

MECHANICAL CARBON

carbon & graphite bearings



Morgan Industrial Carbon manufactures and supply carbon and graphite bearings to suit all applications.

Carbon/graphite and PTFE bearings are used where oil or grease lubricated bearings can only be used with difficulty, if at all.

Carbon/graphite bearings can run dry, using the natural lubricating properties of the carbon/graphite material, or they can be fully immersed in liquids such as water acids, alkaline solutions and solvents. It is preferable that the bearings are fully immersed in the liquids or run completely dry



Principle fields of use;

- Where contamination is undesirable as in textile and food machinery. PTFE with various fillers can successfully be used in these applications.
- In oven, furnace and boiler equipment where working temperatures are too high for the use of conventional lubricants.
- Where bearings are immersed in liquids such as hot and cold water, seawater, acidic and alkaline solutions or in solvents such as petrol and benzine's. Example, submersible and centrifugal pumps
- Where other bearing material cannot be installed owing to the danger of corrosion.



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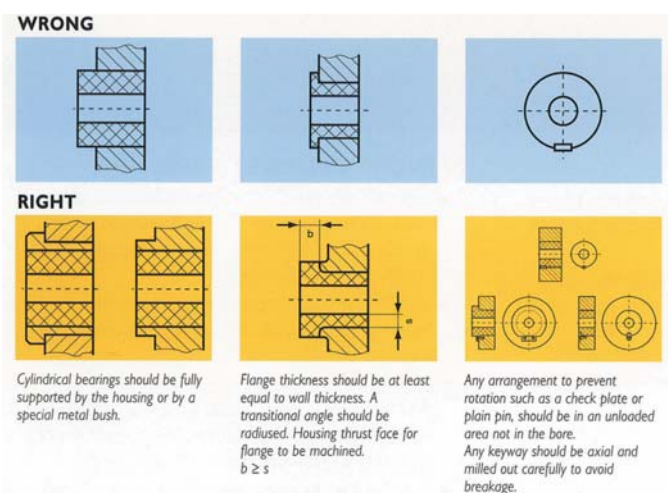
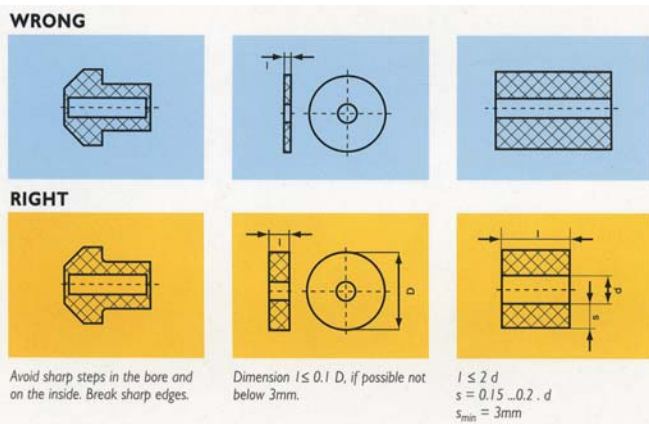
Properties of carbon bearing material

- Good frictional qualities
- High thermal resistance
- High corrosion resistance
- Very good chemical resistance
- Low thermal expansion
- Outstanding resistance to thermal shock
- Good form stability at high temperatures
- Good thermal conductivity

As carbons can be impregnated with various materials such as resin, antimony, lead bronze and white metal to increase bearing life according to the application, **Morgan Industrial Carbon** should be contacted when designing these bearings to ensure correct grades are to be used

Typical information needed to advise material grade would be

1. Is the bearing to be used in a dry or wet running environment?
2. If immersed, type of liquid?
3. Bearing operating temperatures?
4. Type of machine?
5. Radial, thrust or sliding bearing?
6. Continuous or intermittent duty?
7. RPM_____ or m/sec surface speed_____?
8. Bearing load?



Bearing design

In principle, design should follow the recommendations given below;

- Bearings for dry running should have a smooth bore
- No oil, grease or abrasive dust should contaminate the rubbing surfaces of a dry running bearing
- When bearings are running wet, bores should have spiral grooves or axial grooves according to the application



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