



Klarwin®

Fluid Perfection®

KLARWIN TESTING LABORATORY

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accredited for TESTING

SR EN ISO/IEC 17025:2018
ACCREDITATION CERTIFICATE
LI 1216

Report No.: PER-210553-M5T

1. Sample details

TESTING REPORT

F-KL-51

Version 3.0

Customer:	*Customer*
	Address
Particle trap no.:	3
Sampling origin:	W.I.P.
Contamination time, [h]:	121
Activation time:	13/05/2021, 14:00
Deactivation time:	18/05/2021, 15:00

Note 1. Sampling is the customer's responsibility.



Note 2. Information about the fluid type and sampling point is provided by the customer.

2. Microscopic results

Method:	Particle sizing and counting by microscopic analysis
Reference documents:	VDA 19.1:2015, VDA 19.2:2010; PL-KL-07; IL-KL-20
Equipment, materials, and measurement parameters:	Jomesa HDF4 optical microscope Scale: 4.7 µm/pixel Diameter of effective filtration area: 44 mm Fiber criterion: length: width ratio ≥ 20, w < 50
Date of analysis:	24/05/2021
Compliance specification:	N/A

Results: Particle count data – particles/ reference unit				
Size class	Size range [µm]	Total particles	Metallic shiny particles	Fibers
E	50 ≤ x < 100	413	5	3
F	100 ≤ x < 150	43	1	6
G	150 ≤ x < 200	8	0	7
H	200 ≤ x < 400	11	0	9
I	400 ≤ x < 600	0	0	3
J	600 ≤ x < 1000	0	0	1
K - N	1000 ≤ x	0	0	1
Illig value [1/1000 cm²h]		453	5	527

Microscopic images of representative contaminants

 <p>Image 1. L x l: 146 µm x 85 µm Largest metallic shiny particle</p>	 <p>Image 2. L x l: 89 µm x 42 µm Second largest metallic shiny particle</p>
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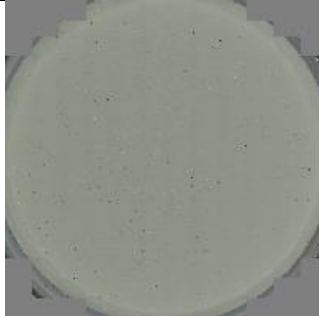
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 <p>Image 3. L x l: 393 μm x 77 μm Largest nonmetallic particle</p>	 <p>Image 4. L x l: 315 μm x 113 μm Second largest nonmetallic particle</p>
 <p>Image 5. L: 1198 μm Longest fiber</p>	 <p>Img 6. Membrane overview</p>
<p>Compliance of the results: N/A</p>	



Note 3. The obtained results are referring exclusively to the analyzed sample and do not take into consideration the calculated measurement uncertainty.

Note 4. The calculation of Illig value isn't accredited by RENAR.

Date of report: 25/05/2021

Issued:

Approved:

<p>Dipl. Eng. Alexandra Matei Oil & Parts Cleanliness Analyst Klarwin® Scientific & Laboratory</p> 	<p>Dipl. Eng. Nicoleta Rascol Laboratory Manager Klarwin® Scientific & Laboratory</p> 
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