



Gearbox Bearing Inventory

Winergy

- ✓ 4300
- ✓ 4320
- ✓ 4375
- ✓ 4390
- ✓ 4407
- ✓ 4410
- ✓ 4411
- ✓ 4419
- ✓ 4420
- ✓ 4431
- ✓ 4435
- ✓ 4440
- ✓ 4456
- ✓ 4458
- ✓ 4481

Moventas

- ✓ 308
- ✓ 310
- ✓ 312
- ✓ 1100
- ✓ 1400
- ✓ 2900

Hansen/ZF

- ✓ Atlas
- ✓ EH552
- ✓ EH601
- ✓ EH802
- ✓ EH803
- ✓ EH804
- ✓ EH851
- ✓ EH853

Bosch RexRoth

- ✓ GPV-441
- ✓ GPV-442
- ✓ GPV-451
- ✓ GPV-453
- ✓ GPV-455
- ✓ GPV-457
- ✓ GPV-510
- ✓ GPV-535

Nanjing

- ✓ FDMD
- ✓ FDMX
- ✓ FDM2
- ✓ FDM



Black Oxide coating offers improved corrosion and chemical resistance



SCAN ME



Super Tough Bearings deliver up to 10x the service life of ordinary carburized steel bearings



SCAN ME

GETS

- ✓ 7GA87Cx
- ✓ 7GA87Ex
- ✓ 7GA89Ax

Ishabashi

- ✓ Mitsubishi M1000A
- ✓ Mitsubishi 2.4MW

Gamesa Electric

- ✓ GE2000
- ✓ GE2100



NSK Tough Steel Bearings

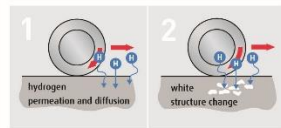
Features:

- 5x life in contaminated lubrication
- 4x life against WEC
- 23% increase in load rating



Location:
Gearbox - HSIMS, HSS

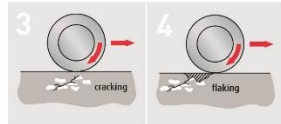
Solution:
Anti-White Structure TF (AWS-TF)
Long-life Steel



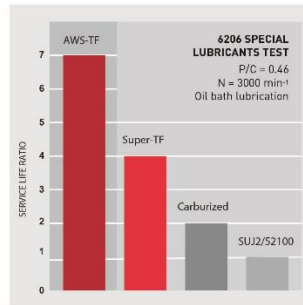
Hydrogen permeates the bearing steel, causing it to weaken

White structure forms below the surface of the bearing

Crack formation begins along the boundary of white structure during repetitive stressing



Cracks propagate under the load of each passing roller and develop into flaking



AWS-TF delivers 7 times the life of standard steel (SUJ2/52100), while STF delivers 4 times

NSK's Tough Steel family of materials was developed to address the most difficult applications in various industries.

Each material has a unique combination of specially formulated base material and advanced heat treatment to deliver the special characteristics needed.

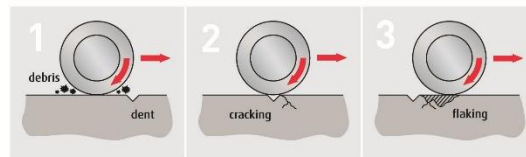
Both Super Tough and Anti-White Structure have been successful in Wind applications depending on the application and problems found.

Malloy has the largest inventory of Tough Steel bearings for Wind applications. Please contact us for these replacement bearings or if you want to learn more about the science behind these bearings.



Location:
Gearbox - All Bearing Positions
Main Shaft

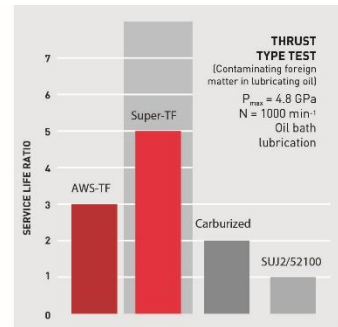
Solution:
Super-TF (STF) Long-life Steel



Foreign debris contamination leads to the formation of dents

Stress concentration around debris dents develop into cracks

Cracks propagate under the load of each passing roller and develop into flaking



STF delivers 5 times the life of standard steel (SUJ2/52100), while AWS-TF delivers 3 times

