

型号后缀

Model suffix

NW04 涂层滚动体

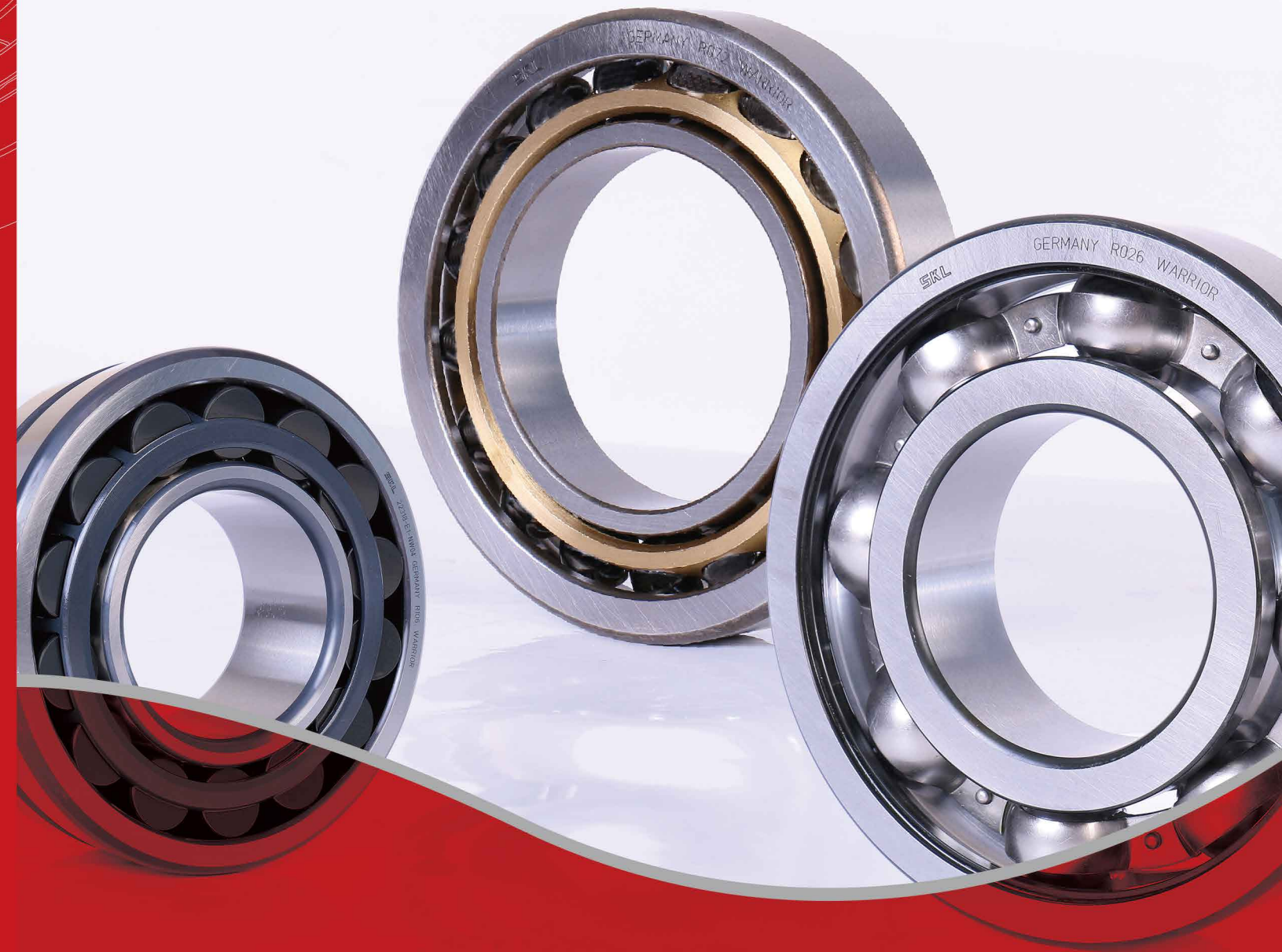
NW24 涂层加工在滚动体和内圈的滚道上

NW04 Coating rolling element

NW24 The coating is processed on the raceways of the rolling elements and the inner ring

永不磨损轴承

NEVER WEAR BEARING





风机 ▲



压缩机 ▲



造纸机 ▲



海上设备 ▲



液压泵 ▲



齿轮箱 ▲



液压电机 ▲

应用领域

Application Field

针对各种极端条件下的现有应用，SKL的永不磨损轴承开辟了新的可能性。无需进行重大的设计更改，即可提供新的设计。永不磨损轴承的典型应用包括：风机、压缩机、造纸机、海上设备、液压泵、齿轮箱、液压电机。

永不磨损轴承并不适用于真空或完全无润滑剂的情况，涂层不能用来防止氧化，因此不建议把涂层作为防腐剂使用。

For existing applications in extreme conditions, SKL's never-wearing bearings open up new possibilities.

New designs are available without major design changes.

Typical applications for never worn bearings include: fans, compressors, paper machines, offshore equipment, hydraulic pumps, gearboxes, hydraulic motors.

Never wear the bearing is not suitable for vacuum or no lubricant at all, the coating can not be used to prevent oxidation, so it is not recommended to use the coating as a corrosion inhibitor.

原理

Principle

一种耐磨碳涂层，可加工在轴承的滚动体和内圈滚道上（型号后缀为NW24）或只加工在滚动体上（型号后缀为NW04），耐磨碳涂层通过物理蒸汽沉积工艺加工在轴承上。涂层厚度范围为1~3微米，具体取决于轴承尺寸。涂层的硬度为1200HV10。永不磨损轴承表面保留基础材料的韧性，在保留其硬度的同时改善了摩擦性能和涂层的耐磨性。在磨合期，微量涂层材料会转移到配合面上，这种转移，可减少摩擦，提高抗磨损和粘着磨损的阻力。

A wear-resistant carbon coating that can be machined on the rolling element and inner ring raceway of the bearing (model number suffix NW24) or only on the rolling element (model number suffix NW04), wear-resistant carbon coating by physical vapor deposition process Machining on bearings.

The coating thickness ranges from 1 to 3 microns, depending on the bearing size.

The hardness of the coating is 1200 HV10.

Never wear the bearing surface to retain the toughness of the base material, while maintaining its hardness while improving the friction properties and wear resistance of the coating.

During the running-in period, the micro-coating material is transferred to the mating surface, which reduces friction and improves the resistance to wear and adhesive wear.

特性

Characteristic

- | | |
|---------------|---|
| ✓ 使用寿命长 | ✓ Long lasting |
| ✓ 可耐受各种极端的条件 | ✓ Can withstand extreme conditions |
| ✓ 存在更高的粘着磨损风险 | ✓ There is a higher risk of adhesive wear |
| ✓ 润滑油膜不足 | ✓ Insufficient lubricant film |
| ✓ 急速变化的载荷 | ✓ Rapidly changing load |
| ✓ 轻载荷 | ✓ Light load |
| ✓ 急剧改变的转速 | ✓ Dramatically changing speed |
| ✓ 振动和往复摆动 | ✓ Vibration and reciprocating oscillation |

可提供的轴承类型

Available bearing types

- 1、深沟球轴承（内径d15~140mm 可用变型有NW04 NW24）
- 1、 Deep groove ball bearings (inner diameter d15~140mm available variants are NW04 NW24)



- 2、角接触球轴承（内径d15~140mm 可用变型有NW04 NW24）
- 2、 Angular contact ball bearings (inner diameter d15 ~ 140mm available variants have NW04 NW24)



- 3、圆柱滚子轴承（内径d15~220mm 可用变型有NW04 NW24；内径 d > 220 mm 可用变型有NW04）
- 3、 Cylindrical roller bearings (inner diameter d15 ~ 220mm available variants have NW04 NW24; inner diameter d > 220 mm available variants have NW04)



- 4、调心滚子轴承（内径d15~220mm 可用变型有NW04 NW24；内径 d > 220 mm 可用变型有NW04）
- 4、 Spherical roller bearings (inner diameter d15 ~ 220mm available variants have NW04 NW24; inner diameter d > 220 mm available variants have NW04)



若客户需要其他类型的永不磨损轴承，请与SKL联系。
If you need other types of never worn bearings, please contact SKL.

设计及变型

Design and variant

常用的永不磨损轴承仅在滚动体上加工有涂层（型号后缀为 NW04）。该类轴承适用于轻、中型载荷，或存在振动和往复摆动的应用场合。

在以下任意一种工作条件下，建议使用内圈滚道和滚动体上均有涂层的永不磨损轴承（型号后缀为 NW24）：

- 1、存在可能引起轴承过早磨损的磨蚀性污染物
 - 2、重载荷
 - 3、特殊的润滑条件，如通过工艺介质进行润滑的轴承
- 大多数滚动轴承都可提供带永不磨损涂层的型号。

Commonly used never worn bearings are only coated on the rolling elements (model number suffix NW04).

These bearings are suitable for light and medium loads, or for applications where vibration and reciprocating oscillations are present.

Under any of the following operating conditions, it is recommended to use a never worn bearing with a coated inner raceway and rolling elements (model number suffix NW24):

- 1、Abrasive contaminants that may cause premature bearing wear
 - 2、Heavy load
 - 3、Special lubrication conditions, such as bearings lubricated by process media
- Most rolling bearings are available in models with a permanent wear coating.

温度限制

Temperature limit

涂层可承受的温度高达 350℃

The coating can withstand temperatures up to 350°C

润滑

Lubricating

通常情况下，标准轴承的润滑适用于永不磨损轴承。然而，即使在无法实现充足的表面分离时，永不磨损轴承仍能可靠地运转。成为表面保护层，并在润滑剂中减少对添加剂的需求。

Normally, the lubrication of standard bearings is suitable for never wearing bearings.

However, even if sufficient surface separation is not achieved, the never worn bearing can still operate reliably. Become a surface protective layer and reduce the need for additives in lubricants.