

## TECHNICAL REPORT OF OJSC VLADKHLEB · 17.06.2002

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

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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 | <b>380-400 h</b>            | Burn-out and coking of the grease on the friction surface, bearing seizure, assembly replaced   |
| XADO-300, oven No. 1                     | <b>at least 850 h</b>       | 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 associated 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.