THREE MATERIALS IN ONE APPLICATION

WR®300/525/575 Materials Double MTBF of Boiler Circulation Pump

CUSTOMER GOALS

Leading pump OEM in the U.K. wanted to increase MTBF (mean time between failure) over four years which was the max. running time of the conventional bearing material so far.

APPLICATION

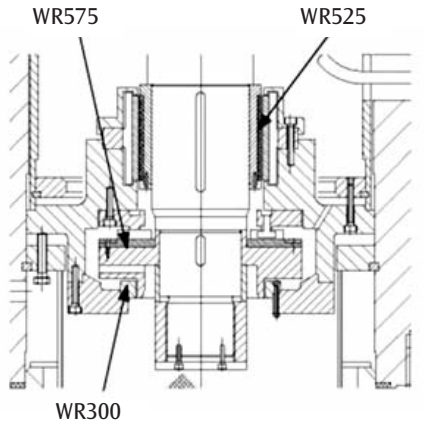
This pump circulates cooling water in boiler feed applications. Boiler circulating pumps contain wet wound stator motors that traditionally used “Ferrobestos” bearings for both the journal and thrust bearings.

CHALLENGE

The customer needed to remove asbestos bearing materials in the Hayward Tyler wet wound motor boiler feed pumps to comply with legislation. These pumps are used in a variety of power plants. In this particular application the pump was utilized by a coal-fired power plant.

SOLUTION

After testing several competitive bearing materials the customer decided on Greene, Tweed’s WR materials as the new bearing and thrust material. The WR material was selected because it showed negligible wear during the test cycle.



WR materials

BENEFITS

- **Reliability/MTBF**—Due to the WR material upgrade the pump’s MTBF (mean time between failure) **increased from 4 to 9 years** so run times could be more than doubled. The pump deployed 0 faults and still continues to run smoothly. The pump utilizes three different WR materials in three different areas, showing the versatility of the WR portfolio.
- **Customer increased lifetime of the pump while complying with environmental regulations**
- **Dry-Run Protection**—Nongalling and nonseizing properties of WR help avoid catastrophic pump failures caused by dry-run start up or excessive vibration.
- **Easy to install**—Not brittle or easily damaged during installation, like other materials, e.g., ceramics. GT provides total engineered solutions and final machined clearances.

Technical Data

Former product:	Conventional asbestos-based material
Pump type:	Hayward Tyler Boiler Circulating Pump Motor power: from 350kW to 1120kW; velocity: run at 4-pole speeds (1500 rpm)
Media:	Water
Temperature:	230°F (110°C)

Test Results:

WR®525 sleeve bearing:

Test included 120 starts & stops

– No significant wear on the composite

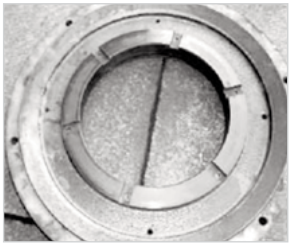
– No damage to the 12 percent chrome-steel mating components

WR300 thrust pads:

Test included 120 starts & stops

– No significant wear on the composite

– No damage to the 12 percent chrome-steel mating components

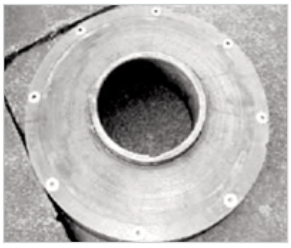


WR575 thrust plate:

Test included 120 starts & stops

– No significant wear on the composite

– No damage to the 12 percent chrome-steel mating components



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