SCHAEFFLER

Schaeffler Global Technology Solutions

Raw material extraction and processing

New Vibrating Screen Bearing from FAG

The following solution is of great interest both to all vibrating screen manufacturers in the OEM sector and to MRO customers in industries where materials need to be screened.

Challenge for Schaeffler

Fretting corrosion (tribocorrosion), which develops as a result of the loose fit on the shaft, as well as the high-frequency vibration in these machines impair the proper functioning of the floating bearings. As a result, thermal expansions of the shaft can generate axial preloads which in turn can cause failure of the bearing and damage to the shaft.

Schaeffler Solution

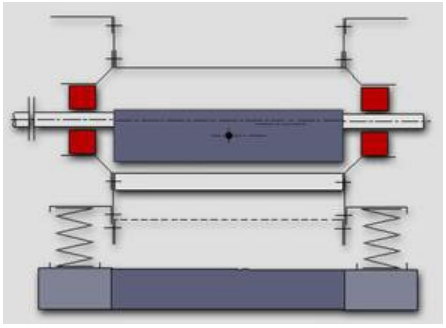
Since January 2006, the bores of all FAG vibrating screen bearings of sizes 22317-E1 to 22322-E1 with the suffix T41D have been thin dense chromium coated using the Duralloy® process.

Technical Information about the Plant
Vibrating screen
Screen width / screen area
5,50 m / approx. 40 - 50 m2
Grain sizes:
› 1 mm
Operating temperatures:
approx. 75 - 80 °C
Rating life:
approx. 10 000 - 20 000 Std.
Speeds:
500 - 3 200 min-1
Lubrication:
Grease and oil lubrication; k = v/v1 › 2

LuK INA FAG

In the field of vibration screens often exist rough conditions

FAG vibration screen bearings are especially designed for these rough conditions



Schematical image of a vibration screen bearing

Customer Benefit

Due to the new vibration screen bearing, tribocorrosion and the resulting premature bearing failures are avoided. Moreover, this solution takes up heavy shock loads and radial accelerations. The introduction of vibrating screen bearings with the suffix T41D means a higher operating safety and permits a more efficient utilization of the potential offered by X-life. As a result of the bearings‘ longer service life, maintenance costs and resources can be saved.

What‘s special

In the past, PTFE foils were glued into the bores if requested by customers. However, this foil always detached itself after some time. With this new way of coating bores using the Duralloy® process, a kind of molecular bonding is produced between base material (rolling bearing inner ring) and coating (hard chromium) so that the coating can not detach itself.

Technical Information about the Solution
Coating:
Duralloy®-TDC
Chromium coating thickness:
1,5-3 µm
Hardness:
950-1300 HV
Corrosion protection:
DIN 50021 SS 120 h
Resistant to chemicals

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