

Application example for the use of **Cool/BLUE®** tape wound cores from **MAGNETEC GmbH, Germany**

Damaged bearing of a break roller test stand due to circular currents

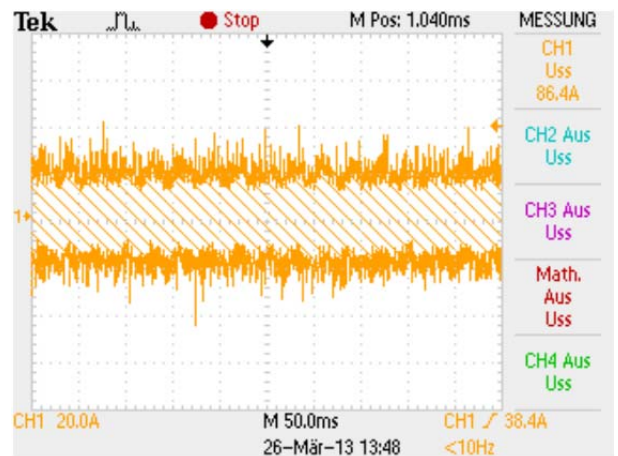


Picture 1: Inner ring tread with axial current marks (corrugation)

The measurements were done before and after applying of some **Cool/BLUE®** tape wound cores from **MAGNETEC GmbH** with constant speed of 1.000 rpm and without load.



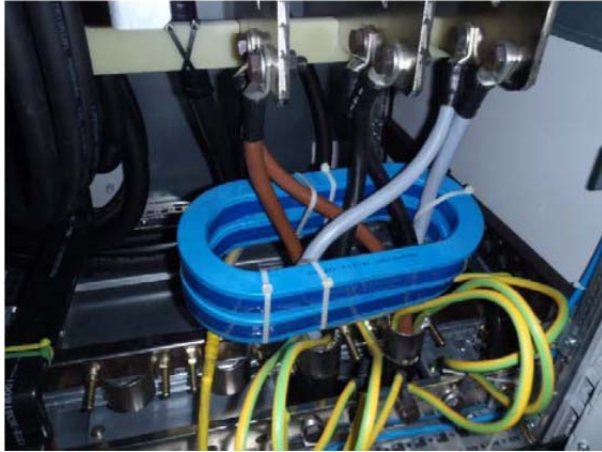
Picture 2,1: Original condition



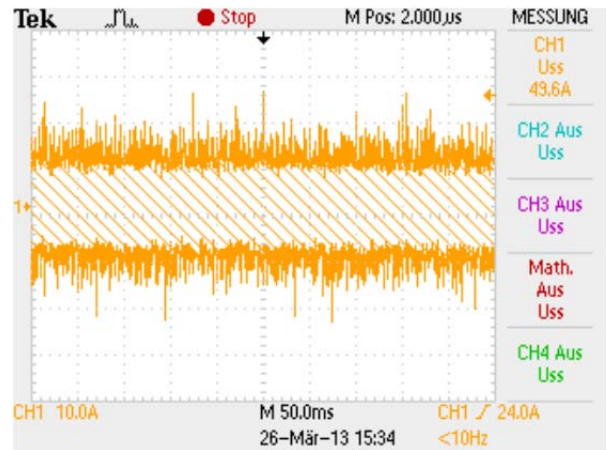
Picture 2,2: CM current at drive output
20A/Div, 50ms/Div > I_{ss} ca. **86 Amps**

Action: Applying of 2 resp. 3 nanocrystalline Cool/BLUE® tape wound cores M-111

Measurement 1: CM current at drive output



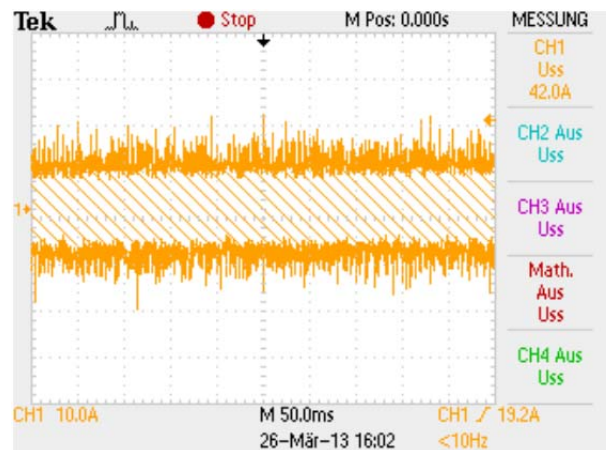
Picture 3,1: Use of 2 cores M-111



Picture 3,2: 10A/Div, 50ms/Div > Iss ca. 49 Amps

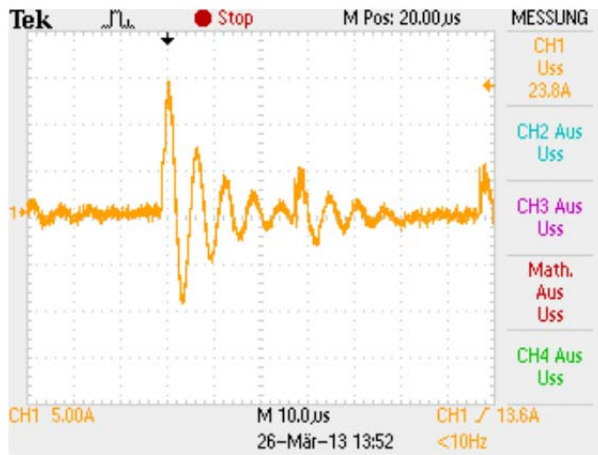


Picture 4,1: Use of 3 cores M-111

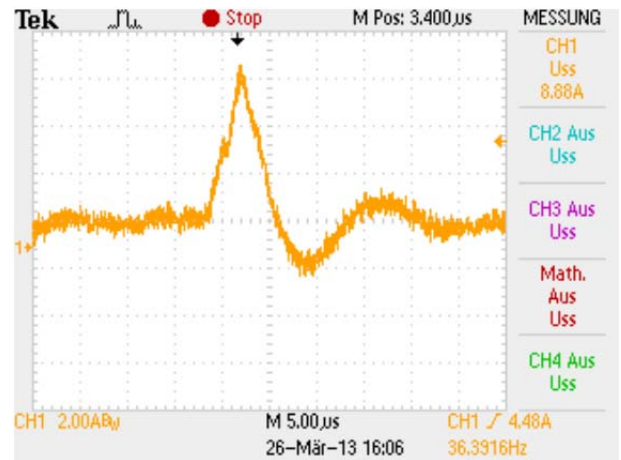


Picture 4,2: 10A/Div, 50ms/Div > Iss ca. 42 Amps

Measurement 2: Earth current what is flowing back to the drive



Picture 5: Original condition
 5A/Div, 10µs/Div > I_{ss} ca. **24 Amps**

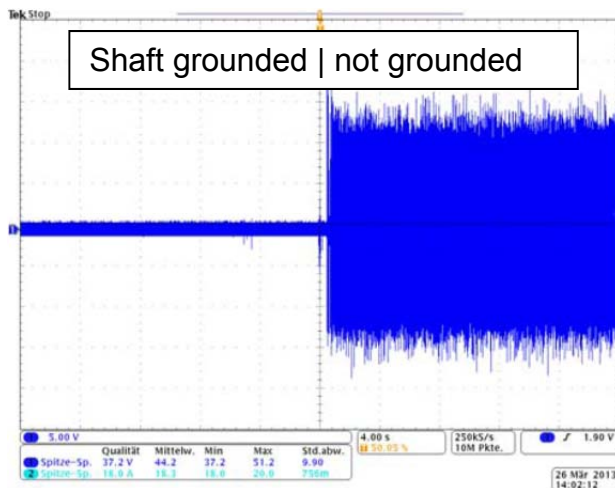


Picture 6: Use of 3 cores M-111
 2A/Div, 5µs/Div > I_{ss} ca. **9 Amps**

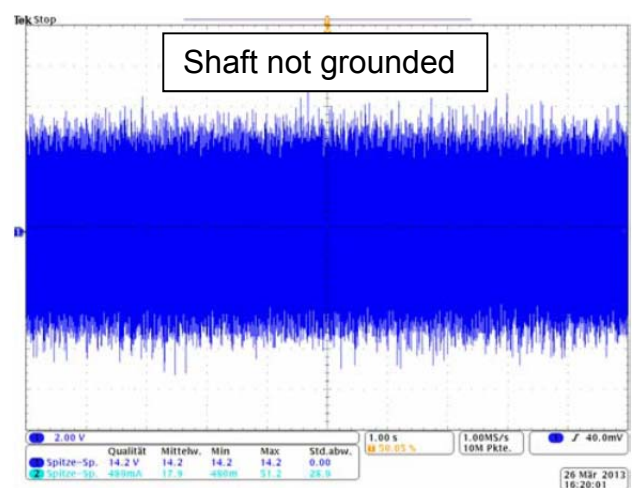
Measurement 3: Shaft voltage



Picture 7: Measurement position at BS shaft end

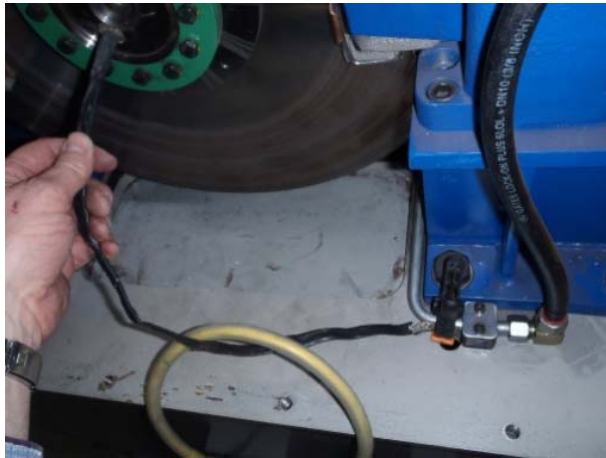


Picture 8: Original condition
5V/Div > U_{ss} max ca. 37 V

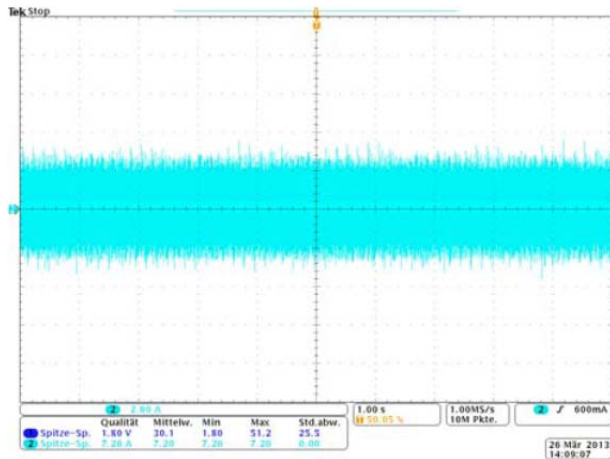


Picture 9: Use of 3 cores M-111
2V/Div > U_{ss} ca. 14 V

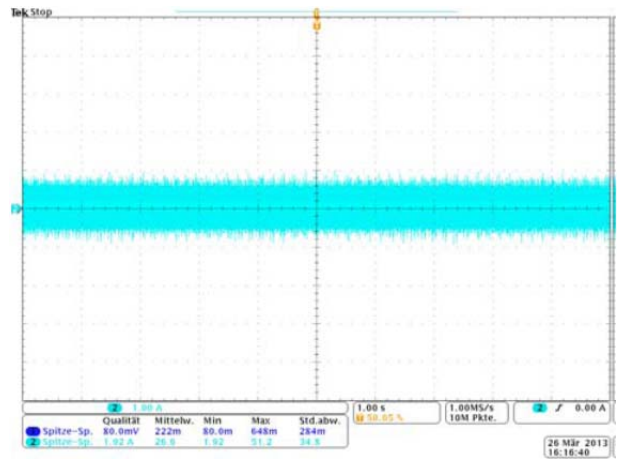
Measurement 4: Shaft current



Picture 10: Measurement position between BS shaft end and plinth



Picture 11: Original condition
2A/Div > Iss max ca. 7 A



Picture 12: Use of 3 cores M-111
1A/Div > Iss ca. 2 A

Authors:

IBB Electric Drives
Bernhard Britting
Humboldtstraße 64
90459 Nürnberg
Germany
Fon: +49 911 / 4 39 76 36
Fax: +49 911 / 4 39 76 43
Mobil: +49 171 / 1 41 63 39
e-mail: ibbbaer@aol.com

IBB Electric Drives
Christian Bär
Humboldtstraße 64
90459 Nürnberg
Germany
Fon: +49 911 / 4 39 76 22
Fax: +49 911 / 4 39 76 43
Mobil: +49 171 / 3 10 30 49
e-mail: ibbbaer@aol.com

For further information concerning Cool/BLUE® tape wound cores pls. contact MAGNETEC GmbH via e-mail under magnetec@magnetec.de or call +49 6184 / 9202-0.