

# TEST REPORT

Report No.: DPHTL2511043074E

Date: Dec 11, 2025

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**Applicant :** Mid Ocean Brands B.V.**Address:** Unit 711-716, 7/F., Tower A, 83 King Lam Street Cheung Sha Wan, Kowloon, Hong Kong

The following sample(s) and sample information was/were submitted and identified by client as:

**Sample Name:** Cooler bag with temperature display**Model/Style/Item #:** MO2810**Vendor code:** 107978**Receiving Date:** Nov 4, 2025; Nov 18, 2025; Dec 5, 2025**Test Period:** From Nov 4, 2025 to Dec 9, 2025**Add Information:** -

## Test Summary:

#	Test Item(s)	Conclusion
1	Lead, Cadmium, Mercury, Hexavalent Chromium, PBBs, PBDEs, DBP, BBP, DEHP and DIBP EU RoHS Directive 2011/65/EU and its amendment directives (EU)2015/863	PASS

\*\*\*\*\*Please refer to the following page for detailed results\*\*\*\*\*

Authorized Signatory

Mark Mai  
(Technical Director)



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**Result:****1.1 EU RoHS Directive 2011/65/EU and its amendment directives(EU)2015/863 on XRF  
IEC 62321-3-1:2013, Screening by X-ray Fluorescence Spectroscopy (XRF)**

Seq. No.	Tested Part(s)	Results				
		Pb	Cd	Hg	Cr	Br
1	Black fabric,bag	BL	BL	BL	BL	BL
2	Black textile,band	BL	BL	BL	BL	BL
3	Black plastic,buckle	BL	BL	BL	BL	X
4	Bright black plastic,zipper teeth	BL	BL	BL	BL	BL
5	Matt black textile,zipper tape	BL	BL	BL	BL	BL
6	Black coating,zipper slider	BL	BL	BL	BL	BL
7	Silvery metal,zipper slider	BL	BL	BL	BL	NA
8	Silvery metal,zipper puller	BL	BL	BL	BL	NA
9	Silvery plastic,bag inner	BL	BL	BL	BL	BL
10	Black fabric,side pocket inner	BL	BL	BL	BL	BL
11	Matt black plastic,shell	BL	BL	BL	BL	BL
12	Transparent black plastic with glue,plate	BL	BL	BL	BL	BL
13	Translucent white plastic,interlayer	BL	BL	BL	BL	BL
14	White non-woven,bag inner	BL	BL	BL	BL	BL
15	Silvery metal,contact plate	BL	BL	BL	X	NA
16	Silvery metal,big contact plate	BL	BL	BL	BL	NA
17	Silvery metal,screw	BL	BL	BL	X	NA
18	Red glass,diode	X	BL	BL	BL	NA
19	Silvery metal,lead	BL	BL	BL	BL	NA
20	Black dry glue	BL	BL	BL	BL	BL
21	Brown body,capacitor	BL	BL	BL	BL	BL
22	Black body,resistor	BL	BL	BL	BL	BL
23	Silvery metal,solder	X	BL	BL	BL	NA
24	Green PCB	BL	BL	BL	BL	BL
25	Pink/black soft plastic,cushion	BL	BL	BL	BL	BL

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26	Transparent glass,plate	BL	BL	BL	BL	NA
27	White printed silvery plastic,film	BL	BL	BL	BL	BL

Remark:

(1) Results were obtained by XRF for primary screening, and further chemical testing by ICP (for Cd, Pb, Hg), UV-Vis (for Cr(VI)) and GC-MS (for PBBs, PBDEs) are recommended to be performed, if the concentration exceeds the below warning value according to IEC 62321-3-1:2013.

Element	Unit	Polymers	Metal	Composite material
Cd	mg/kg	BL≤70-3σ< X <130+3σ≤OL	BL≤70-3σ< X <130+3σ≤OL	BL≤50-3σ< X <150+3σ≤OL
Pb	mg/kg	BL≤700-3σ< X <1300+3σ≤OL	BL≤700-3σ< X <1300+3σ≤OL	BL≤500-3σ< X <1500+3σ≤OL
Hg	mg/kg	BL≤700-3σ< X <1300+3σ≤OL	BL≤700-3σ< X <1300+3σ≤OL	BL≤500-3σ< X <1500+3σ≤OL
Cr	mg/kg	BL≤700-3σ< X	BL≤700-3σ< X	BL≤500-3σ< X
Br	mg/kg	BL≤300-3σ< X	--	BL≤250-3σ< X

Note:

BL = Below Limit

OL = Over Limit

X = Inconclusive

NA = Not Applicable

(2) The XRF screening test for RoHS elements – The reading may be different to the actual content in the sample be of non-uniformity composition.

(3) The maximum permissible limit is quoted from the document 2011/65/EU and its amendment directives(EU)2015/863:

RoHS Restricted Substances	Maximum Concentration Value (mg/kg) (by weight in homogenous Results)
Cadmium (Cd)	100
Lead (Pb)	1000
Mercury (Hg)	1000
Hexavalent Chromium (Cr(VI))	1000
Polybrominated biphenyls (PBBs)	1000
Polybrominated diphenyl ethers (PBDEs)	1000

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## (4) Disclaimers:

This XRF Screening report is for reference purposes only. The applicant shall make its/his/her own judgment as to whether the information provided in this XRF screening report is sufficient for its/his/her purposes. The result shown in this XRF screening report will differ based on various factors, including but not limited to, the sample size, thickness, area, surface flatness, equipment parameters and matrix effect(e.g. plastic, rubber, metal, glass, ceramic etc.). Further wet chemical pre-treatment with relevant chemical equipment analysis are required to obtain quantitative data.

(5) The selection of test portions was recommended by the client and the conclusion of chemical test is only for the selected portions.

(6) Materials #1 is the test results of the resubmitted sample.

## 1.2 Hexavalent Chromium (Cr(VI))

Metal: IEC 62321-7-1:2015, extracted by boiling water and analyzed by UV-Vis

Non-metal: IEC 62321-7-2:2017, alkaline digested and analyzed by UV-Vis

Test Item(s)		Result		Limit	MDL
		15	17		
1	Hexavalent Chromium (Cr(VI))	Negative	Negative	#	-
-	Conclusion	<b>PASS</b>	<b>PASS</b>	-	-

Remark(s) (a) ug/cm<sup>2</sup>: microgram per square centimeter

(b) MDL: Method detected limit

(c) Negative = Sample Cr(VI) concentration is less than 0.10 ug/cm<sup>2</sup>

Positive = Sample Cr(VI) concentration is greater than 0.13 ug/cm<sup>2</sup>

(d) # = Positive indicates the presence of Cr(VI) on the tested areas and result be regarded as conflict with RoHS requirement.

Negative indicates the absence of Cr(VI) on the tested areas and result be regarded as no conflict with RoHS requirement.

## 1.3 Lead Content (Pb)

IEC62321-5:2013, acid digested and determined by AAS

Test Item(s)		Result		Limit (mg/kg)	MDL (mg/kg)
		18	23		
1	Lead (Pb)	31062	921	1000	10
-	Conclusion	<b>PASS*</b>	<b>PASS</b>	-	-

Remark(s): (a) mg/kg: milligrams per kilogram

(b) MDL: Method detected limit

(c) N.D.: Not detected (result is less than MDL)

(d) \*= Lead in a glass or ceramic other than dielectric ceramic in capacitors (piezoelectronic devices) or in a glass or ceramic matrix compound.

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**1.4 Polybrominated Biphenyls and Polybrominated Diphenyl Ethers (PBBs and PBDEs)  
IEC 62321-6:2015, solvent extract and determined by GC-MS**

Test Item(s)		Result	Limit (mg/kg)	MDL (mg/kg)
		3		
1	Monobromo biphenyl	N.D.	-	50
2	Dibromo biphenyl	N.D.	-	50
3	Tribromo biphenyl	N.D.	-	50
4	Tetrabromo biphenyl	N.D.	-	50
5	Pentabromo biphenyl	N.D.	-	50
6	Hexabromo biphenyl	N.D.	-	50
7	Heptabromo biphenyl	N.D.	-	50
8	Octabromo biphenyl	N.D.	-	50
9	Nonabromo biphenyl	N.D.	-	50
10	Decabromo biphenyl	N.D.	-	50
11	Monobromo diphenyl ether	N.D.	-	50
12	Dibromo diphenyl ether	N.D.	-	50
13	Tribromo diphenyl ether	N.D.	-	50
14	Tetrabromo diphenyl ether	N.D.	-	50
15	Pentabromo diphenyl ether	N.D.	-	50
16	Hexabromo diphenyl ether	N.D.	-	50
17	Heptabromo diphenyl ether	N.D.	-	50
18	Octabromo diphenyl ether	N.D.	-	50
19	Nonabromo diphenyl ether	N.D.	-	50
20	Decabromo diphenyl ether	N.D.	-	50
-	Sum of PBBs	N.D.	1000	-
-	Sum of PBDEs	N.D.	1000	-

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-	<b>Conclusion</b>	<b>PASS</b>				-	-
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Remark(s):  
 (a) mg/kg: milligram per kilogram  
 (b) MDL: Method detected limit  
 (c) N.D.: Not detected (result is less than MDL)

## 1.5 Phthalates – (DBP, BBP, DEHP, DIBP)

IEC 62321-8:2017, Solvent extract and determined by GC-MS

Test Item(s)			Result					Limit (%)	MDL(%)
			1	2+5+10	3	4	6		
1	DBP	Dibutylphthalate CAS# 84-74-2	N.D.	N.D.	N.D.	N.D.	N.D.	0.1	0.005
2	BBP	Benzylbutylphthalate CAS# 85-68-7	N.D.	N.D.	N.D.	N.D.	N.D.	0.1	0.005
3	DEHP	Diethylhexylphthalate CAS# 117-81-7	N.D.	N.D.	0.024	N.D.	N.D.	0.1	0.005
4	DIBP	Diisobutyl phthalate CAS# 84-69-5	N.D.	N.D.	N.D.	N.D.	N.D.	0.1	0.005
-	<b>Conclusion</b>		<b>PASS</b>	<b>PASS</b>	<b>PASS</b>	<b>PASS</b>	<b>PASS</b>	-	-

Test Item(s)			Result					Limit (%)	MDL(%)
			9	11	12	13	14		
1	DBP	Dibutylphthalate CAS# 84-74-2	N.D.	N.D.	N.D.	N.D.	N.D.	0.1	0.005
2	BBP	Benzylbutylphthalate CAS# 85-68-7	N.D.	N.D.	N.D.	N.D.	N.D.	0.1	0.005
3	DEHP	Diethylhexylphthalate CAS# 117-81-7	N.D.	N.D.	N.D.	N.D.	N.D.	0.1	0.005
4	DIBP	Diisobutyl phthalate CAS# 84-69-5	N.D.	N.D.	N.D.	N.D.	N.D.	0.1	0.005
-	<b>Conclusion</b>		<b>PASS</b>	<b>PASS</b>	<b>PASS</b>	<b>PASS</b>	<b>PASS</b>	-	-

Test Item(s)			Result					Limit (%)	MDL(%)
			20	21+22	24	25	27		
1	DBP	Dibutylphthalate CAS# 84-74-2	N.D.	N.D.	N.D.	N.D.	N.D.	0.1	0.005
2	BBP	Benzylbutylphthalate CAS# 85-68-7	N.D.	N.D.	N.D.	N.D.	N.D.	0.1	0.005
3	DEHP	Diethylhexylphthalate CAS# 117-81-7	N.D.	N.D.	N.D.	N.D.	N.D.	0.1	0.005

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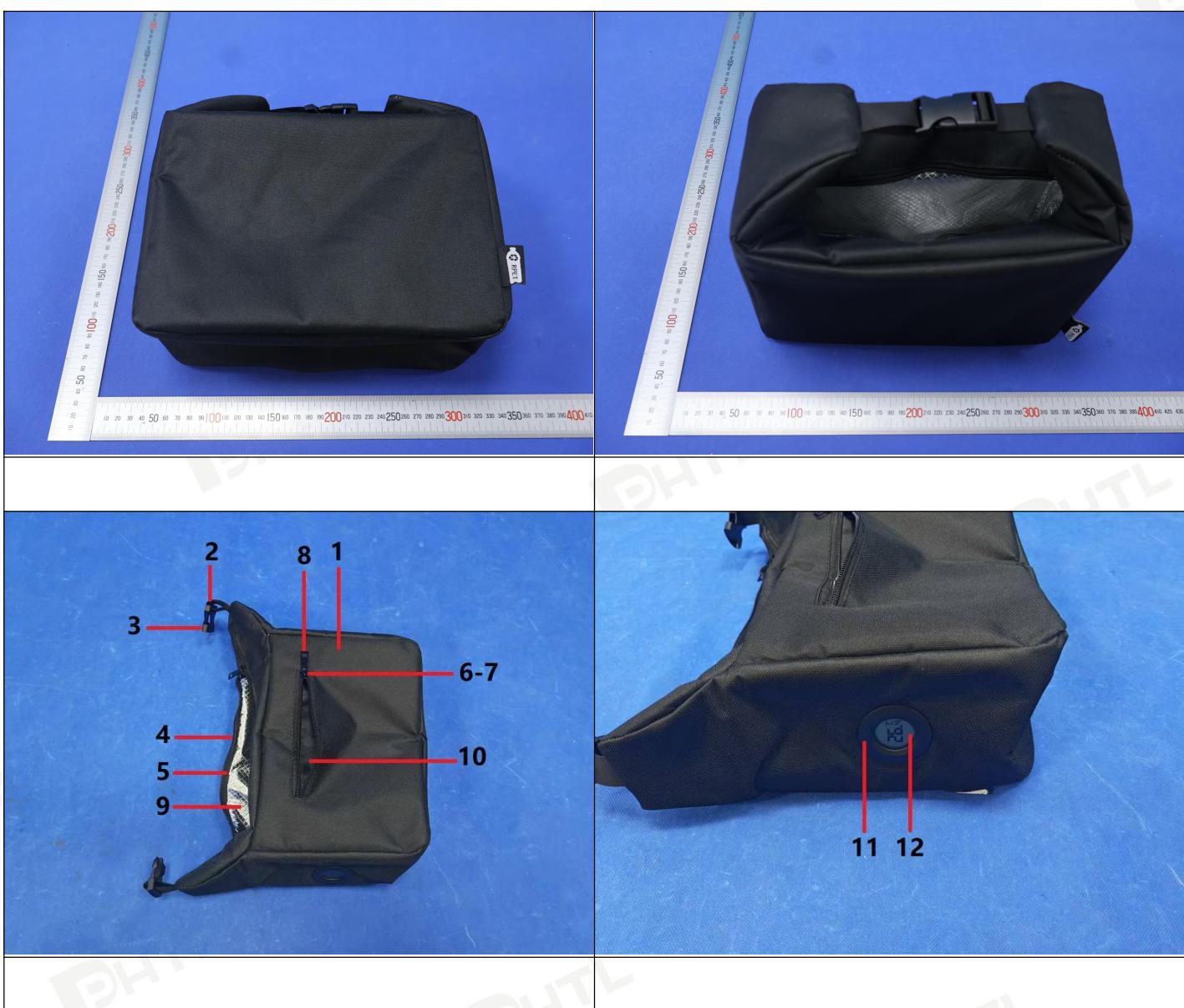
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4	DIBP	Diisobutyl phthalate CAS# 84-69-5	N.D.	N.D.	N.D.	N.D.	N.D.	0.1	0.005
-	<b>Conclusion</b>		<b>PASS</b>	<b>PASS</b>	<b>PASS</b>	<b>PASS</b>	<b>PASS</b>	-	-

Remark(s): (a) MDL: Method detected limit  
(b) N.D.: Not detected (result is less than MDL)

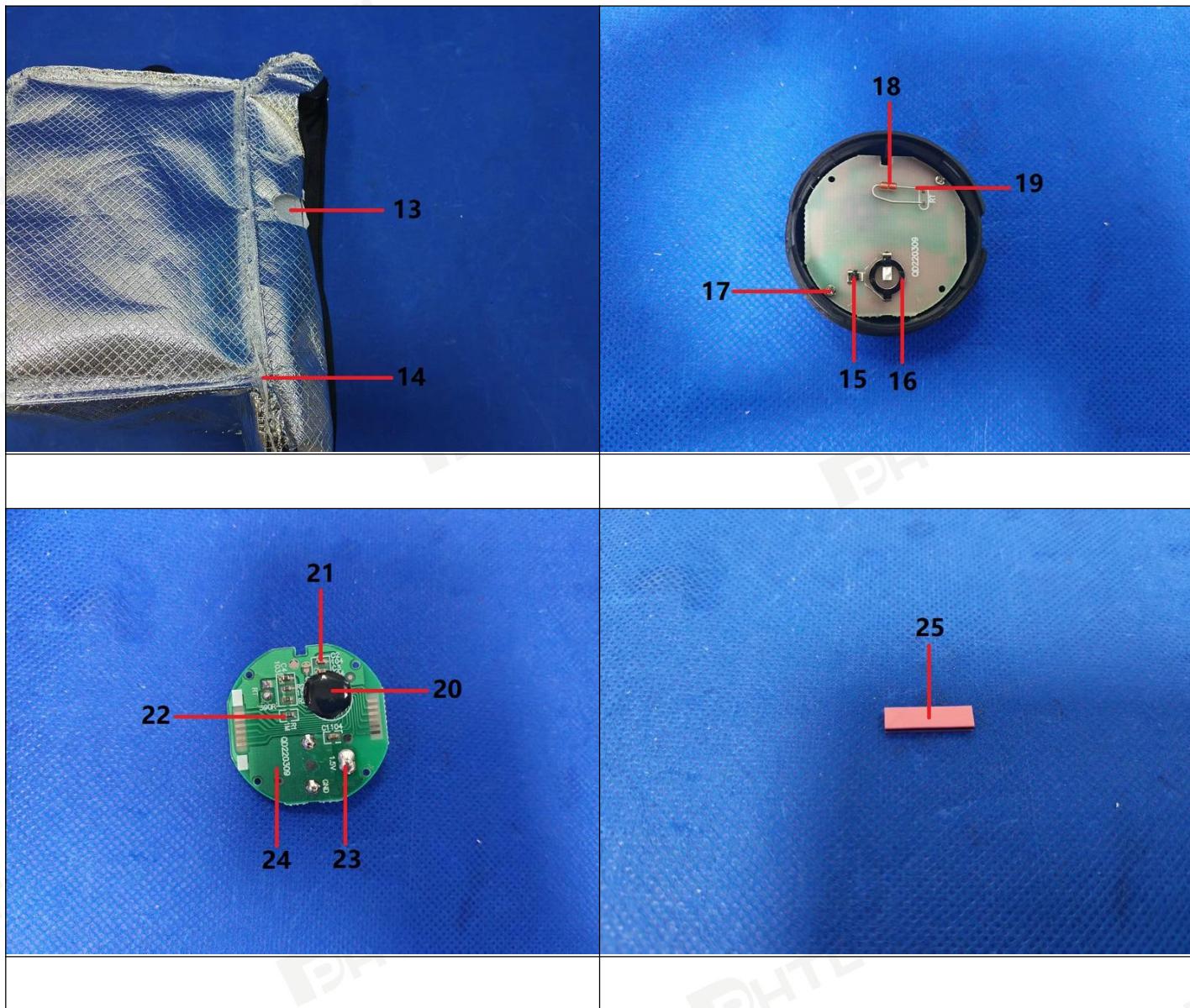
**Photo(s):**

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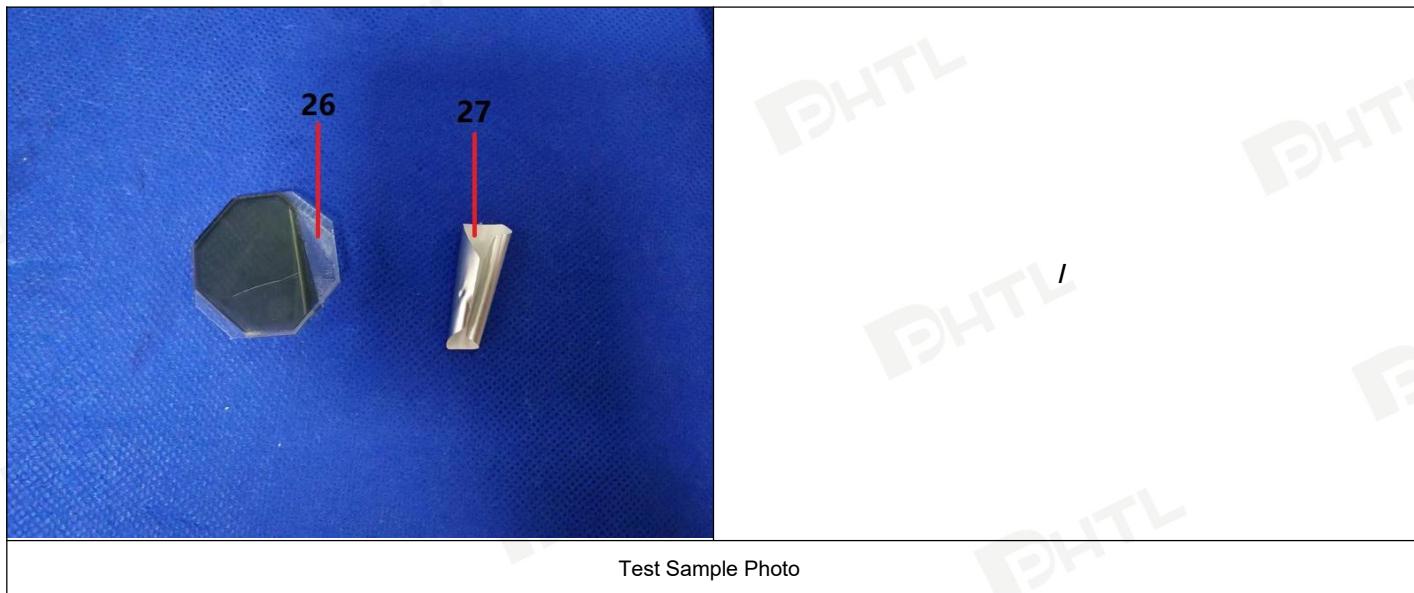


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Test Sample Photo

**<<<< END OF REPORT >>>>**

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