



PILOT TRIAL REPORT, DAZ JSC, 2001

Internal grinder UFB-500: surface finish of parts restored without teardown

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Dnipropetrovsk, Ukraine · pilot trial 17 Jan – 20 Apr 2001 · report dated 28 May 2001

PRODUCT	TEST OBJECT	DOCUMENT TYPE
XADO compound in the report — "XADO lubricant", applied to the rolling surfaces of bearings No. 4-46109	UFB-500 internal grinding machine internal grinding (spindle) head · Yugoslavia	Pilot trial report with signatures and seal

EQUIPMENT	CONDITION AT START OF WORK	WHAT WAS MEASURED
UFB-500 internal grinding machine (Yugoslavia)	Built in 1980 , twenty-first year in service at the plant	Micro-roughness of the internal surface of test rings

The bearings of the internal grinding head were treated; then {{80 h}} of idle run-in at {{4000 rpm}} and a control grinding pass at {{8500 rpm}}.

Key result

↓ **20-26 %**

micro-roughness of the ground surface, 1.5-1.9 → 1.2-1.4 μm

Finish of the ground surface of the test rings

CONDITION OF THE HEAD	SURFACE MICRO-ROUGHNESS OF THE RING	CHANGE
Before treatment (baseline machine)	$1.5 \div 1.9 \mu\text{m}$	—
After treatment with the XADO compound	$1.2 \div 1.4 \mu\text{m}$	lower by 20-26 %

Rings d 50 / D 70 / l 50 mm, 38KhA steel, HRC 42...46; ground on one and the same machine at **8500 rpm** before and after the treatment.

What the report recorded

The Chief Mechanic Department of DAZ JSC, together with the repair and machining shop, carried out a pilot trial "to establish the feasibility of using XADO lubricants for restoring the original parameters of metal-cutting equipment". A comparative analysis of the micro-roughness of the ground test rings revealed the following: on the baseline machine — **$1.5 \div 1.9 \mu\text{m}$** ; on the machine whose internal grinding head had been treated with the XADO lubricant — **$1.2 \div 1.4 \mu\text{m}$** . The machine, built in **1980** and in its twenty-first year of service in production, began to produce a cleaner surface — without dismantling the head, replacing the bearings or stopping for repair.

XADO

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The results refer to the UFB-500 internal grinding machine and to the stated conditions of grinding test rings made of 38KhA steel; on other equipment and under other operating modes the figures may differ. The original DAZ JSC report dated 28 May 2001, with signatures and seal, is published in full and available for download.