

LIFT GEARBOX TREATMENT REPORT · «EVPATORIA» RESORT COMPLEX, 2005-2006

RGL-225-45 lift gearbox: vibration down, worn pair replacement cancelled

Rigonda private company, Autonomous Republic of Crimea — contractor · measurement results confirmed by the signature and seal of the chief engineer of the organisation operating the lift

Evpatoria, Autonomous Republic of Crimea, Ukraine · treatment — June 2005 · repeat measurements — after 15 months of service

PRODUCT

XADO revitalizant
treatment by XADO technology,
without disassembling the drive

TREATED UNIT

RGL-225-45 worm
gearbox
passenger lift drive of the
seventeen-storey building of
the «Evpatoria» resort complex

DOCUMENT TYPE

Report on the results
of the gearbox treatment
two signatures, two seals

EQUIPMENT

Passenger lift
«Evpatoria» resort
complex, 17 storeys

CONDITION AT THE START OF WORK

Worm pair of the gearbox — wear
limit reached, by the condition of
the unit the gearbox was due for
replacement; elevated vibration of
the car and the gearbox

WHAT WAS MEASURED

Current drawn by the drive motor on
phases A, B, C in two car travel modes

The lift was already in operation while construction of the building was being completed, including for construction needs — hence the wear limit reached by the worm pair.

Key results

↓ **13.0 %**

current drawn by the drive at high speed, 51.8 → 45.0 A

↓ **4.4 %**

current drawn by the drive at low speed, 89.0 → 85.1 A

Current drawn by the drive — high speed mode

PHASE	BEFORE TREATMENT	AFTER 15 MONTHS	CHANGE
Phase A	17.6 A	15.0 A	-14.8 %
Phase B	18.2 A	15.0 A	-17.6 %
Phase C	16.0 A	15.0 A	-6.3 %
Three phases combined	51.8 A	45.0 A	-13.0 %

After the treatment all three phases converged to **15.0 A**: the current imbalance typical of a worn worm pair disappeared.

Current drawn by the drive — low speed mode

PHASE	BEFORE TREATMENT	AFTER 15 MONTHS	CHANGE
Phase A	29.5 A	29.5 A	no change
Phase B	29.4 A	27.4 A	-6.8 %
Phase C	30.1 A	28.2 A	-6.3 %
Three phases combined	89.0 A	85.1 A	-4.4 %

Low speed is the standard mode for precise stopping of the car at a floor.

Unit condition: before treatment and after 15 months of service

WHAT WAS ASSESSED	BEFORE TREATMENT	AFTER 15 MONTHS OF SERVICE
Worm pair	Wear limit reached, the gearbox was due for replacement	A visible layer of metal-ceramic coating formed on the worn surfaces; the question of replacing the gearbox was dropped
Vibration of the gearbox and the car	Elevated, when travelling from the 1st to the 17th floor	Practically disappeared

The condition of the worm pair, the vibration and the noise were assessed during inspection of the unit.

Conclusion of the report

By the time of the inspection the worm pair of the gearbox had reached its wear limit: by the condition of the unit the gearbox was due for replacement, and the car and the gearbox ran with elevated vibration. The treatment was carried out by XADO technology without disassembling the drive, in June 2005; repeat measurements were taken after **15 months** of lift operation. The report states: «upon completion of the treatment process using XADO revitalizants the vibration of the gearbox and of the lift car practically disappeared. The noise level decreased. A visible layer of metal-ceramic coating formed on the worn surfaces of the worm pair. The question of replacing the gearbox was dropped». The saving of electricity amounted to **13.0 %** in the high speed mode and **4.4 %** in the low speed mode.



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The results relate to the RGL-225-45 worm gearbox of a passenger lift drive and to the stated operating modes; on other units and in other modes the figures may differ. The report was drawn up by Rigonda private company, which performed the treatment; the measurement results are confirmed by the signature and seal of the chief engineer of the organisation operating the lift. The original report is published in full and available for download.