

Factory Profile

工厂介绍



- * Preponderant products: self-lubricating bearings, sintered gears & other mechanical structure parts.
- * Located in economically developed Hangzhou Jiande city, established in 2001, Sinfine has a self-built workshop of 5000 square meters, the annual production capacity of 5,000 tons.
- * Technical departments of existing senior engineers, technicians, quality inspectors

And senior technical advisor, we are serving various industries at a pace of producing a number of new items each day.

- * ISO9001:2000 quality management system certified by IQNet and CQC.
- * With our own automatic hydraulic machines, automatic mechanical pressers, vacuum furnaces, high-precision EDM machines, CNC Maching equipments, grinders etc.
- * Quality control: universal testing machine, tensile testing machine, hardness equipment, density equipment, metalloscope, optics image instrument, etc.

* 优势产品：含油轴承和烧结齿轮及各种烧结机械结构零件

* 工厂位于经济发达的杭州建德市，成立于2001年，拥有自建厂房5000平方米，年生产能力达到5000吨。

* 技术部门现有多名高级工程师，技术人员，质检人员及高级技术顾问以每天多款新产品的速度为不同行业配套。



* 通过由IQNet和CQC认证的ISO9001:2000质量管理体系认证。

* 工厂有自己的模房，全自动油压机、全自动机械式压机、整形机、网带炉、真空炉、高精度电火花成形机、CNC等模具加工设备。

* 品质控制：万能试验机，压溃试验机，密度计，硬度计，金相分析仪，投影仪等。

Factory Workshop 工厂车间



Sintered Metal Subsequent Processing

烧结金属制品后续加工



A. Re-pressing and Hot Forging

Materials density and mechanical properties can be increased after re-pressing processing.

B. Heat Treatment

Hardening

While maintaining the materials properties of the sintered parts, make carburization hardening on the surface of sintered products to increase the hardness and wearability of sintered mechanical parts.

C. Steam Treatment

After the steam treatment of sintered parts, as the hardness of Fe3O4 is about HRC50, it can improve the wear resistance of sintered iron parts materials. According to treatment conditions, the hardness increased from 40 to 100%, compressive strength by up to 25%. When in steam treatment, the size increasing is small, the dimensional accuracy of the sintered parts has little effect; Sintered parts appearance blue / black, beautiful and nice.

A. 复压

烧结零件经过复压后可以增高其材料密度与机械性能。

B. 热处理

同时保持烧结零件的材料性能而对烧结产品的表面渗碳淬火，达到增高烧结机械零件的硬度和耐磨性。

C. 水蒸气处理

烧结零件经过水蒸气处理后，因为Fe3O4的硬度约为HRC50,可改善烧结铁基零件的耐磨料磨损性；依据处理条件，硬度可增高40~100%，抗压强度可增高达25%；水蒸气处理时，尺寸增加很小，对烧结零件的尺寸精度影响不大；烧结零件外观呈兰/黑色，美观好看。

Typical Applications 典型应用



High Performance Sintered Self-lubricating Bearings

高性能烧结含油轴承



Materials Advantages

- * Excellent compressive strength, wearability and shock resistant
- * No oil for lubrication, low stuck possibility of friction components
- * High thermal stability
- * Can be applied in widely temperature
- * Suitable for radioactive environments
- * Can applied in dirty and corrosion environment
- * With lower wear rate and long life service
- * High static load and dynamic load capacity
- * Suitable for reciprocating, rotating and oscillating movement with start frequency and difficulty to form oil film occasions

材料特点

- * 高强度，耐摩擦，耐冲击，
- * 无需加润滑油，摩擦组件卡死的可能性低；
- * 热稳定性高；
- * 使用温度范围广；
- * 可以在放射性环境和真空环境下使用；
- * 可以在粉尘条件和腐蚀环境下使用；
- * 具有很低的磨损率，使用寿命长；
- * 具有较高的承载范围；
- * 适合于往复，旋转和摇摆等启动频繁又难以形成油膜的部位；

Typical Applications 典型应用



Sintered Stainless Steel Self-lubricating Bearings

烧结不锈钢基含油轴承



Sintered stainless steel with high corrosion resistance, can work under the following conditions:

1. In the water and certain corrosive media and at a high sliding speed;
2. At high temperature, a high load up and low sliding speed;
3. In fuel combustion and non-lubricated conditions, sliding speed up to

60-75m / s , low load, no lubrication, and in the corrosive gas and liquid.

Materials Advantages

- Dry working condition, provides maintenance free operation
- High thermal stability, stable wearability and friction coefficient
- Can be applied in widely temperature
- Suitable for radioactive environments
- With lower wear rate and long life service
- Can applied in dirty and corrosion environment
- no electrostatic effects
- High static load and dynamic load capacity

烧结不锈钢耐腐蚀性高,可在下列条件下工作:

1. 于水和某些腐蚀性介质中, 在高滑动速度下;
2. 于较高温度, 高负荷及不高的滑动速度下;
3. 于燃料燃烧产物中, 在不润滑的条件下,

在达60-75m/s的滑动速度, 低负荷, 不润滑, 及在腐蚀性气体与液体中。

材料特点

- 满足干摩擦工况, 可以免于维护;
- 热稳定性高, 耐磨性能和摩擦系数稳定;
- 使用温度范围广;
- 可以在放射性环境和真空环境下使用;
- 具有很低的磨损率, 使用寿命长;
- 可以在粉尘条件和腐蚀环境下使用;
- 不会产生静电现象;
- 具有较高的承载范围;

Typical Applications 典型应用



Sintered Gears & Other Mechanical Structure Parts

烧结齿轮及其它机械结构零件



Materials Advantages

1. Sintered Fe-Cu Alloy and sintered Fe-Cu-C with high strength, impact resistance, and the high load property, it can be used in the condition of in harsh dust conditions and corrosive environments;
2. Sintered brass structural parts with good mechanical properties and nice corrosion resistance, and it is second only to sintered iron parts in the consumption amount of structural parts.
3. Sintered nickel-copper-molybdenum steel structural parts with high mechanical strength, the tensile strength of sintered state as much as $60 \sim 70\text{kgf/mm}^2$, and the tension intensity of heat treatment as high as $108 \sim 118\text{kgf/mm}^2$, it can meet or exceed the tensile strength level of surface infiltration steel SNCM21, SNCM22, SNCM23.
4. The materials of stainless steel SNF07-304L is the most economical austenitic steels, suitable for the occasion of the high cost of materials; SNF07-316L is sintered parts in austenitic steel, with corrosion resistance and good machining properties, non-magnetic; SNF07-410L is essentially martensitic steels, can be in heat treatment, with additional carbon in order to increase the hardness and wearability, and with good corrosion resistance performance.

材料特点

1. 烧结Fe-Cu合金与烧结铜钢强度高，耐冲击，具有较高的承载范围；可以在恶劣的粉尘条件和腐蚀环境下使用；
2. ‘新丰’烧结黄铜结构件的机械性能和耐腐蚀性好，在结构零件中用量仅次于烧结铁基零件
3. ‘新丰’烧结镍铜钼结构件的力学强度高，其烧结状态的抗拉强度高达 $60 \sim 70\text{kgf/mm}^2$ ，和热处理状态的抗拉强度可以高达 $108 \sim 118\text{kgf/mm}^2$ ，达到或超过了表面渗钢SNCM21, SNCM22, SNCM23的抗拉水平。
4. 不锈钢材料SNF07-304L是最经济的奥氏体钢种，适用于材料费用高的场合; SNF07-316L是烧结零件用奥氏体钢种，耐腐蚀性与机械加工性好，无磁性；SNF07-410L可热处理，为增高硬度与耐磨性可加入碳，耐腐蚀性好；

Typical Applications 典型应用



Sintered Iron Self-lubricating Bearings

烧结铁基含油轴承



Sintered Iron Self-lubricating Bearings is the bearings have been the using of the widest and maximum quantity. As the rich raw materials, it is possible to adding alloy elements and additives to improving friction performance and is successfully competitive with the casting Babbitt, bronze and sintered bronze bearings to compete. Compared with ordinary bronze, Sinfine Sintered Iron Self-lubricating Bearing materials with good wearability and high load capacity.

烧结铁基含油轴承使用面最宽，用量最大。由于原料丰富，可用添加和金元素和添加剂来改善减摩性能，它正在成功地与铸造巴氏合金，青铜及烧结青铜轴承进行竞争。与普通青铜相比，‘新丰’烧结铁基轴承材料耐磨性好，负荷能力高。

Materials Advantages

- Dry working condition, provides maintenance free operation
- High static load and dynamic load capacity
- No oil for lubrication
- With lower wear rate and long life service

材料特点

- 满足干摩擦工况，可以免于维护；
- 具有较高的承载范围；
- 无需加润滑油
- 具有很低的磨损率，使用寿命长；

Typical Applications 典型应用



Sintered Bronze Self-lubricating Bearings

烧结铜基含油轴承



材料特点

- 满足干摩擦工况，可以免于维护；
- 具有较高的承载范围；
- 使用温度范围广；
- 可以在放射性环境和真空环境下使用；
- 材料具有良好的导电性能，不会产生静电现象；
- 可以在粉尘条件和腐蚀环境下使用；
- 具有很低的磨损率，使用寿命长；
- 热稳定性高；

Sintered Bronze Self-lubricating Bearing Series

- A. Sintered Alloy Self-lubricating Bearings
- B. Self-lubricating Bearings For Dry Lubrication and/or High Temperature Applications
- C. Sintered Tin Bronze Self-lubricating Bearings
- D. Sintered Pb Bronze Self-lubricating Bearings

烧结铜基含油轴承

- A. 烧结合金含油轴承
- B. 干润滑和或高温应用含油轴承
- C. 烧结锡青铜含油轴承
- D. 烧结铅青铜含油轴承

Materials Advantages

- Dry working condition, provides maintenance free operation
- High static load and dynamic load capacity
- Can be applied in widely temperature
- Suitable for radioactive environments
- Metal based materials is electrically conductive and shows no electrostatic effects
- Can applied in dirty and corrosion environment
- With lower wear rate and long life service
- High thermal stability

Typical Applications 典型应用



Self-lubricating Bearings

含油轴承



The Advantage of Self-lubricating Bearings

- Dry working condition, provides maintenance free operation
- Can be applied in widely temperature
- Can be applied in dirty and corrosion enviroment
- The bearings has excellent compressive strength, wearability and is shock resistant.
- Good thermal conductivity property
- With lower wear rate and long life servie
- No oil for lubrication, therefore cleaner and no out gassing
- Available in all international standards like JIS, DIN, MPIF, SAE, Gb...
- The PTFE in the oil greatly reduces friction and helps to develop a full lubrication film which is especially required on start up. A smoother and quieter operation, an easier "break-in" period and longer life can be achieved.

The Role of Self-lubricating Bearings in Machinery

1. Not only energy saving and environmental protection, but also mass production, short production cycle, low production cost and not expensive tooling fee.
2. Stable performance, also dimensions and tolerances can be fully consistent with the requirements of various machinery and accessories; Design and installation is simple, the whole machinery and accessories will not adversely affect the performance after installation into the machine, or do not need subsequent mechanical operations and maintenance.
3. No oil for lubrication, therefore cleaner and no out gassing; and because international standards of production, self-lubricating bearings can be applied to any country and regions in the world , and can guarantee stable performance under all kinds of bad environment; Uniform standards for the world, self-lubricating bearings also easy to buy and easy to change.

含油轴承的优点

- 满足于干摩擦工况，可以免于维护
- 使用温度范围广
- 可在粉尘和腐蚀条件下使用
- 含油轴承可以具有高强度，耐摩擦，耐冲击的特性
- 具有良好的导热性能
- 具有很低的磨损率，使用寿命长
- 无需加油润滑，清洁而又不会产生有害气体
- 全部含油轴承都符合国际标准JIS, DIN, MPIF, SAE, GB...
- PTFE的作用在油层里面将大大减低摩擦，并有助于全面扩大油膜的产生，特别是适用于启动设备的需求。另外它不仅有助于平稳，低噪音操作，还易磨合，延长使用寿命。

含油轴承在机械制造中的作用

1. 不仅节能环保，还可以大量生产，并且生产周期短，生产成本低，极具费用不贵。
2. 性能稳定，尺寸及公差可以和各种机械及配性的要求完全吻合；设计和安装简单易行，及装在具体机械上后，不会对整个机械及配件性能产生负面影响，也不需要后续机械操作和维护。
3. 无需加油润滑，清洁而又不会产生有害气体，又因为国际化的标准生产，含油轴承可以应用在世界范围内的任何国家和地区，及各种恶劣的环境下都可以保证性能稳定；因为是世界统一标准，含油轴承还易更换。