



**“REPORT on XADO  
REVITALIZANT® application in oil  
of MAAG reducer of cement  
grinding mill 3”**

**Issued by:**

Reliability department

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# *Preamble*

Since June 2014, the MAAG (WPU-242B) reducer of the cement grinding mill 3 has had a failure in the drive gear bearing, marked as bearing No 9 in the DALOG vibration monitoring system.

As an alternative to the bearing replacement, a new nanotechnology additive (XADO REVITALIZANT<sup>®</sup>) supplied by Premium & CO SRL was applied. It is designed to eliminate roughness occurring on bearings and other friction elements as the result of wear.

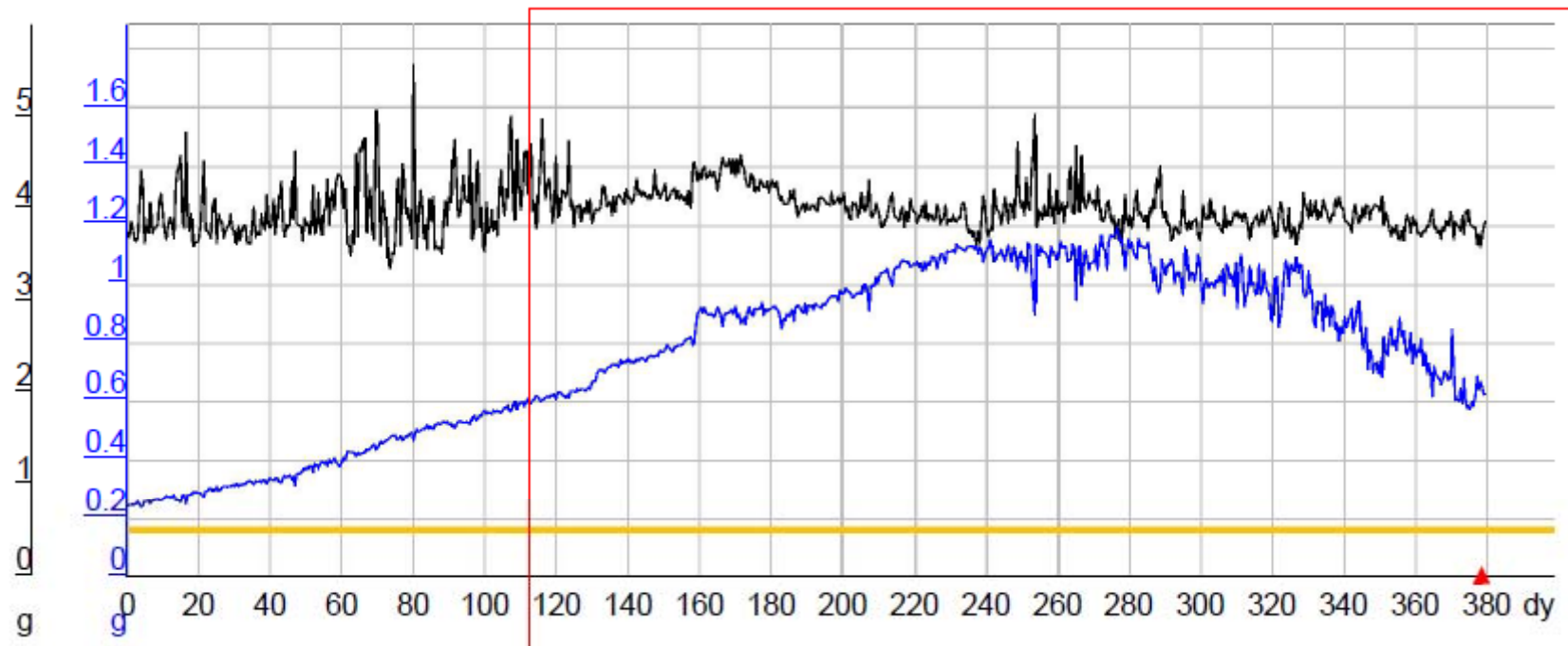
The process has kept showing positive effect since the REVITALIZANT<sup>®</sup> was added and at the present moment (December 2015) we state the following results:

Sensors 6 and 7 that indicated the failure in bearing No 9 have changed their condition from ALERT to normal operation mode OK.

Point	Name	See comments	Condition		Condition
Sensor 1	Speed sensor - Input Shaft		Ok		Sensor
Sensor 2	Torque sensor - Input Shaft		Ok		ALERT
Sensor 3	Acceleration Sensor - Bearing Pos. No. 9	page 4	DANGER		DANGER
Sensor 4	Acceleration Sensor - Bearing Pos. No. 3	page 4	ALERT		ALERT
Sensor 5	Acceleration Sensor - Bearing Pos. No. 3 / Bevel Stg	page 4	ALERT		ALERT
Sensor 6	Acceleration Sensor - Bearing Pos. No. 32	page 4	ALERT	→	Ok
Sensor 7	Acceleration Sensor - Bearing Pos. No. 33	page 4	ALERT	→	Ok
Sensor 8	Acceleration Sensor - Planetary Gear Stage		Ok		Ok
Sensor 9	Vibration Velocity Sensor - Grinding Bed X-dir		Ok		Ok
Sensor 10	Vibration Velocity Sensor - Grinding Bed Y-dir		Ok		Ok
MOP	Mill Operation Parameter		no MOP		no MOP



The overall vibration level has been constantly decreasing from the maximal achieved point 1.7 G's down to 0.65 G's.



# *Advantages of XADO REVITALIZANT<sup>®</sup> application comparing to bearing replacement.*

Time for bearing replacement:	5 days (120 hours)
Labour:	12 people
Cost of the bearing:	\$ 3,914.00
Downtime costs:	\$ <u>2,827,723.00</u>
Cost of labour:	\$ 5,000.00
Total cost of replacement:	<u>\$ 2,836,637.00</u>
Cost of XADO REVITALIZANT <sup>®</sup> :	<u>\$ 13,589.04</u>
Difference (profit)	<u>\$ 2,823,047.96</u>