

TIMKEN

FOOD & BEVERAGE BEARING DAMAGE ANALYSIS

ROLLING BEARINGS

CORROSION/ETCHING

Typical causes include damaged or insufficient sealing, aggressive washdown, and improper material selection.



Corrosion on outer ring raceway and shoulder



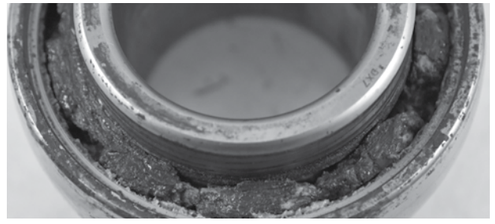
Roller spaced corrosion etching



Excessive corrosion on housing and insert

INADEQUATE LUBRICATION

Typical causes include contaminated grease or oil from washdown, not frequent enough regreasing intervals, or improper lubricant selection.



Contaminated grease



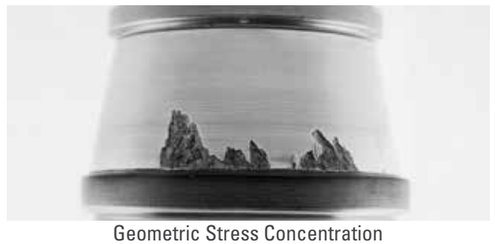
Peeling on raceway



Chemical reaction with lubricant

MISALIGNMENT

Typical causes include loose frames, bent shafts, and improper mounting.



Geometric Stress Concentration (GSC) spalling on inner ring



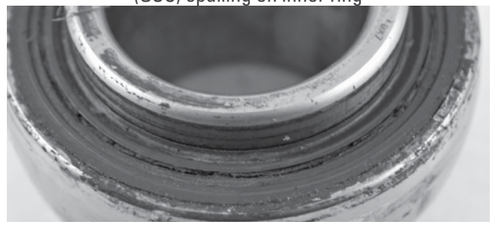
Spalling at outer race edge



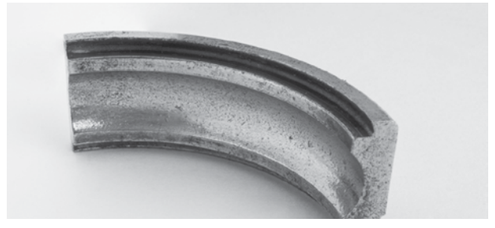
Elliptical wear path on inner ring

CONTAMINATION

Typical causes include damaged seals, insufficient lubricant purge, and improper practices during installation or relubrication.



Worn seal filled with contaminants



Dented outer raceway



Circumferential grooving on rollers

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