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TEST REPORT

REPORT NUMBER: ATT/ELP/24/8686-H

DATE REPORTED: 28 January 2025
DATE SAMPLE RECEIVED: 14 January 2025
DATE ANALYZED: 27 January 2025
DATE TEST COMPLETED: 28 January 2025

CUSTOMER'S REF NO.:
COMPANY: Material Expertise Co., Ltd.
50 Moo.1 T.Klong pra udom A.Latlumkaew Pathumthani 12140

SAMPLE DESCRIPTION: One lot of sample was received with reference;
Description: Dual Wrist Strap No Snap 10 ft (สายไฟ)

METHOD/PROCEDURE

Filler test method follow Seagate's Doc D0000231080 Rev. F. The samples were cut size 1x1 inch then were carbon coated prior to SEM/EDX analysis. The parameters followed below:

Accelerating Voltage: 15 kV
Magnification: 110X - 3000X
Working Distance: 10 mm
Detector: Angle-selective Backscattered Electron (AsB)





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RESULT:

Table 1: Results of filler analysis on sample.

Sample	Area	Frame (1*1 mm)	Particles distribution on sample (particle/frame)				
			SiO	Ca based	Fe based	MgSiO	Other
1	Surface 1	1	0	4	2	5	8
		2	0	3	1	8	8
		3	0	3	0	6	10
Subtotal Average Surface 1 (particles/mm²)			0.0	3.3	1.0	6.3	8.7
2	Surface 2	1	0	6	0	1	13
		2	0	9	1	1	7
		3	0	5	2	1	11
Subtotal Average Surface 2 (particles/mm²)			0.0	6.7	1.0	1.0	10.3
3	Surface 3	1	0	2	1	2	13
		0	0	2	2	0	16
		3	0	1	3	2	14
Subtotal Average Surface 3 (particles/mm²)			0.0	1.7	2.0	1.3	14.3
Total Average particle (particles/mm²)			0.0	3.9	1.3	2.9	11.1

Terms: Carbon (C), Oxygen (O), Silicon (Si), Titanium (Ti), Calcium (Ca), Iron (Fe) and Magnesium (Mg).

CONCLUSION:

Table 2: The specification is based on Seagate's document no. 35344-001 Rev. AB for Wrist Strap, Grounding Cord, conductive.

Test	Particle Classification	Specification Limits (particles/mm ²)	Results (particles/mm ²)	Pass/Fail
Filler Analysis by SEM/EDX	Talc(MgSiO)	<5	2.9	Pass

Remark:

1. The result related to only the tested sample(s) as indicated in this report.
2. The test report shall not be reproduced except in full, without written approval of ALS Testing Services (Thailand) Co., Ltd.

ALS Testing Services (Thailand) Co., Ltd.



(Rossukhon Khongphuwet)
B.Sc, Laboratory Manager
Approval Signature



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APPENDIX

Figure 1 and Figure 2 showed the base material and Spectrum by SEM/EDX of sample.



Figure 1: Base material at Magnification 750X.

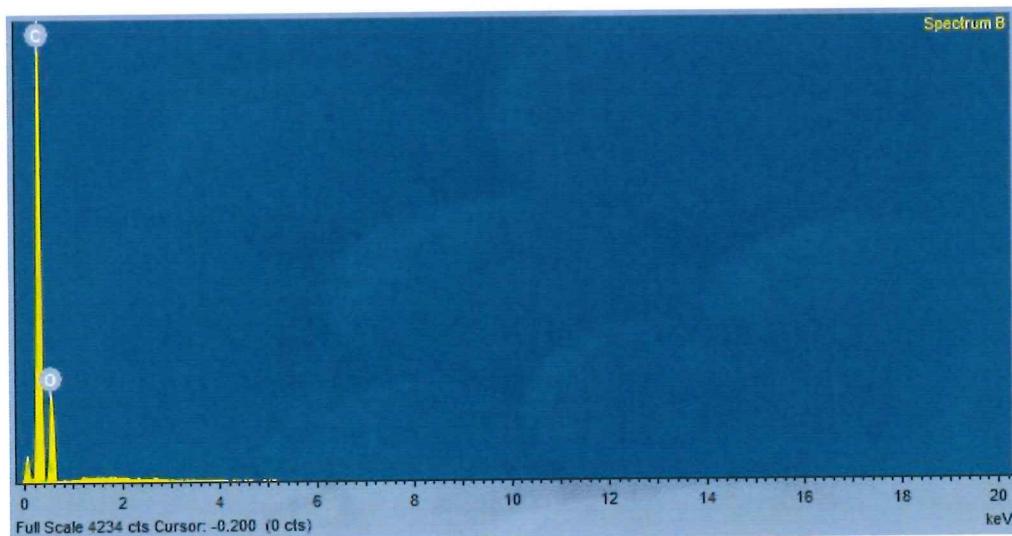


Figure 2: Spectrum of base material.





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Figure 3 and Figure 4 showed the MgSiO particle and Spectrum by SEM/EDX of sample on Surface 1.



Figure 3: Particle at Magnification 1000X.

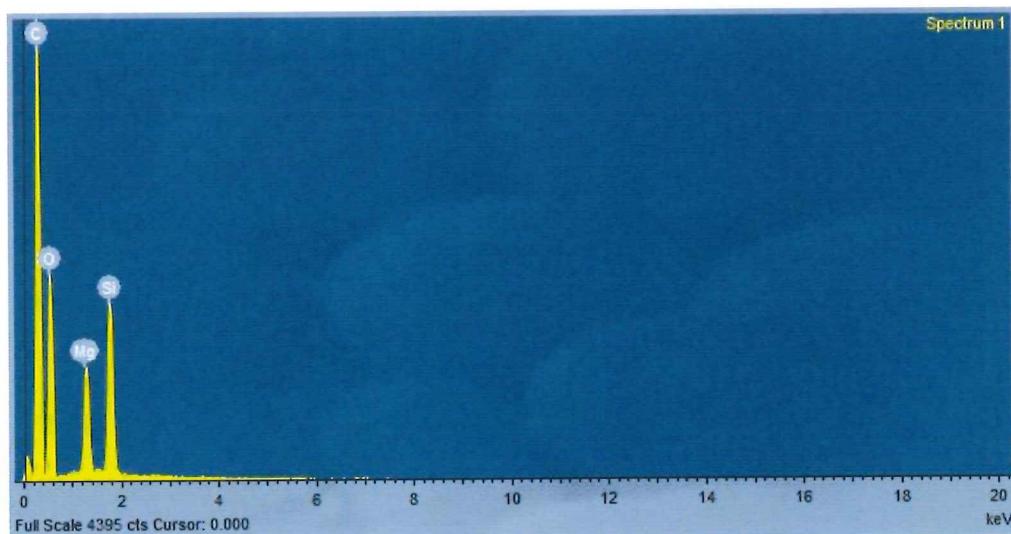


Figure 4: Spectrum of particle.



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Figure 5 and Figure 6 showed the MgSiO particle and Spectrum by SEM/EDX of sample on Surface 2.



Figure 5: Particle at Magnification 1000X.

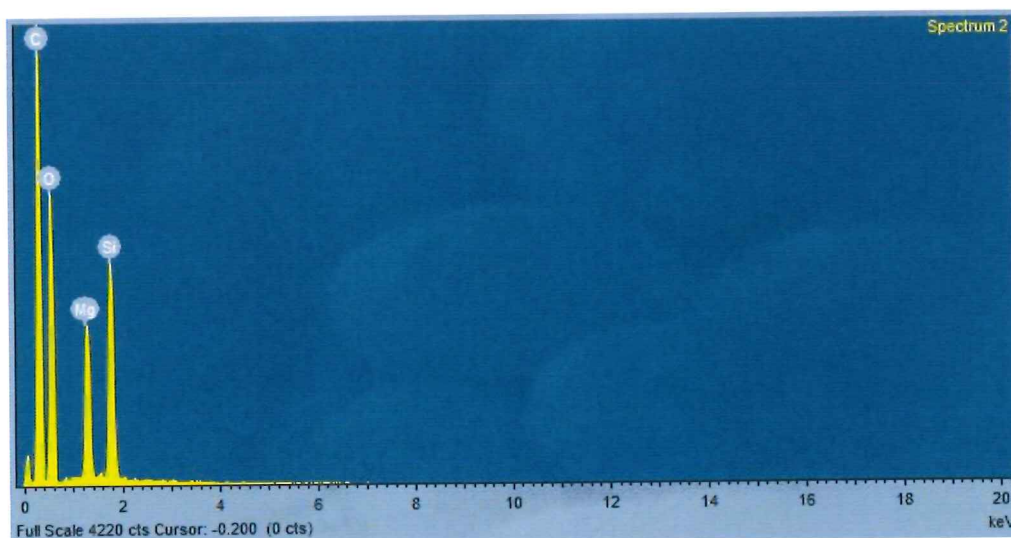


Figure 6: Spectrum of particle.


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Figure 7 and Figure 8 showed the MgSiO particle and Spectrum by SEM/EDX of sample on Surface 3.

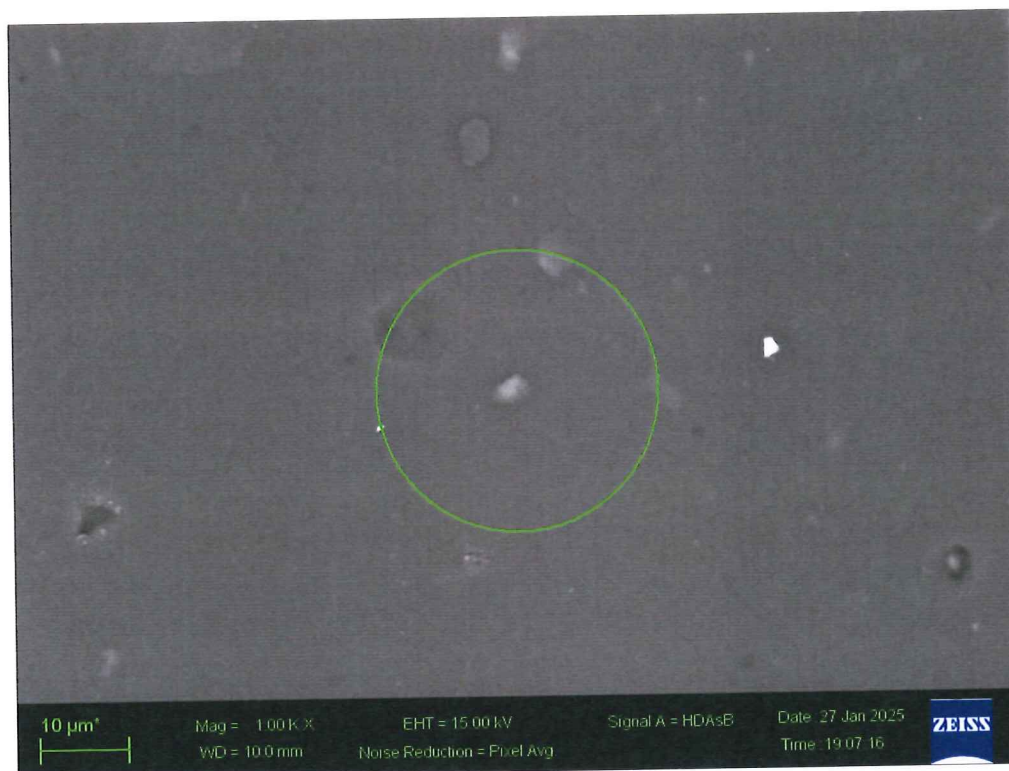


Figure 7: Particle at Magnification 750X.

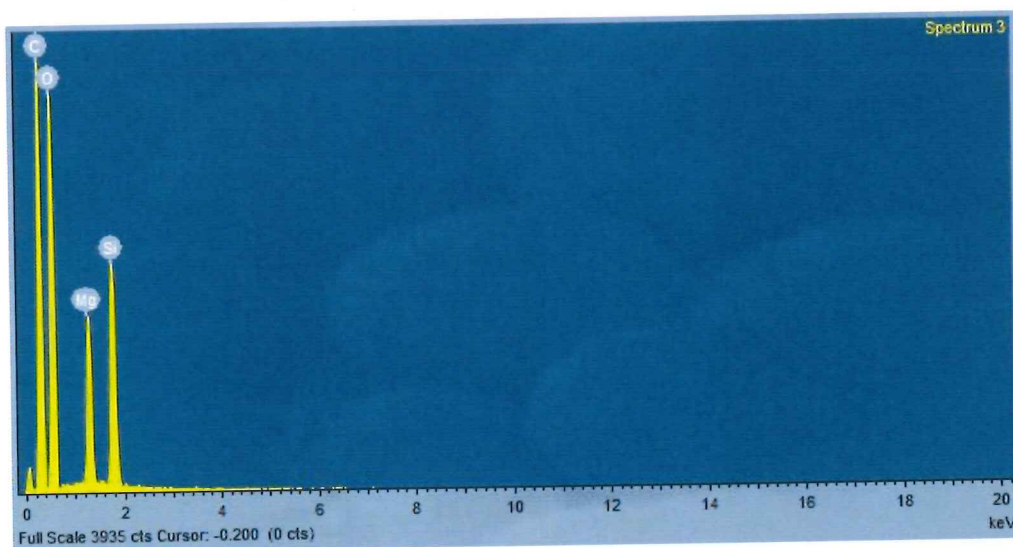


Figure 8: Spectrum of particle.

- END OF REPORT -





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TEST REPORT

REPORT NUMBER: ATT/ELP/24/8685-F

DATE REPORTED: 23 January 2025

DATE SAMPLE RECEIVED: 14 January 2025

DATE ANALYZED: 22 January 2025

DATE TEST COMPLETED: 23 January 2025

CUSTOMER'S REF NO

COMPANY: Material Expertise Co., Ltd.
50 Moo.1 T.Klong pra udom A.Latlumkaew Pathumthani 12140

SAMPLE DESCRIPTION: One lot of sample was received with references:
Dual Wris Strap No Snap 10 ft (ข้อมือ)

METHOD/PROCEDURE:

Analysis	Procedure No	Number of pieces used for extraction	Extraction Medium	Extraction Volume
FTIR	20800032-001 Rev. E 20800014-001 Rev. H 35344-001 Rev. AB	1 pc	n-hexane (HPLC Grade)	20 mL



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DATE REPORTED: 23 January 2025
COMPANY: Material Expertise Co., Ltd.

Results

The Specification is based on Seagate's Doc 35344-001 Rev.AB for Wrist Strap, Grounding Cord, Conductive

Silicone Contamination	Specification Limits, (ng/cm2)	Results, (ng/cm2)	PASS/FAIL
Silicone	< 20.0	3.51	PASS

Note : The above analysis was carried out using FTIR spectrometer equipped with a MCT detector & a VATR accessory. The instrument detection limit for Silicone Oil is 0.02 ug

Remark:

1. The result related only to the tested sample(s) as indicated in this report.
2. The test report shall not be reproduced except in full, without written approval of ALS Testing Services (Thailand) Co., Ltd.

ALS Testing Services (Thailand) Co.,Ltd


.....
(Rossukhon Khongphuwet)
B.Sc. Laboratory Manager
Approval signature



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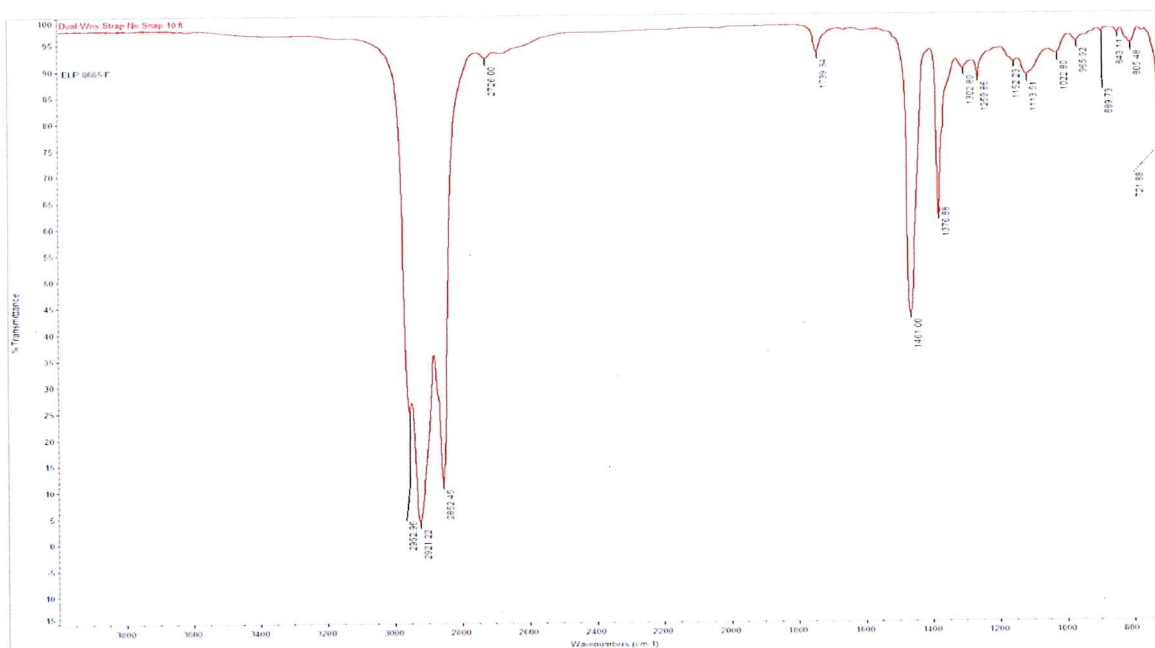
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- END OF REPORT -



