

# TECHNICAL INSIGHT

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## Creep Resistance Bearings

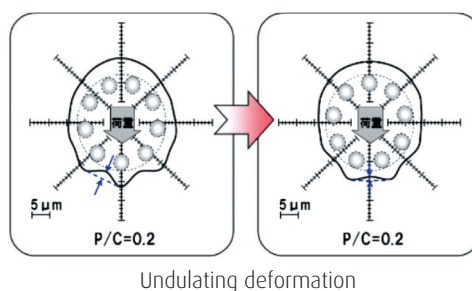
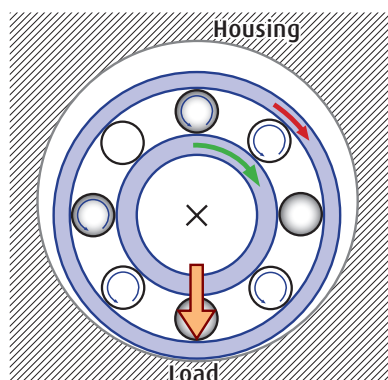
### Development Objectives

Reduction of case wear under all creep mode

### General Description and Product Features (Structure and Operating Principles)

#### Creep modes

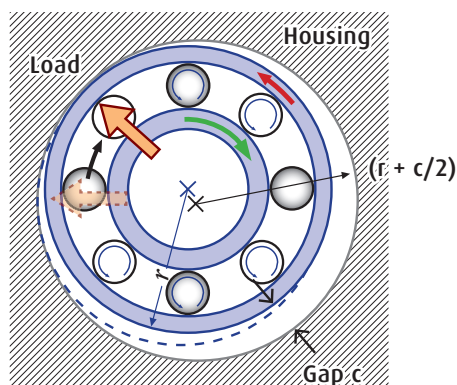
Model I: Creep generated by one-way loading



The inner ring rotation direction and the creep direction of outer ring are the same

The creep is generated when the bearing ring is subjected to undulating deformation at the position of the rolling element

Model II: Creep generated by rotational load



The inner ring rotation direction and the creep direction of outer ring are opposite

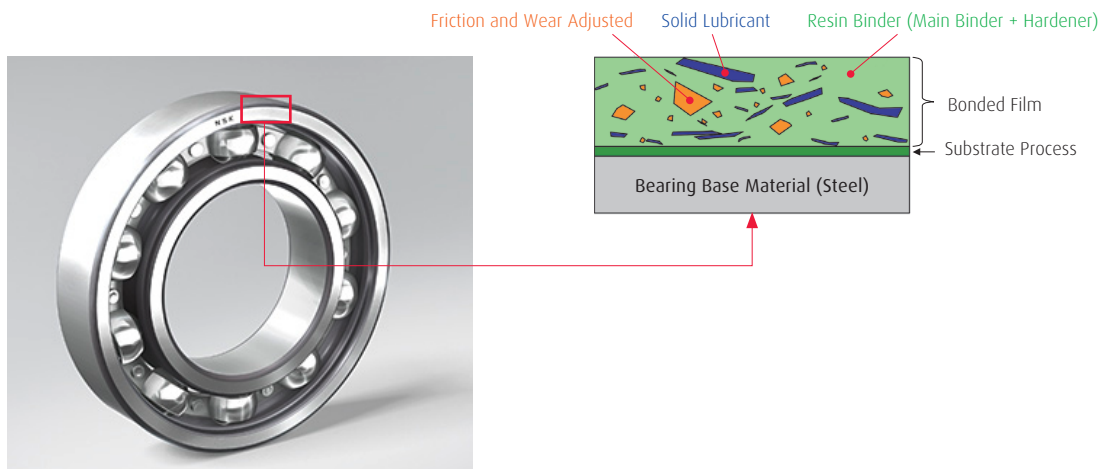
$$\text{Inner length of housing} - \text{Outer length of outer ring} = \pi c$$

Reverse rotation creep is generated by the difference in perimeters

## Solid Lubricant Film Construction Bearing

Wear of the housing caused by creep is suppressed by applying a coating having less aggressiveness on the outer diameter surface.

Effective for all Creep Modes



## Next-generation Creep-Free Bearings

**Optimization of O-ring**  
Creep and corotation caused by the rotational load of the static bearing ring are prevented.

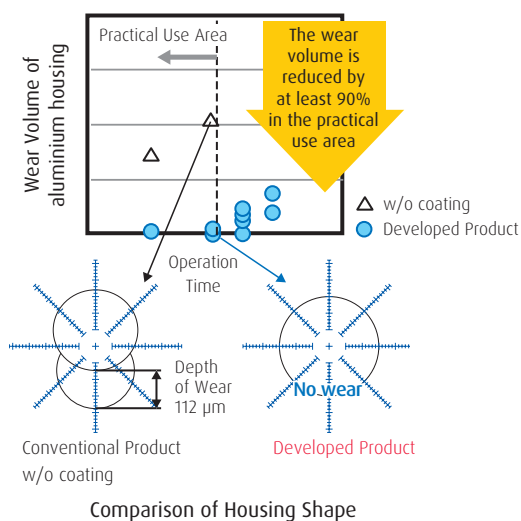
Effective for Creep Mode II

**Optimization of the rigidity of bearing ring**  
Creep caused by one-way loading is prevented by suppressing the deformation in the fitting surface of the bearing ring.

Effective for Creep Mode I

**Assemblability Ensured**  
Assembling is each compared to the mechanical fixing method using flange, etc.

Critical Load Measurement  
Result of Creep Mode I



Critical Load Measurement  
Result of Creep Mode II

