CARBONS and GRAPHITES for mechanical applications
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, Flex tubing seals, APV seals,...

**Material solution**
- thermal shock
- tribologic
- lifetime
- corrosion resistance
- temperature resistance
- weight (1.8 density)

Carbon products are better than other friction reducing materials.

For example:

**At high temperatures**
212°F (100°C) to 300°F (150°C)
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.

**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.

**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 1.5 to 2.5, much lower than metals.

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.
Shaft bearing - Aerospace

Silicon carbide converted graphite seal ring

Triple seal ring assembly. Aerospace

Spherical self aligning bearing

Compressor shaft seal

Carbons and graphites for mechanical applications
WORLDWIDE SPECIALIST in industrial components

Since its foundation in 1892, CARBONE LORRAINE has built up an international reputation by creating subsidiaries on all continents. Today with industrial and commercial plants scattered in more than 30 countries, agencies and representatives in more than 70 countries and 250 commercial contacts throughout the world, CARBONE LORRAINE offers its customers everywhere reliable high technology products and the service of its experienced technicians.

A worldwide organization