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JDB 固体润滑轴承

JDB Solid-lubricating Bearings



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合金材料 Alloy Material

| 对应牌号 Corresponding Brands | 型号 Type | JDB-1 | JDB-2 | JDB-3 | JDB-4 | JDB-5 |
|--|-------------------------------------|----------------------|---------------------------------|-------------------------------------|---------|-------|
| | | ZCuZn25 Al6Fe3Mn3 | ZCuSn6 Zn6Pb3 | 钢 (steel)+ ZCuSn6 Zn6Pb3 | GCr15 | HT250 |
| 国际牌号 GB1776-87 China Brands GB1776-87 | 国际 ISO1338 International ISO1338 | GCuZn25 Al6Fe3Mn3 | GCuSn6 Zn6Pb3 | 钢 (steel)+ CuSn6Zn6Pb3 Fe3Ni5 | B1 | - |
| 德国 DIN Germany DIN | G-CuZn25 Al5 | GB-CuSn5 Zn5Pb5 | 钢 (steel)+ CuSn6Zn6 Pb3Ni | 100Cr6 | - | - |
| 日本JIS Japan JIS | HBsC4 | BC6 | BC6 | SUJ2 | FC250 | |
| 美国 ASTM/UNS America ASTM/UNS | C86300 | C83600 | C83600 | 52100 | Class40 | |
| 英国标准 (BS) England Standard | HTB2 | LG2 | LG2 | - | - | |

技术参数 Technical Data

| 性能指标 Performance index | 型号 Type | JDB-1 | JDB-2 | JDB-3 | JDB-4 | JDB-5 |
|--|--------------------------|-------|-----------------------------------|----------|--------------------------------|-------|
| | | 100 | 60 | 70 | 250 | 60 |
| 最大动承载 P (N/mm ²) Max Move Load Capacity | | | | | | |
| 最大滑动速度 V (m/s) Max Sliding Speed | 干(dry) 0.4 油(oil) 0.5 | | 2 | 2 | 0.1 | 0.5 |
| 最高PV值 (N/mm ² ·m/s) Max PV Value Limit | 3.8 | 0.5 | 0.6 | 2.5 | 0.8 | |
| 密度 ρ (g/cm ³) Density | 8.0 | 8.0 | 7.6 | 7.8 | 7.3 | |
| 抗拉强度 (N/mm ²) Tensile Strength | > 600 | > 250 | > 500 | > 1500 | > 250 | |
| 延伸率 (%) Elongation | > 10 | > 4 | > 10 | - | - | |
| 硬度 (HB) Hardness | > 210 | > 80 | > 80 | HRC > 55 | > 160 | |
| 最高使用温度 °C Max Working Temperature | 300 | 350 | 300 | 350 | 400 | |
| 摩擦系数 μ Friction coefficient | | | 油润滑： 0.03 Oil Lubrication:0.03 | | 干摩擦： 0.16 Dry Friction:0.16 | |



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材料合金化学成份 Alloy Chemical Compositions

| 化学元素 Chemical elements | JDB-1 | JDB-2 | JDB-3 | JDB-4 | JDB-5 |
|---------------------------|-------|-------|-------|-------------|-------------|
| Cu (%) | Rest | Rest | Rest | - | - |
| Sn (%) | - | 6 | 6 | - | - |
| Zn (%) | 25 | 6 | 6 | - | - |
| Ni (%) | - | - | - | - | - |
| Al (%) | 6 | - | - | - | - |
| Fe (%) | 3 | - | - | Rest | Rest |
| Mn (%) | 3 | - | - | 0.20 ~ 0.40 | 0.905 ~ 1.3 |
| Cr (%) | - | - | - | 1.30 ~ 1.65 | - |
| C (%) | - | - | - | 0.95 ~ 1.05 | 2.5 ~ 4 |
| Si (%) | - | - | - | 0.15 ~ 0.35 | 1.0 ~ 1.3 |
| Pb (%) | - | 3 | 3 | - | - |

固体润滑剂 Solid Lubricants

| 固体润滑剂 Lubricant | 高纯石墨+添加剂 SL1 Graphite | SL4+MoS ₂ PTFE+MoS ₂ +CF |
|-----------------------------|---|--|
| 特性 Features | 很好的耐磨性和化学稳定性, 使用温度 < 400 °C Good wear performance and chemical stability, temperature limit 400 °C | 极低的摩擦系数和很好的水润滑性, 使用温度 < 300 °C Lowest friction coefficient and good water lubrication, temperature limit 300 °C |
| 典型用途 Typical application | 应用于一般机械, 在大气中使用 Suit for general machines and under atmosphere | 应用于水、海水润滑、如船舶 Suit for water and seawater lubricant, such as ship |

镶嵌式固体润滑轴承的优点

The Advantages of the Solid-lubricant-Embedded Bearings

- 1、无给油可使用
Dry operation.
- 2、高载荷、低转速的情况, 仍可发挥优越的性能
Can be Performed well with high load and low speed.
- 3、往返运动、摇摆运动、起动停止频繁等油膜形成困难的场所, 仍可发挥优越的耐磨性
Reciprocating motion, wagging motion, start and stop frequently are difficult for keeping oil film. It still may play advantageous of wear-resistance.
- 4、优越的耐药品性及耐蚀性
Excellent chemical resistance and anti-corrosion.
- 5、设计灵活、简单、方便, 丰富的标准品, 可配标准轴心使用
Flexible, simple, convenient and abundant designing of standard, can be choosed by standard axes.