相配轴的设计
Design of the mating axis

直套安装 Straight set of installation

自润滑轴承的性能在很大程度上受相配轴材料表面粗糙度、硬度、表面是否电镀处理的影响，高质量的相配轴表面能够延长轴承的寿命，相反粗糙的相配轴表面会降低轴承的寿命。

Surface roughness, hardness and plating of the mating axis will have great influence on the capability of the self-lubricating bushing. High-quality surface of the mating axis can prolong the life of the bushing while rough surface will shorten the life of the bushing.

相配轴表面粗糙度 Surface roughness of the mating axis

a) 在流体润滑条件下使用的自润滑轴承，相配轴表面粗糙度大时，轴与轴承的凸起部分会切断油膜，造成两者直接接触，所以要求相配轴表面做镜面加工，从而尽可能缩小油膜间隙，使其接近流体润滑的状态，如此轴承性能便可提高。

a) When self-lubricating bushings being used in the condition of fluid lubrication and the surface of the mating axis is faily rough, the convex points on the bushing and its axis will cut the oil film and thus the surface of the axis and the bushing will directly contact with each other. therefore, to improve the capability of the bushing, it requires polishing the surface of the mating axis as smooth as a mirror, thus can reduce the clearance of the oil film and make the film work well.

b) 大多数自润滑轴承在干摩擦或边界润滑条件下使用，不需要像流体润滑条件下那样要求相配轴表面做镜面加工，只要控制其相配轴表面粗糙度 Ra=0.32 ~ 1.25 的范围即可。

b) For most self-lubricating bushings applied in the condition of dry friction or marginal lubrication,a controlled roughness from 0.32 to 1.25 is acceptable and there is no need to polish the surface of the mating axis as smooth as a mirror.

相配轴硬度 Hardness of the mating axis

无硬性杂质侵入时，使用下表推荐的轴材料及硬度，即可得到良好的效果；相反地，尽可能使用硬度较高的相配轴材料。

If there is no hard article in the lubricating condition, good performance can be achieved by using bushing materials and hardness recommended in the following form. If not, it would be better to use the harder material for the mating axis.

	轴材质 Material quality of the axis	硬度 Hardness
自润滑轴承 Self-lubricating bushing	SS41(Q255B) 一般结构钢 Common Structural steel	HB220 以上 Above 220
	S25C(25#) 以上碳素结构钢 Carbon Structural Steel	左列轴材质的硬度依此类推
	SUS、SUH 耐腐蚀性钢（高温·水中用）镀铬钢等 SUS、SUH anti-erosion steel(in high temperature and water), and chrome plated steel,etc.	

在高负荷、摇摆运动的条件下，必须将相配轴进行热处理，热处理后的硬度依据材料类推。

Under running condition with heavy load and rapid swing, the mating axis must be heat-treated.
The after treatment hardness will be decided by the material of the axis.