



## Glass Bead

The **glass bead** used in **shotblasting** duties constitutes an abrasive that allows to perform the following operations:

- **Cleaning and pollutant removal.**
- **Decorative finishing**
- **Engravings**
- **Shot peening**

Unlike other abrasives, the glass bead does not cause any removal of the metal base, does not contaminate and does not leave incrustations in the surface treated, achieving an excellent superficial finishing.

### **Cleaning and removal**

The **cleaning action** is performed by an impact on the surface eliminating all the pollution without affecting the metal base.

As it is spherical and without edges and rims it does not pull off the covering and metal base as if it were a cutting tool. For that reason shotblasting with glass beads is still admitted in those cases in which strict dimensional tolerances should be kept.



### **Decorative finishing**

The superficial appearance achieved by shotblasting with glass beads on steel, aluminium, stainless steel, brass, tin, acrylic, plastic, etc, is really unique, obtaining a dull finishing that valorises the piece.

In this item two advantages are added:

- The repeatability of the method: totally uniform batches are obtained by keeping the same operation parameters.
- The low cost of the treatment due to minimum process time.

As a general rule, the use of glass beads of large diameter are used for obtaining a finishing with deep grain and a dull surface; on the other hand, with smaller size the finishing obtained is finer and duller.

### **Engravings**

The engraving that is performed by means of shotblasting is obtained by the difference between the zones that have not been treated (shiny) and the zones that have been shotblasted (dull). These engravings are generally performed with masks made especially for this purpose and although it can also be done with other abrasives, glass beads ensure an excellent finishing and also a much longer lifetime of the masks used, due to the minimum abrasiveness of this material.

### **Shot peening**

It is the effect of a flow of spherical particles shot at great speed on a metallic surface compacting it. This hammering action (peening) causes a crushing of the surface due to the plastic deformation that induces compression tensions parallel to the surface, that generally extend from 5 to 10 mils (thousandth of inch) of depth.

This effect is used in pieces as: gears, axles, springs, rods, etc, submitted to flexion efforts that cause traction tensions on the surface.



### **The most common uses of glass beads:**

- Cleaning of extrusion, forged and printed matrixes.
- Cleaning and texturing of smelting, injection and vulcanising casts of: aluminium, brass, rubber, plastic, glass, zamac.
- Cleaning of rotors, windings, armours and brushes in electric motors and generators.
- Cleaning of engines of any type, cylinder lids, valves, pistons, connecting rods, crankshafts, etc. (elimination of carbon).
- Cleaning and elimination of the salts and decolouration produced in the thermic treatment for hardenings steel.
- Cleaning and removal of paint, varnishes, lacquers or any oxide.
- Cleaning of superficially contaminated elements with radioactivity in nuclear centrals.
- Deburring
- Cleaning of contaminated parts in all kind of machines in printing works.
- Cleaning and deburring of precision without change of size.
- Preparation of surfaces: painting, anodizing, chromium plating, hard chromium or other covering or galvanic treatments.
- Shot peening treatment to increase the resistance to the fatigue and to the corrosion of critic parts in turbine components, aeroplane engines, springs, gears, etc.
- Elimination of scratches, defects, tool marks in casts, matrixes, etc.
- Specific homogeneous and controlled roughness in rollers.
- Provision of an anti-reflecting finishing in surgical instruments, tools, windshield wipers, electronic equipment fronts, etc.
- High quality decorative finishing in stainless steel, chrome-nickel steel, aluminium, plastic, brass, tin, copper and iron.
- Microscopic granulated to retain lubricants or mould release.
- Cleaning of moulds for manufacturing tyres.



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