

CARBONS AND GRAPHITES FOR MECHANICAL APPLICATIONS



Avoid lubrication and reduce your costs!



ISO 9001: 2000 | ISO 14001



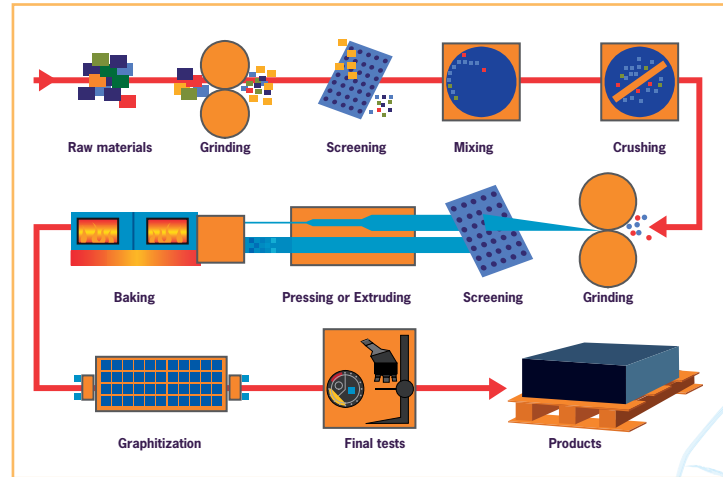
Where and when CARBONS and GRAPHITES should be used.

Applications

- Guiding and friction: bearings, thrust bearings, rotors, vanes, ...
- Dynamic sealing: rotating shafts, pistons, ...
- Aerospace - Main shaft seals, valve and telescopic seals, Flex tubing seals, APV seals,...

Material solution

- Thermal shock
- Tribologic
- Lifetime
- Corrosion resistance
- Temperature resistance
- Weight (1.8 to 2.5 density)
- Low thermal expansion



Graphite Manufacturing Process

CARBON PRODUCTS are better than other friction reducing materials.

For example:

At high temperatures

Up to 600-650°C (in oxidising atmosphere).
Temperatures exceeding 100°C to 150°C prohibit the use of standard oils and grease. The thermal stability and self-lubricating features of carbon allow its use as a bearing material in this temperature range. Applications include (but are not limited to) furnaces, dryers, heated mixers, chemical installations, and the manufacture of paper pulp.

In corrosive fluids or atmospheres

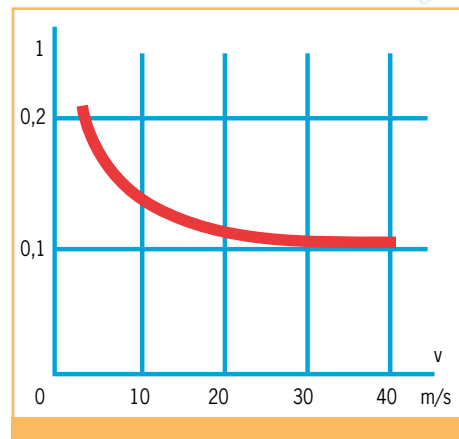
Carbons and graphites are chemically inert and corrosion resistant. Wherever ordinary lubricants are not recommended, carbons and graphites perform well, either dry in a corrosive atmosphere or immersed in corrosive liquids.

To avoid contamination by lubricants

Carbons and graphites are critical in applications where the presence of oil or grease, even in vapor form, is prohibited. Examples can be found in the food, pharmaceutical and textile industries.

When lubrication is difficult or expensive

Carbons and graphites are efficient dry self-lubricants, which is an attractive property in applications such as control instruments, telephone equipment and meters.



Friction Coefficient / Linear Speed

Where moving parts are inaccessible

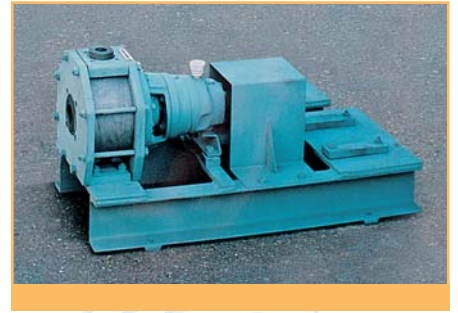
Without carbons and graphites, the maintenance of certain types of equipment becomes virtually impossible due to difficult access to moving parts.

A few examples: marine equipment, pumps, metering pumps and certain equipment in the textile and chemical industries.

When weight saving is required

The density of carbon is about 1.8 to 2.5, much lower than metals.





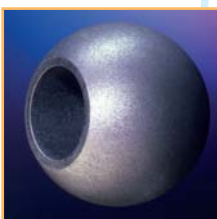
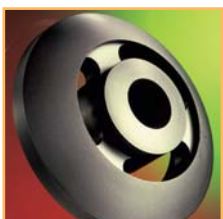
Pump bearings
and **mechanical seals**



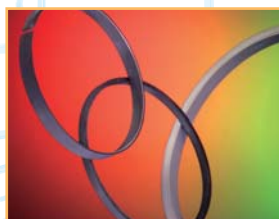
Compressor and ventilator **shaft seal**



Integrated components for
pumps, valves and vanes



self aligning bearing



High performance
triple seal assembly

CUSTOMER-ORIENTED INTERNATIONAL NETWORK



production COHESIUM Image et marques

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Carbone Lorraine harnesses prime expertise in industrial applications to deliver innovative solutions - involving graphite, other high-performance materials, and key components for electric motors and electronic equipment - for many high-technology markets.

As world number-one in its main business specialities, Carbone Lorraine fields an extensive industrial and commercial network covering around 40 countries, working hand in hand with its clients to pursue permanent innovation through a broad range of top-class products and services.



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