

## SINTERING

**Gestión de Compras** provides products manufactured by different process of powder metallurgy/sintering.

### PROCESS:

Sintering, also known as powder metallurgy, is a process that consist in apply pressure and a high temperature (ever under melting point) to a powdered material. This material compact and form a solid mass.

Sintering operation consist basically four phases:

1. Dosage and mixing to get the desired composition of powder.
2. Putting powder into a mould and pressing it to form a green body.
3. Sintering at a high temperature to fuse particles together (usually on a protected atmosphere)
4. Finishing operations.

By this method is possible forming material as tungsten, molybdenum, rhenium, or carbon without the need to reach their melting point, that it is very high. Besides sintering presents some more advantages:

- Completely controlled composition (is possible mix metals and ceramic materials)
- Doesn't exist loss of material for chips or disrepair.
- Structural pieces with complex shapes.
- Controlled Porosity (Impossible by another method).
- Special properties such as hardness and wear resistance.
- Great precision and good surface finish.
- Large series of pieces with narrow tolerances.

**Disadvantages** of the powder technology are:

- Inferior mechanical properties due to the porosity of the material.
- Design limitations: uniform section in the direction of compacted, limited slenderness, etc.
- Some powders of fine grains present a risk of explosion, such as aluminum, magnesium, zirconium and titanium.

## **PRODUCTION:**

**Gestión de Compras** provides products manufactured by powder metallurgy / sintered. We have the means to produce parts directly from CAD Data or drawings with the desired material and quality.

We are professionals on traditional sintering and in alternatives powder metallurgy process.



Some types of alternative powder metallurgy process are:

- **Cold Isostatic Pressing (CIP)**
- **Hot isostatic pressing (HIP)**
- **Selective laser sintering (SLS)**
- **Hot pressing**
- **Spark sintering**
- **Loose sintering or Pressureless sintering**
- **Metal Injection Molding (MIM)**

## MATERIALS AND PRODUCTS:

Through this process is possible manufacture metallic, ceramic and polymeric products. Sintering is often chosen as the shaping process for materials with extremely high melting points such as:

- Tungsten
- Molybdenum
- Titanium diboride.
- Sialon
- Cobalt and nickel superalloys
- Alumina
- Zirconia
- Etc.

Parts made by sintering are used in the areas of tools and industrial machinery, automotive, elevators, the armoury, cutlery, etc. In all these sectors, the sintered metal parts provide objects with high porosity which act as filters, objects of refractory materials, and pieces of metal carbides, among others such as bearings, camshafts, cutting tools, piston rings, valve guides, self-lubricating bushings....



## TOLERANCES:

Dimensional tolerance depends on the geometry of the component. For example, by this process is capable to manufacture parts with tolerances IT-7 according to ISO-286-2 standard.

ISO 8062, ISO 286-2, ANSI B4.1, DIN 2768, are only a few of standards which we work.

## STANDARD AND CERTIFICATES:

We have the means to produce according to standards as DIN, ISO, EN, ANSI, AISI, SAE, BS, JIS, China GB/T, KS...

Our factories have the most demanding certifications for customers to ensure product quality as ISO 9001, TS 16949 and ISO 14001.

Also, **Gestión de Compras** make ensure that his suppliers comply specific standards as ISO 2738, ISO 2739, etc. and safety standards as OHSAS 18001.



## CONTACT:

In **Gestión de Compras** work with a wide range of customers from different sectors but have in common the search for products that suit your needs at the best Price and the guaranteed maximum quality. Check with us about any product. We have a qualified staff who will advise you.

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**PRODUCTOS:**



