

Challenge

Background

A fiberglass manufacturing plant was experiencing short bearing life of the fan motors. The motors were lubricated weekly with a Lithium Complex based Electric Motor Grease (EMG) per OEM recommendation. The amount and frequency were not defined and often depended on the experience of each technician.

The vibration monitoring revealed occurrence of heavy bearing vibrations. The temperature of the bearings could reach up to 45°C to 65°C. The maintenance cost for each fan motor reached up to \$4,000 per year.

The objective was to improve the reliability of the bearings and extend the Mean Time Between Failure (MTBF) of the equipment.



Ventilation fan motors operating at 3600 RPM.

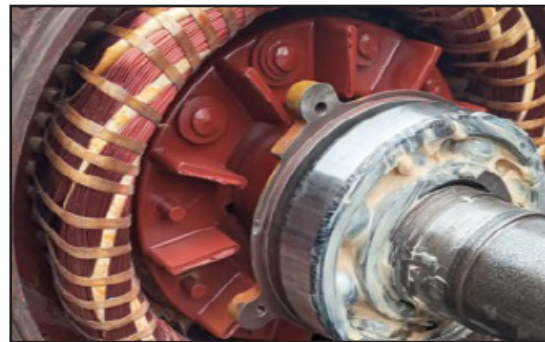
Solution

Product

The Chesterton® specialist measured the bearing temperature and calculated the speed factor or NDm of 430,000. He recommended a correct grease of **Chesterton 638 EMG 46 #2** with the base oil viscosity of 46 cSt and a correct greasing quantity of 0.6 gm/day using the Chesterton Precision Lubrication Tool (PLT).

A **Lubri-Cup EM-500** was selected and programed for 12 months.

Chesterton 638 EMG 46 #2 is designed specifically for high-speed electric motor bearings. QBT technology of the grease reduces wear and vibrations extending the bearing life.



Chesterton 638 EMG 46 #2 chosen due to high-speed motor.

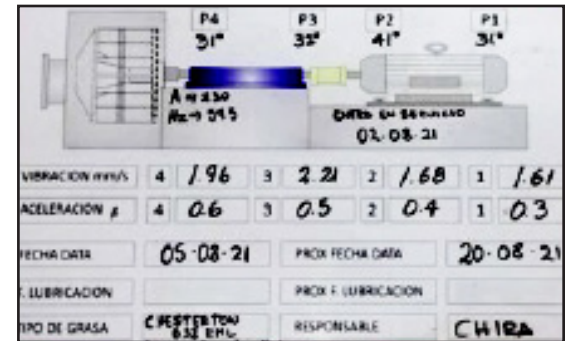
Results

Feedback

The anti-wear and extreme-pressure additives in **Chesterton 638 EMG 46 #2**, immediately helped reduce the vibrations by 20% compared to that by the previous grease. After 15 days, vibrations reduced further by 66% when measured by acceleration. Furthermore, the reliable grease performance reduced the operating temperature of the bearing by 25°C, increasing the life of the grease and bearing.

After the success from one motor, the solution was implemented on 14 fan motors (28 bearings, 14 Lubri-Cups and, 7 kg of **Chesterton 638 EMG 46 #2** grease).

\$ = USD



Monitoring vibrations validate **Chesterton 638 EMG 46 #2** performance.