Our experience ensures the best solutions...

Specialists in advanced materials for use in high-temperature furnaces and powder metallurgical sintering process.

Carbones y Sistemas, S.L.L.
C/ Av. Los Pocillos, 10
Nave 1 - P.I. La Carrehuela
28340 Valdemoro (Madrid)
Tel.: +34 91 895 38 80   mail@carbosystem.com
Fax:  +34 91 809 23 46   www.carbosystem.com
Support plates for sintering pieces. Designed for use in sintering processes. Materials: Graphite, Alumina, Composites, Cordierite, Corundum, Molybdenum, SiC, etc.

Trays and crucibles for sintered pieces. Designed for use in sintering processes. Materials: AiSi-314, Alumina Composite, Molybdenum, SiC, etc.

Heating elements, furnace linings. Insulators and muffles. Materials: Alumina Oxide, Molybdenum, SiC, Tungsten, etc.

Rollers, protection sheaths, profiles. Loading system, profiles, support tubes. Materials: Alumina Oxide, SiC, etc.

For other applications, please contact us.
alumina oxide

**FEATURES**

- Wear resistant
- Corrosion-proof
- High mechanical strength
- Good insulation properties
- High temperature resistant

silicon carbide

**FEATURES**

- High hardness
- Corrosion-proof
- High mechanical strength
- Good thermal shock
- Good thermal conductivity

molybdenum

**FEATURES**

- High strength and stiffness
- Low thermal expansion
- Corrosion-proof
- Good electrical resistivity
- High working temperature

graphite

**FEATURES**

- Good self-lubricity
- Corrosion-proof
- Low friction coefficient
- Good thermal shock
- Low thermal expansion

for further information please request physical properties sheet
1. Structural elements made of carbon fiber-reinforced carbon CFC
2. Rigid graphite and carbon felt for thermal insulation
3. Graphite heating elements and heating system
4. Lining and structural elements in graphite
5. Sliding, support and charging plates made in graphite
6. Structural elements made of stainless steel

For further information please request physical properties sheet.
Carbosystem supply a variety of furnaces refractory pieces and heating elements for sintering furnaces used to process powder metallurgy (PM) and metal injection molded (MIM) parts. Two kinds of furnaces are mostly used for sintering PM or MIM parts and the heated is using either resistance heating elements or gas fired burners:

**Mesh-Belt Furnaces:**
These furnaces are often used to sinter ferrous PM parts at a temperature around 1120 °C in a controlled nitrogen / hydrogen atmosphere. We advise use SiC muffles and graphite+anti-oxidation impregnation or mullite materials for support / trays to sintering pieces.

**Pusher Furnaces:**
These furnaces are often used to fire stainless steel at a temperature around 1120 °C in a very dry hydrogen atmosphere. We advise use SiC muffles and graphite+anti-oxidation impregnation, SiC, corundum or alumina materials for pusher pieces.

For further information please request physical properties sheet.
Carbosystem supplies support plates in cordierite-mullite of different grades depending on the variables during the sintering process. As guidance information we indicate the most appropriate qualities according the theoretical working conditions:

**CB34**
Plates with a good mechanical stability and surface finish, suitable for bearing out weight and weak thermal shocks.

**CB40**
Plates for use in rapid-cooling oven. These plates are produced with certain porosity so that the inner expansions, produced by strong thermal shocks, can be absorbed. The disadvantage is that the surface finish is rugous and its mechanical stability is weaker than the one of other grades.

**CB48**
Plates for use in half thermal shock oven. Good mechanical properties and mid surface finish.

**NOTE:**
The provided information is as indication only and does not compromise the Carbosystem society.

for further information please request physical properties sheet
sintering furnaces

SiC Muffles

SiC Support Muffles

Support, Trays, etc. in several materials

Thermocouples Sensor type “S” in ZrO2

Heating Elements and alumina support

materials for metallurgical sintering process

furnaces

for further information please request physical properties sheet
Advanced materials

We help improve your process

We help increase your production

We help reduce your costs

We offer you the best price, technical support and quality

Carbones y Sistemas, S.L.L.
C/ Av. Los Pocillos, 10
Nave 1 - P.I. La Carrehuela
28340 Valdemoro (Madrid)
Tel.: +34 91 895 38 80  mail@carbosystem.com
Fax: +34 91 809 23 46  www.carbosystem.com