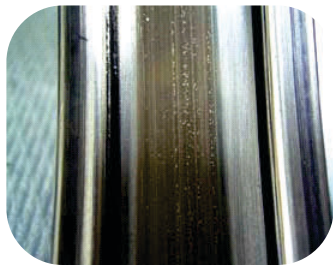
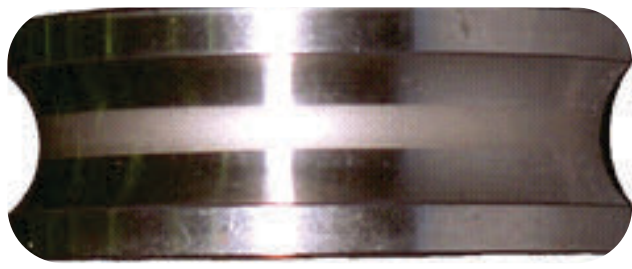


An Industry
Standard
Worldwide



Brown Marks from electrical arcing



Frosting: a dull matt effect from arcing



Fluting



Light Brown marks and Pitting

Machinery
Lubrication

Bearing Damage

Electrical Arcing Destroys Bearings in VFD driven Electric motors

Bearing current problems are nothing new to engineers, but it is the alarming rate of increase in this problem that is becoming a worry to factories and mines. SGS, a company in the USA, undertook a survey on 1000 AC motors on Variable Speed Drives. 250 of the motors monitored had bearing faults appearing by month 18, and of motors averaging 24 months production time, 65% had electrical bearing faults appearing. Older VSDs operated at a lower switching frequency and did not create many bearing problems, with the advent of the newer IGBT VSDs, the higher switching frequencies have created more unbalance and thereby creating higher shaft currents that increase motor failure.

"Will electrical bearing damage always occur in a VSD application?"

The answer is "Yes, in 9 out of 10 motors - with no alternate path to discharge shaft current, pitting of the motor bearing will take place during VSD operation. These discharges will continue and will always seek the path of least resistance - usually through the motor bearings". Yes, many motors still last for some time on a VSD application but bearing life is drastically reduced by up to 50 percent, even when the problem is not critical.

EARTHINGS™

VSD MOTOR BEARING PROTECTION

For more information please contact:

Cell: +27 (0)83 955 8722 • Tel: +27 (0)11 040 2647 • Email: troy@earthrings.co.za

www.earthrings.co.za

