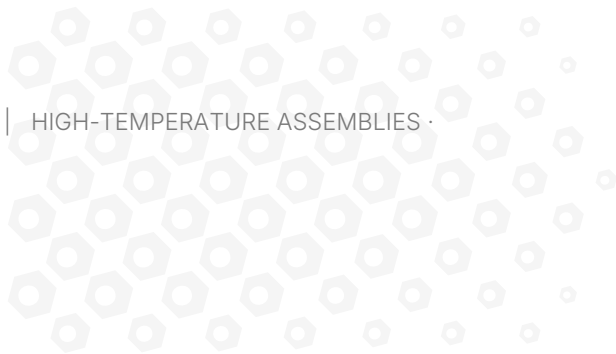




TECHNICAL REPORT OF OJSC VLADKHLEB · 17.06.2002

Bakery rotary oven: carriage bearings last longer with no grease change

OJSC VLADKHLEB holding, SPP No. 3 bakery · chief engineer E. B. Badanov · mechanical engineer A. A. Fedorenko · representative of the XADO corporation

Vladivostok, Russia · tests 08.01–14.06.2002 · report of 17.06.2002

PRODUCT

XADO-300
high-temperature grease
XADO plastic grease for friction
assemblies operating under
heat

TEST OBJECT

Rotary oven No. 1 of the
bakery
friction assembly of the baking
chamber carriage · bearings No.
1210 and No. 210

DOCUMENT TYPE

Technical report of OJSC
Vladkhleb
with signatures and seals

EQUIPMENT**CONDITION AT THE START OF TESTS****WHAT WAS MEASURED**

Rotary oven No. 1, SPP No.
3 bakery

8 years in service; the carriage bearing
assembly was replaced every **380-400
h** because of coking of the standard
grease

Running time of the assembly to
replacement; condition of the
friction surfaces at disassembly

Control rotary ovens with
the standard Litol-24
grease

Same duty cycle and the same baking
chamber carriage assembly

Condition of the friction
assemblies at **400 h** of running
time

XADO-300 grease was packed in on 08.01.2002 during a scheduled bearing replacement; assembly duty — 180-250 °C and 30 rpm.

Key result

↑ **2.1x**

running time of the carriage bearing assembly, 380-400 → at least 850 h

Service life of the baking chamber carriage bearing assembly

ASSEMBLY GREASE	RUNNING TIME TO REPLACEMENT	HOW IT ENDED
Standard Litol-24, 8 years of experience	380-400 h	Burn-out and coking of the grease on the friction surface, bearing seizure, assembly replaced
XADO-300, oven No. 1	at least 850 h	Assembly in working order, operating within the service requirements, no grease change required

Each replacement of the assembly stopped the oven for 5-6 h; over the 157 days of observation no replacement was needed.

Condition of the assemblies at disassembly at the same running time

ASSEMBLY	GREASE	FRICTION SURFACES AND GREASE ON INSPECTION
Oven No. 1, test unit	XADO-300	Free rotation without seizure; rolling pairs smooth, polished, covered with a metal-ceramic layer; no traces of coking
Control ovens	Litol-24	High degree of grease coking, loss of mobility of the bearing assemblies and disturbances in the operation of the equipment

Comparative inspection at disassembly at 400 h of running time — the point at which the assembly with the standard grease already failed.

Conclusions of the commission

The commission of OJSC Vladkhleb recorded in the report dated 17.06.2002:

1. XADO grease ensures the operation of bearing assemblies under heating up to a temperature of **250 °C** for **6 months** and more.
2. The use of XADO grease as the standard one is advisable in all assemblies of equipment operating at high temperature.
3. The use of XADO grease will make it possible to: eliminate the costs связанные with equipment shutdown and with disassembly and replacement of bearings; increase the service life of bearings; reduce the expenditure on the purchase of bearings and grease, since XADO grease lasts **2-5×** longer and increases the service life of bearings.
4. Continue the tests to determine the maximum period of operation of the bearing assemblies without disassembly. According to the measurements of the same report, the assembly of oven No. 1 ran **at least 850 h**, whereas with the standard grease the assembly was replaced every **380-400 h**.



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The results refer to the carriage bearing assembly of the baking chamber of a bakery rotary oven at an operating temperature of 180-250 °C and 30 rpm; on other equipment and under other duty conditions the figures may differ. The period of "6 months and more" and the factor of "2-5×" are quoted from the conclusions of the report, not from our own measurements. The original technical report of OJSC Vladkhleb dated 17.06.2002 with signatures and seals is published in full and available for download.