



# HCR Wear

## Resistance Bearings

Wear resistance coating on rolling element helps to avoid metal to metal contact in dry and low lambda lubricated condition.

### Features

- ✓ Optimized coating with metal-containing amorphous carbon coating with a multilamellar structure
- ✓ No columnar structure provides high adhesion strength
- ✓ Provides wear protection even in dry contact condition
- ✓ High dimensional accuracies

### Benefits

- ✓ Higher operational reliability
- ✓ Low COF even in dry condition with steel
- ✓ Resistant to adhesive wear and micro pitting
- ✓ Enhanced low lambda fatigue life
- ✓ Debris Tolerance - removes dents created in the contaminated application

### Application

- ✓ High speed roller bearings for automotive application
- ✓ Industrial bearings (contaminated lubrication condition)

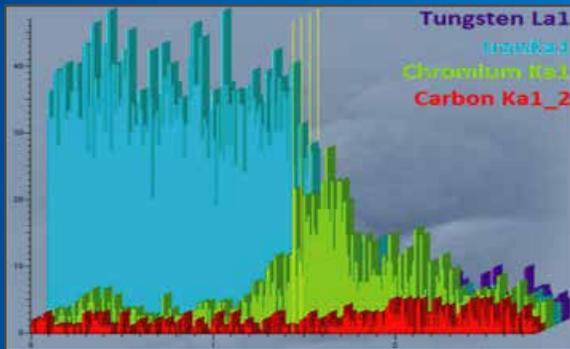
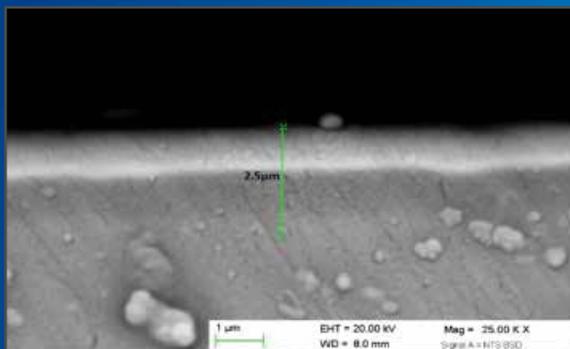
## Automotive & Industry



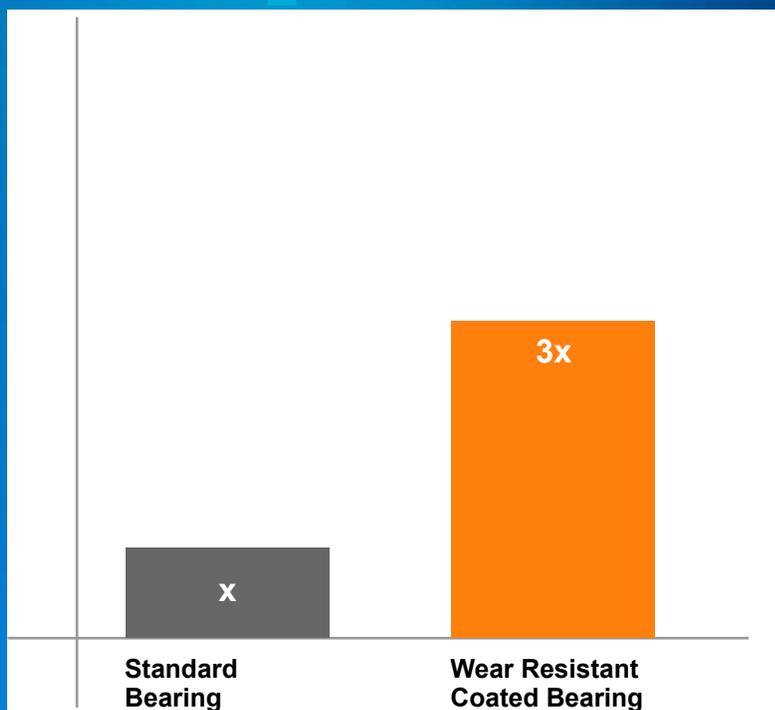
## Specifications

- ✓ Coating thickness of 1-2  $\mu\text{m}$
- ✓ Low coating temperature (<200 °C)
- ✓ High dimensional accuracy after coating
- ✓ High adhesion strength (HF1 to HF2 grade)
- ✓ Low COF and high wear resistance
- ✓ >3x improved in bearing endurance life test
- ✓ Can be applied to any kind of roller bearing

## Technical Data



SEM Coating Thickness



Roller Bearing Endurance Test Comparison

