

LAB REPORT

Unit id
WIND ENERGY SYSTEM
Component
Hydraulics



Lab number: 1704330

Machine type
V90 MK7

Manufacturer
Vestas

Oil brand name
**Castrol Hyspin AWH-M 32
Superclean**

Sample Report
Scope of Analysis: Wind Power Kit

Previously used oil
Castrol Hyspin AWH-M 32

Oil quantity in system
315 l

Only minor deviations are detectable compared to the previous sample. Wear metals are present only in negligible concentration. Therefore, hardly any abrasive or corrosive wear is evident. The cleanliness class of the oil meets the requirements. The water content is within the normal range. If no oil change has been carried out yet, continued use of the oil would be possible under similar operating conditions while maintaining usual maintenance work. I advise you: Send us the next sample at your next maintenance or on the occasion of the regular inspection to monitor the trend behavior.

Dipl.-Ing. Andy Böhme (CLS)



NORMAL

ANALYSIS RESULTS		Current sample	Previous samples →			
Lab number		1704330	1704331	1704332	1704333	
SAMPLE RATING		✓	✓	✓	✓	
Date of examination		01.09.2025	08.07.2024	22.04.2024	20.03.2023	
Date of sample taken		24.08.2025	29.06.2024	04.04.2024	13.03.2023	
Date of last oil change		21.06.2024	29.06.2024	-	-	
Top-up since change		-	-	-	-	
Operating time since change		10131 h	23 h	44956 h	35476 h	
Total operating time		56976 h	46868 h	44956 h	35476 h	
Oil changed		-	yes	-	no	
WEAR						
Iron	Fe	mg/kg	0	0	1	1
Chrome	Cr	mg/kg	0	0	1	1
Tin	Sn	mg/kg	0	0	0	0
Aluminum	Al	mg/kg	0	0	0	0
Nickel	Ni	mg/kg	0	0	0	0
Copper	Cu	mg/kg	1	3	6	4
Lead	Pb	mg/kg	0	0	0	0
Molybdenum	Mo	mg/kg	0	0	0	0
Antimony	Sb	mg/kg	-	-	1	-
Manganese	Mn	mg/kg	0	0	0	0
PQ index	-		< 25	< 25	< 25	< 25
CONTAMINATION						
Silicon	Si	mg/kg	0	0	1	1
Potassium	K	mg/kg	0	0	0	0
Sodium	Na	mg/kg	0	0	3	4
Tungsten	W	mg/kg	-	-	-	1
Water K. F.		ppm	81	87	-	-
Water		%	-	-	< 0.10	< 0.10

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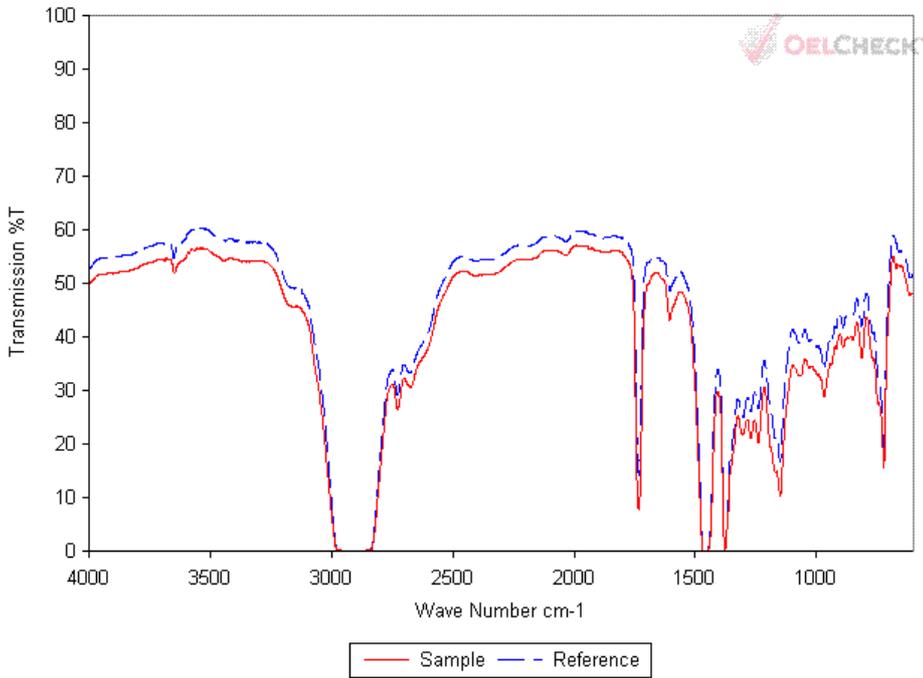
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OIL CONDITION							
Viscosity at 40 °C	mm ² /s		29.88	32.02	30.23	30.62	
Viscosity at 100 °C	mm ² /s		5.92	6.40	6.89	6.96	
Viscosity index	-		148	157	199	199	
Oxidation	A/cm		3	3	1	1	
IR index	-		98.58	98.02	99.92	99.94	
ADDITIVES							
Calcium	Ca	mg/kg	40	49	48	48	
Magnesium	Mg	mg/kg	0	0	0	0	
Boron	B	mg/kg	0	0	0	0	
Zinc	Zn	mg/kg	488	510	464	460	
Phosphorus	P	mg/kg	371	388	328	323	
Barium	Ba	mg/kg	0	0	0	0	
Sulphur	S	mg/kg	3671	3567	1701	1725	
ADDITIONAL TESTS							
AN / NN		mgKOH/g	0.61	0.59	-	-	
Cleanliness class		ISO 4406	18/16/12	16/15/12	16/14/10	16/14/11	
A: >4µm = ISO >4µm		Anzahl/100ml	233231	58344	60055	38751	
B: >6µm = ISO >6µm		Anzahl/100ml	41730	20397	14310	12634	
C: >14µm = ISO >14µm		Anzahl/100ml	2859	2947	898	1208	
D: >21µm		Anzahl/100ml	815	1070	243	370	
E: >38µm		Anzahl/100ml	41	121	64	18	
F: >70µm		Anzahl/100ml	0	17	0	18	
Cleanliness class		SAE AS 4059	9A	7A	7A	7F	



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SAMPLE IMAGES (LABORATORY NUMBER: 1704330)



INFRARED SPECTRUM



BOTTLE AND CAP



Any questions?

Phone: +49 8034 9047-210
ta@oelcheck.de

LAB.REPORT



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