

materials for metallurgical
sintering process



Our experience ensures the best solutions...



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



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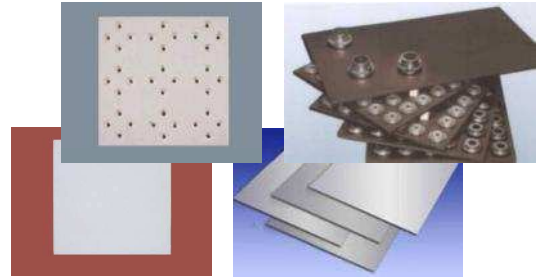
materials for metallurgical sintering process



applications

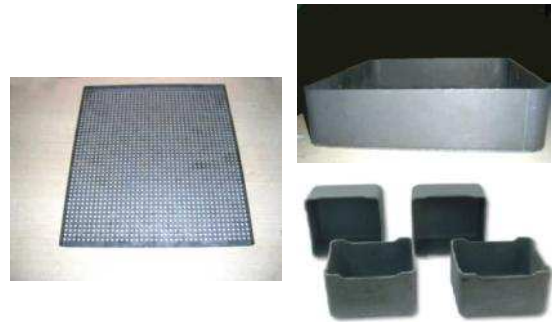
slab - plates

- Support plates for sintering pieces.
- Designed for use in sintering processes.
- Materials: Graphite, Alumina, Composites, Cordierite, Corundum, Molybdenum, SiC, etc.



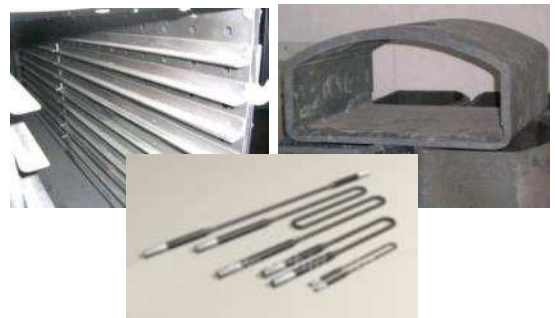
trays - crucibles

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



furnace construction

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



kiln rollers

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



For other applications, please contact us

materials for metallurgical sintering process



materials

alumina oxide

FEATURES

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



silicon carbide

FEATURES

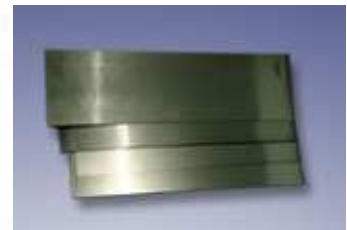
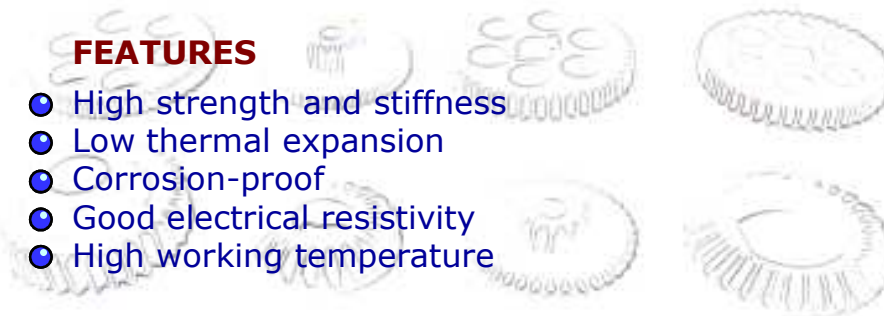
- High hardness
- Corrosion-proof
- High mechanical strength
- Good thermal shock
- Good thermal conductivity



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



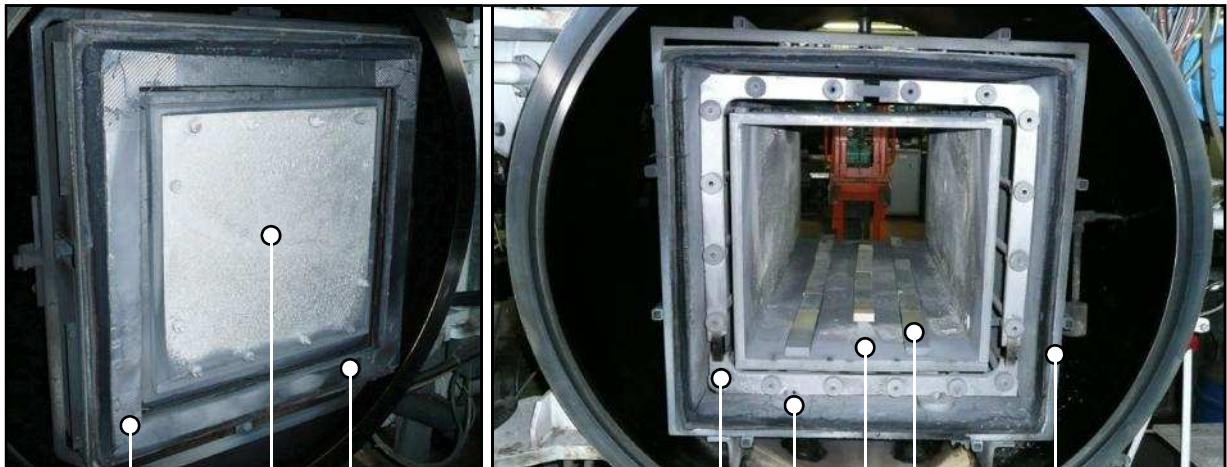
for further information please request physical properties sheet

materials for metallurgical sintering process



furnaces

vacuum furnaces



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

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furnaces

sintering furnaces

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 1.120 °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

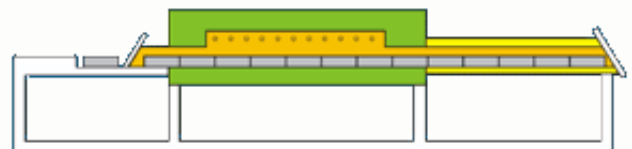
Pusher Furnaces:

These furnaces are often used to fire stainless steel at a temperature around 1.120 °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.



Mesh-Belt Furnace Scheme



Pusher Furnace

for further information please request physical properties sheet



furnace plates

support plates

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

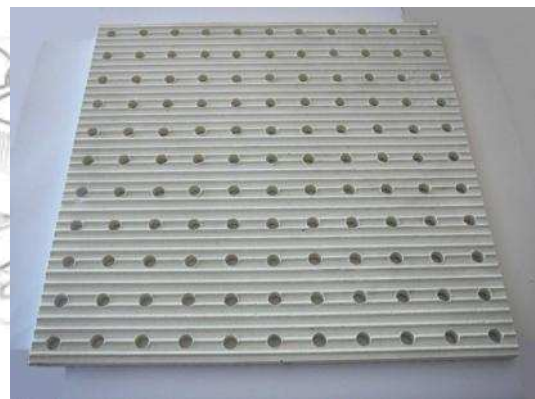
Plates with a good mechanical stability and surface finish, suitable for bearing out weight and weak thermal shocks.

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.

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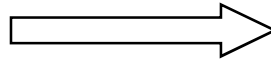


furnaces

sintering furnaces



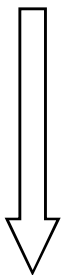
SiC Muffles



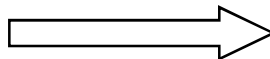
SiC Support Muffles



Support, Trays, etc.
in several materials



Thermocouples Sensor type "S" in ZrO₂



Heating Elements and alumina support

for further information please request physical properties sheet

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quality and service



- *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*



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