

Cylindrical bearing

MET
MEF

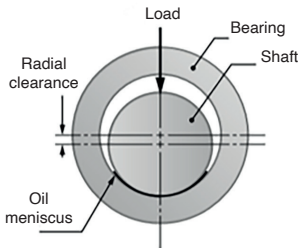
How to choose a self-lubricating bearing

- Functional part of a bearing, the self-lubricating bush reduces friction between two shafts, one fixed, the other moveable.

It is made up of two components:

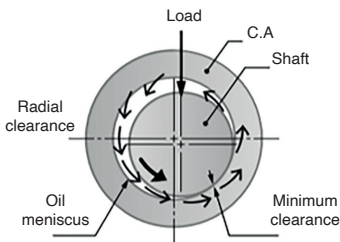
- A porous metallic frame whose function is to support and transmit the mechanical load
- A lubricant, either liquid or solid which acts as an interface between two moving surfaces and reduces frictional forces.

Which type to choose?



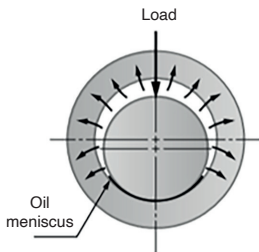
Stationary position

The oil is constrained within the self-lubricating bearing due to the action of capillarity forces.



During operation

The shaft rotates and an oil film is created that reduces friction.



After operation

The shaft has stopped and the oil is re-absorbed into the bearing due to capillary action.

**Products in
self-lubricating sintered bronze**

**Products in
self-lubricating sintered iron**


Bronze	Iron alloy
Good coefficient of friction	Recommended for medium to low speeds
Good corrosion resistance	Good resistance to bearing wear
Recommended for high speeds	Recommended for high loads
Shaft surface finish $Ra \leq 0.6$	Shaft surface finish $Ra \leq 0.3$
Shaft hardness $\geq 80\text{kg/mm}^2$	Shaft hardness $\geq 120\text{kg/mm}^2$

Standard grades	Bronze	Iron alloy
DIN 30910 equivalent	Sint A50	Sint A10
AFNOR equivalent	FU-E10-62	FC10-U3-56
Metafram equivalent	BP25	FP20
Min. density (g/cm^3)	6,5	5,8
Max. static load (daN/cm^2)	100	225
Max. linear speed (m/s)	6	4
Max. PV ($\text{daN/cm}^2 \times \text{m/s}$)	18	13
Temperature range ($^{\circ}\text{C}$)	-5 / +90	-5 / +90
Impregnation oil	ISO 100	ISO 100
Min. open porosity (%)	18 - 23	18 - 23
Hardness (HB)	25	25
Tensile strength (N/mm^2)	80	70
Elongation (%)	2	3