

**INFINITE
UPTIME**

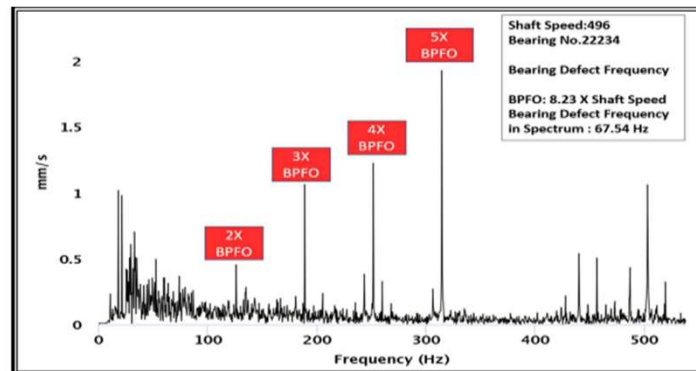
Advanced fault diagnosis and prediction saved **12 hours of downtime** in a blower fan application.

Application-

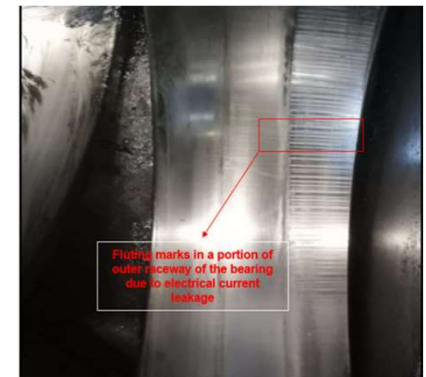
- An up-draft blower fan at a 12 MTPA galvanized steel coating plant.
- The fan handles air of different temperatures in the updraft drying zone to remove moisture from the pellet bed, without which the pellets can't be hardened and sintered.

Challenges-

- Potential of damaging other drive components due to fan bearing failures and disrupting the production process.
- The fan impeller is positioned between the bearings, which are housed inside the plumber block and are grease lubricated. This makes monitoring the fan more challenging.



Shockwave spectrum showing bearing outer-race defect



Fluting marks observed on outer-race

Solution -

- Advanced fault diagnostics and detection empowered the plant maintenance teams with real-time and actionable insights into the health of the updraft fan.
- Fault notification and machine alerts were generated when high vibrations velocity and high total acceleration value of 2766 m/s^2 were observed in the Fan DE bearing.
- Upon OEM inspection 'fluting marks' were observed on the outer race indicating bearing defect. To avoid further damage to the drive, the Fan DE bearing was replaced by maintenance experts, bringing the total acceleration down to 113 m/s^2 and avoiding **12 hours of downtime**.