

**TECHNICAL ACT OF 09.02.2001 · FIVE MONTHS OF OBSERVATION**

MKM-1000 mill: grinding unit bearings last several times longer

Selkhozprodukt CJSC · approved by director A. V. Marchenko; the work was carried out by production manager P. P. Kostenko and shift supervisor A. N. Mudry with the participation of Promtekhlogiya + LLC
Peschanoye village, Kremenchug district, Poltava region, Ukraine · observation 08.09.2000 → 09.02.2001

PRODUCT

XADO plastic grease
packed in during the routine
scheduled bearing replacement
on 08.09.2000

TEST OBJECT

Rolling bearings of the
grinding units
No. 112 — 4 pcs · No. 1208 — 2
pcs · MKM-1000 pin mill

DOCUMENT TYPE

Technical act
Selkhozprodukt CJSC
signatures of the parties, seals
of the customer and the
contractor

UNIT	OPERATING CONDITIONS	WHAT WAS ASSESSED
Bearings No. 112 — 4 pcs	5600 rpm against a design maximum of 5000 rpm , operating temperature 95 °C	running time until failure, condition at maintenance
Bearings No. 1208 — 2 pcs	rotating drum weighing 15 kg , three-shift operation	running time until failure, condition at maintenance

The maintenance routine was not changed: greasing with Litol-24 three times a day before each shift. The only condition altered was the packing of XADO grease.

Key results

↑ 5-6×

bearing running time until failure, 500-600 → 3000 h

6 of 6

bearings in service with no failure, 3000 h of running
time

Service life of the grinding unit bearings of the MKM-1000 mill

PARAMETER	LITOL-24 GREASE	XADO PLASTIC GREASE
Running time until failure	500-600 h	3000 h , still in service
Set replacements over 08.09.2000 — 09.02.2001	5-6 replacements	0 replacements
Bearing condition as of 09.02.2001	another replacement would have been due	6 of 6 in service, no failures

The comparison is against the average service life of the same bearings in the same units, accumulated by the plant over five years of operation.

Economic calculation of the act

ITEM	CALCULATION	AMOUNT
Bearings No. 112 — 4 pcs	14 UAH × 4	56 UAH
Bearings No. 1208 — 2 pcs	8 UAH × 2	16 UAH
Set for one replacement	56 + 16	72 UAH
Replacements not required over the period	72 UAH × 5	360 UAH
Repair work and downtime losses	40 UAH × 5	200 UAH
Total as of 09.02.2001	360 + 200	at least 560 UAH

The calculation was made by the plant in 2001 prices and takes the lower end of the 5-6 replacements required; six bearings are the scale of a single unit.

Findings of the plant commission

The commission of Selkhozprodukt CJSC recorded:

1. As of 9 February 2001, the use of XADO plastic grease in bearings No. 112 and No. 1208 of the grinding units of the MKM-1000 pin mill has already made it possible to extend the service life of these bearings from **500-600 hours** to **3000 hours**, i.e. by **5-6 times** compared with the average period of their operation with Litol-24 grease.
2. The economic effect of using XADO grease as of 9 February 2001 amounted to **at least 560 UAH**.
3. All of the above indicates the high effectiveness of using XADO grease in the bearings of the grinding units of the MKM-1000 pin mill. The act was signed as preliminary: the bearings remain in service and the observation was ordered to continue — **3000 hours** is not the limit of the service life but the running time as of the signing date.

XADO

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The results apply to rolling bearings No. 112 and No. 1208 of the grinding units of the MKM-1000 pin mill, operating at 5600 rpm and a temperature of 95 °C; the grease was packed into new bearings during a scheduled replacement — the act does not address the restoration of a worn unit. The original technical act of 09.02.2001 with signatures and seals is published in full and available for download.