface Preparation

- It provides a uniform surface roughness on the material.
- It covers surface defects on the material.
- It creates a clean, satin-like smooth effect on the material surface.
- It can be used for achieving a matte finish effect.

### Cleaning

- It does not have a negative impact on the material itself and its dimensions.
- It provides a smooth and cost-effective surface cleaning.
- It can be used for materials that require frequent cleaning.
- It can be used for cleaning welded areas.
- It removes oxidation and burn marks from the material surface.

### Deburring

- It removes burrs.
- It prepares materials with delicate and thin edges without deforming them.
- It does not cause the applied material to lose its properties.
- It allows performing different processes in a single operation.
- It can be used multiple times on the same material without causing deformation, even for highly sensitive materials

### Shot peening

- It prevents the propagation of microscopic cracks on the material, reducing the effects of corrosion and increasing the material's lifespan.
- It creates compressive stress on the surface of the material without deforming it.
- It can be safely used on materials such as Stainless Steel, Titanium, Special Alloys, etc., without the risk of contamination due to its neutral chemical composition.
- It allows achieving the desired shot peening parameters without causing deformation in the shape and dimensions of the treated materials.



# Technical Specifications

## Teknik özellikler

| PARTICLE SIZES | PARTICLE DISTRIBUTION                                                                                                    |    |             |
|----------------|--------------------------------------------------------------------------------------------------------------------------|----|-------------|
|                | ASTM E11-70 The particle distribution is prepared according to the "passing particles" norm based on the sieve standard. |    |             |
|                | 1000                                                                                                                     | µm | %99 to %100 |
|                | 850                                                                                                                      | µm | %90 to %100 |
|                | 425                                                                                                                      | µm | 0 to %10    |
| 300-400        | 500                                                                                                                      | µm | %99 to %100 |
|                | 425                                                                                                                      | µm | %90 to %100 |
|                | 250                                                                                                                      | µm | 0 to %10    |
| 200-300        | 355                                                                                                                      | µm | %99 to %100 |
|                | 300                                                                                                                      | µm | %90 to %100 |
|                | 180                                                                                                                      | µm | 0 to %10    |
| 150-250        | 300                                                                                                                      | µm | %99 to %100 |
|                | 250                                                                                                                      | µm | %90 to %100 |
|                | 150                                                                                                                      | µm | 0 to %10    |
| 100-200        | 250                                                                                                                      | µm | %99 to %100 |
|                | 212                                                                                                                      | µm | %90 to %100 |
|                | 106                                                                                                                      | µm | 0 to %10    |
| 90-150         | 180                                                                                                                      | µm | %99 to %100 |
|                | 150                                                                                                                      | µm | %90 to %100 |
|                | 75                                                                                                                       | µm | 0 to %10    |
| 70-110         | 125                                                                                                                      | µm | %99 to %100 |
|                | 106                                                                                                                      | µm | %90 to %100 |
|                | 53                                                                                                                       | µm | 0 to %10    |
| 40-70          | 106                                                                                                                      | µm | %99 to %100 |
|                | 90                                                                                                                       | µm | %90 to %100 |
|                | 45                                                                                                                       | µm | 0 to %10    |
| 0-50           | 90                                                                                                                       | µm | %99 to %100 |
|                | 63                                                                                                                       | µm | %90 to %100 |
|                | 45                                                                                                                       | µm | 0 to %10    |

| Chemical Composition (Characteristics) | Percentage Distribution |
|----------------------------------------|-------------------------|
| SiO <sub>2</sub>                       | %70 to %75              |
| Na <sub>2</sub> O                      | %12 to %15              |
| K <sub>2</sub> O                       | <%1,5                   |
| CaO                                    | %7 to %12               |
| MgO                                    | <%5                     |
| Fe <sub>2</sub> O <sub>3</sub>         | <%0,5                   |
| Al <sub>2</sub> O <sub>3</sub>         | <%2,5                   |
| SO <sub>3</sub>                        | <%0,5                   |

| GLASS BEADS & GLASS BEAD APPLICATION AREAS |                                                                |                                                                                            |
|--------------------------------------------|----------------------------------------------------------------|--------------------------------------------------------------------------------------------|
| USAGE SECTORS                              | PURPOSE OF USE                                                 | USED GLASS BEAD SIZE                                                                       |
| Aerospace Industry                         | Glass Beads 40-70, Glass Beads 70-110                          | Precision Cleaning Capability, Non-Corrosive, Non-Flammable, Non-Explosive Characteristics |
| Medical Device Manufacturing Industry      | Glass Beads 70-110, Glass Beads 90-150,<br>Glass Beads 300-400 | Precision Cleaning Capability, Non-Corrosive, Non-Flammable, Non-Explosive Characteristics |
| Turbocharger Remanufacturing Industry      | Glass Beads 70-110, Glass Beads 300-400                        | Precision Cleaning Capability, Non-Corrosive, Surface Finishing, and Polishing             |
| Mold Industry                              | Glass Beads 70-110, Glass Beads 300-400                        | Precision Cleaning Capability, Non-Corrosive                                               |
| Otomobil Sanayi                            | Glass Beads 200-300 Glass Beads 300-400                        | Precision Cleaning Capability, Non-Corrosive                                               |
| Mimari Paslanmaz Uygulamaları              | All Sizes                                                      | Non-Corrosive, Surface Finishing and Polishing, Decorative, Removal of Processing Marks    |
| Mimari Alüminyum Uygulamaları              | All Sizes                                                      | Non-Corrosive, Surface Finishing and Polishing, Decorative, Removal of Processing Marks    |
| Endüstriyel Mutfak Sanayi                  | Glass Beads 70-110, Glass Beads 300-400                        | Non-Corrosive, Surface Finishing and Polishing, Decorative, Removal of Processing Marks    |
| Silah Sanayi                               | Glass Beads 40-70, Glass Beads 70-110                          | Non-Corrosive, Surface Finishing and Polishing, Decorative, Removal of Processing Marks    |

| GLASS BALL & GLASS BALL DIMENSIONS |                                                               |
|------------------------------------|---------------------------------------------------------------|
| Glass Beads 40 - 70                | 40-70 It contains glass bead particles ranging from microns   |
| Glass Beads 70-110                 | 70-110 It contains glass bead particles ranging from microns  |
| Glass Beads 90-150                 | 90-150 It contains glass bead particles ranging from microns  |
| Glass Beads 100-200                | 40-70 It contains glass bead particles ranging from microns   |
| Glass Beads 150-250                | 100-200 It contains glass bead particles ranging from microns |
| Glass Beads 200-300                | 200-300 It contains glass bead particles ranging from microns |
| Glass Beads 300-400                | 300-400 It contains glass bead particles ranging from microns |
| Glass Beads 400-600                | 400-600 It contains glass bead particles ranging from microns |

**PHYSICAL CHARACTERISTICS**

Shape: Spherical

Hardness: 5.0 - 6.0Mohs

Bulk Density: 80 - 90lbs/cu.ft

Specific Gravity: 2.5g/cc

Free Silica: No Free Silica

Color: Clar Glass

Angular particles: Maximum 3% in number

**TECHNICAL DATA**

Specific weight: oporok 232.5 кгрпа

Bulk weight : approx. 6-7

Hardness by Mohs : approx. 466 - 495 HV

by Vickers by Rockwell: approx. 46 - 48 HRC

Colour : measured with Zehntner reflectometer according to DIN 55984, ISO 6504 and ASTM E97



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**HERMES**  
A B R A S I V E

