

REPORT

On the results of renewal of the reducing gear in the main drive of conveyor TsPS

During the period of 28 March to April 10 2001, the specialists of "Sintez-Plus" Ltd. (Homel') and OJSC "Homel'steklo" performed XADO technology-based renewal of the reducing gear in the main drive of conveyor TsPS without dismantling during standard operating conditions, without treating the drive bearings located outside the oil reservoir. In 312 hours, after being treated to the XADO technology, the reducing gear was stopped for dismantling and check inspection.

Visual inspection established that the working surface of the teeth of mating pairs gear wheel-pinion acquired a smooth polished view. An attempt to remove the coating developed in the sites of teeth contact with a fine file yielded no result, making it possible to state that the surface reconditioned by the XADO technology possesses high hardness (no less than HRC65).

Treatment results:

1. Due to reducing the friction coefficient in the reducing gear, electric power consumption was reduced:

Reducing gear electric drive current consumption	Prior to treatment – 50 to 55 A	After treatment – 40 A
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2. Reducing gear noise decreased significantly.
3. Traces of metal corrosion disappeared.
4. The surface of gear transmissions was strengthened.

The measuring procedure was as follows: at a constant resistance torque on the reducing gear input shaft, and fixed parameters of the drive electric motor operation (voltage and rpm), its current consumption was measured prior to and after treatment to the XADO technology.

Findings:

1. Employing the XADO technology makes it possible to increase the repair period significantly, and to replace preventive repair in part with tribotechnical treatment.
2. Reducing the friction coefficient to 0,007 units allowed to ensure the following:
 - Extend the service life of oils no less than by a factor of three;
 - Extend the service life of worn equipment; and
 - Prevent wear and optimize clearances in new equipment.
3. The economic effect of reducing power consumption was 20 %.

Conclusions:

Applying the XADO technology makes it possible to reduce operational costs and electric power cost, and to extend the equipment service life.

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