



## **SELF-LUBRICATED BRONZE**

The development of self-lubricated guidance systems arises from the need to solve the existing problems involved in lubrication. These are due either to the difficulty of access or to the convenience of continuous and permanent lubrication, which oils fail to ensure.

Implementing these systems results in a significant reduction in seizing problems and maintenance costs, as well as in gas emission caused by oil heating. This permits to operate at high temperatures that in some cases can reach 400° C (752° F).

The presence of aluminium in bronze reduces the attack of atmospheric agents and warm gases, whilst at the same time exhibiting great stability against distilled water, saline water, seawater or acid well water. Bleaches, except for ammonia, are harmless to it. Moreover, a protection layer produced by the material itself acts very favourably against the corrosive effect of sulphur and oxidizing gases.

Graphite insertions, acting as a solid lubricant, allow to keep an excellent level of lubrication for plates or bushes through all their lifetime, ready for use at any time. Through use, the bronze structure wear causes graphite insertions wear. The graphite dust resulting from this slight wear will be the responsible for lubricating the whole of the contact area.

The graphite used is a material with an extremely low chemical-inertia level, not interacting with most elements in nature under normal conditions. This ensures regular behaviour through the piece lifetime without unexpected contingency.

BOLEXP item construction exhibits a graphite distribution over the guide surface of about 25%-35% of the total, thus guaranteeing proper lubrication of the tool to construct. In addition, the graphite insertions used are relatively small, in comparison with other manufacturers, in order to minimize the impact on bronze bush consistency and maximize the dispersal of solid lubricant.