



ACT UNDER CONTRACT No. 267 · DECEMBER 2000 — APRIL 2001

Fan bearing 3680: clearance cut without teardown, unit left in service

Rumyantsev Mine State Enterprise, Artemugol State Holding Company · treatment performed by XADO BC LLC, Donetsk — General Director P. V. Nasedkin

Gorlovka, Ukraine · contract No. 267 of 08.11.2000 · treatment from 15.12.2000 · act of 16.04.2001

PRODUCT

XADO compound
treatment per the XADO
process chart · 2700 ml per
bearing

TREATED UNIT

Bearing No. 2 of fan No. 1
type 3680 · low-speed unit, 300
rpm

DOCUMENT TYPE

Act on the results of
treatment
with the seals of the mine
and the contractor

EQUIPMENT

Fan No. 1, bearing No. 2 of
type 3680

CONDITION AT THE START OF WORK

Radial clearance **0.29-0.31 mm**, unit
in operation, rotation speed **300 rpm**

WHAT WAS MEASURED

Radial clearance after **240 h** and
720 h of operation

Initial clearances are taken from measurements by the Gorlovka Commissioning Department, form 1a of the operating log.

Key result

↓ **16-24 %**

bearing radial clearance, 0.29-0.31 → 0.22-0.26 mm

Radial clearance of bearing No. 2 of fan No. 1

STAGE	OPERATING TIME	RADIAL CLEARANCE
Before treatment	—	0.29-0.31 mm
After the first cycle (3 stages of 8 h, 1350 ml)	240 h	0.28-0.30 mm
After additional treatment (stage duration tripled)	720 h	0.22-0.26 mm

The mode for the low-speed unit was agreed with the manufacturer: the dosage stayed the same, the stage duration was tripled. Consumption per bearing — 2700 ml.

Findings of the act

Over **720 h** of operation the radial clearance of bearing No. 2 of fan No. 1 decreased from **0.29-0.31 mm** to **0.22-0.26 mm**. The unit was restored in place — without disassembly, without replacing the bearing and without taking the fan out of service. On a low-speed unit (**300 rpm**) the standard process chart required tripling the treatment duration: the mode was agreed with the manufacturer and recorded in the act. The commission recorded: «The reduction of radial clearances indicates restoration of the damaged surface layer of the bearing and the possibility of its further operation. The positive results achieved indicate the effectiveness of applying XADO technology on industrial equipment, including in the coal industry».

XADO

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The results relate to a type 3680 bearing of a low-speed mine fan (300 rpm); on other units and operating modes the figures may differ. The original act with signatures and seals is published in full and available for download.