TEST REPORT

中国认可
国际互认
检测
TESTING
CNAS L17543

Report No.:ANT2407310012-010 Page 1 of 12

Applicant	:	**Nantong Sanjing Chemglass Co.,Ltd**
Address	:	**Caobu Industrial Park Zone, Rudong County, Nantong City, Jiangsu, China**
Manufacturer's name	:	**Rudong Feiju Laser Technology Co.,Ltd**
Address	:	**Caobu Industrial Park Zone, Rudong County, Nantong City, Jiangsu, China**

Report on the submitted samples said to be:

Sample Name	:	CO_2 Laser Tube
Trade Mark	:	N/A
Tested Style No.	:	C70
Series models	:	C80, C100, C130, C150
Sample reception time	:	July 31, 2024
Testing Period	:	July 31, 2024 ~ August 06, 2024
Test request	:	With reference to RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU.
Test method	:	Please refer to next page(s).
Results	:	Please refer to next page(s).

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CONCLUSION

A. According to the customer's request, based on the performed tests on submitted sample, the result of Lead, Cadmium, Mercury, Hexavalent Chromium, PBBs, PBDEs, Dibutyl Phthalate (DBP), Benzyl butyl Phthalate (BBP), Bis(2-ethylhexyl) Phthalate (DEHP), Diispbutyl phthalate (DIBP) content comply with the limit as set of RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU.

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Redact By _____ Yetta

Reviewed By _____ lala

ANT LAB Report Seal

Issued By _____ Sophia

Date of issue August 12, 2024

Results:

A. EU RoHS Directive 2011/65/EU

Part No.	Sample Description	Test item	XRF Result	Chemical Test (mg/kg)	Conclusion
1	Black plastic	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))▼	BL	/	
		Br(PBBs&PBDEs)▼	BL	/	
		DBP	/	N.D.	
		BBP	/	N.D.	
		DEHP	/	N.D.	
		DIBP	/	N.D.	
2	Blue plastic (insulated wire)	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))▼	BL	/	
		Br(PBBs&PBDEs)▼	BL	/	
		DBP	/	N.D.	
		BBP	/	N.D.	
		DEHP	/	N.D.	
		DIBP	/	N.D.	
3	White rubber hose	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))▼	BL	/	
		Br(PBBs&PBDEs)▼	BL	/	
		DBP	/	N.D.	
		BBP	/	N.D.	
		DEHP	/	N.D.	
		DIBP	/	N.D.	
4	Red plastic pipe	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))▼	BL	/	
		Br(PBBs&PBDEs)▼	BL	/	
		DBP	/	N.D.	
		BBP	/	N.D.	
		DEHP	/	N.D.	
		DIBP	/	N.D.	

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Part No.	Sample Description	Test item	XRF Result	Chemical Test (mg/kg)	Conclusion
5	Silver metal wire	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))▼	BL	/	
		Br(PBBs&PBDEs)▼	/	/	
		DBP	/	/	
		BBP	/	/	
		DEHP	/	/	
		DIBP	/	/	
6	White rubber hose	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))▼	BL	/	
		Br(PBBs&PBDEs)▼	BL	/	
		DBP	/	N.D.	
		BBP	/	N.D.	
		DEHP	/	N.D.	
		DIBP	/	N.D.	
7	Red plastic (insulated wire)	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))▼	BL	/	
		Br(PBBs&PBDEs)▼	BL	/	
		DBP	/	N.D.	
		BBP	/	N.D.	
		DEHP	/	N.D.	
		DIBP	/	N.D.	
8	Red plastic	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))▼	BL	/	
		Br(PBBs&PBDEs)▼	BL	/	
		DBP	/	N.D.	
		BBP	/	N.D.	
		DEHP	/	N.D.	
		DIBP	/	N.D.	

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TEST REPORT

Part No.	Sample Description	Test item	XRF Result	Chemical Test (mg/kg)	Conclusion
9	Black plastic	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))▼	BL	/	
		Br(PBBs&PBDEs)▼	BL	/	
		DBP	/	N.D.	
		BBP	/	N.D.	
		DEHP	/	N.D.	
		DIBP	/	N.D.	

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Note:

(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	Non-metal	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

BL = Below Limit
OL = Over Limit
X = Inconclusive

(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 2015/863/EC amending RoHS directive 2011/65/EU.

(4) ▼=For restricted substances PBBs and PBDEs, the results show the total Br content; The restricted substance was Cr (VI), and the results showed the total Cr content.

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.

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(5) Test method:

Lead (Pb) & Cadmium (Cd) Content:
With reference to IEC 62321-5:2013, by acid digestion and analysis was performed by inductively coupled plasma atomic emission spectrometer (ICP-OES)

Mercury (Hg) Content:
With reference to IEC 62321-4:2013+AMD1:2017 CSV, by acid digestion and analysis was performed by inductively coupled plasma atomic emission spectrometer (ICP-OES)

Hexavalent Chromium (Cr^{6+}) Content:
With reference to IEC 62321-7-1:2015 or IEC 62321-7-2:2017, by alkaline digestion and analysis was performed by UV-visible spectrophotometer (UV-Vis)

PBBs & PBDEs Content:
With reference to IEC 62321-6:2015, by solvent extraction and analysis was performed by gas chromatographic-mass spectrometer (GC-MS)

DBP, BBP, DEHP, DIBP Content:
With reference to IEC 62321-8:2017, by solvent extraction and analysis was performed by gas chromatographic-mass spectrometer (GC-MS)

RoHS Restricted Substances	Unit	MDL	Maximum Concentration Value (mg/kg) (by weight in homogenous materials)
Cadmium (Cd)	mg/kg	2	100
Lead (Pb)	mg/kg	2	1000
Mercury (Hg)	mg/kg	2	1000
Hexavalent Chromium (Cr(VI))	ug/cm^2 (Metal); mg/kg (Nonmetal)	0.1ug/cm^2 (Metal); 8mg/kg (Nonmetal)	See below (Metal); 1000mg/kg (Nonmetal)
Polybrominated biphenyls (PBBs)	mg/kg	5	1000
Polybrominated diphenyl ethers (PBDEs)	mg/kg	5	1000
Dibutyl Phthalate (DBP)	mg/kg	50	1000
Benzyl butyl Phthalate (BBP)	mg/kg	50	1000
Bis(2-ethylhexyl) Phthalate (DEHP)	mg/kg	50	1000
Diispbutyl Phthalate (DIBP)	mg/kg	50	1000

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- MDL = Method Detection Limit
- /= Not apply
- LOQ = Limit of Quantification, The LOQ of Hexavalent chromium is 0.10 μg/cm^2
- mg/kg = ppm=parts per million
- N.D.=Not Detected (<MDL or LOQ)
- a. The sample is positive for Cr (VI) if the Cr (VI) concentration is greater than 0.13ug/cm^2. The sample coating is considered to contain Cr (VI)
  b. The sample is negative for Cr (VI) if Cr (VI) is N.D. (concentration less than 0.10ug/cm^2). The sample coating is considered a non- Cr (VI) based coating
  c. The result between 0.10μg/cm^2 and 0.13μg/cm^2 is considered to be inconclusive, unavoidable coating variations may influence the determination

#1 According to the statement provided by the customer, RoHS Directive 2011/65/EU based on ANNEX III 5(a), Lead is exempted in glass of cathode ray tubes, electronic components and fluorescent tubes.

#2 According to the statement provided by the customer, RoHS Directive 2011/65/EU based on ANNEX III 7(c)-I, Lead is exempted in electronic ceramic or glass parts (e.g. piezo electronic devices).

#3 According to the statement provided by the customer, RoHS directive 2011/65/EU based on ANNEX III 6(c), Lead is exempted as an alloying element in Copper containing up to 4% (40000ppm) by weight.

#4 According to the statement provided by the customer, RoHS Directive 2011/65/EU based on ANNEX III 7(a), Lead is exempted in high melting temperature type solders (i.e. lead-based alloys containing 85 % by weight or more lead).

#5 According to the statement provided by the customer, RoHS Directive 2011/65/EU based on ANNEX III 6(b), Lead is exempted as an alloying element in Aluminum containing up to 0.4% (4000ppm) by weight.

#6 According to the statement provided by the customer, RoHS Directive 2011/65/EU based on ANNEX III 8(b), Cadmium and its compounds in electrical contact is exempted.

#7 According to the statement provided by the customer, RoHS Directive 2011/65/EU based on ANNEX III 6(a), Lead is exempted in steel for machining purposes and in galvanized steel containing up to 0.35% (3500ppm) by weight.

- Flow chart appendix is included
- Photo appendix is included.

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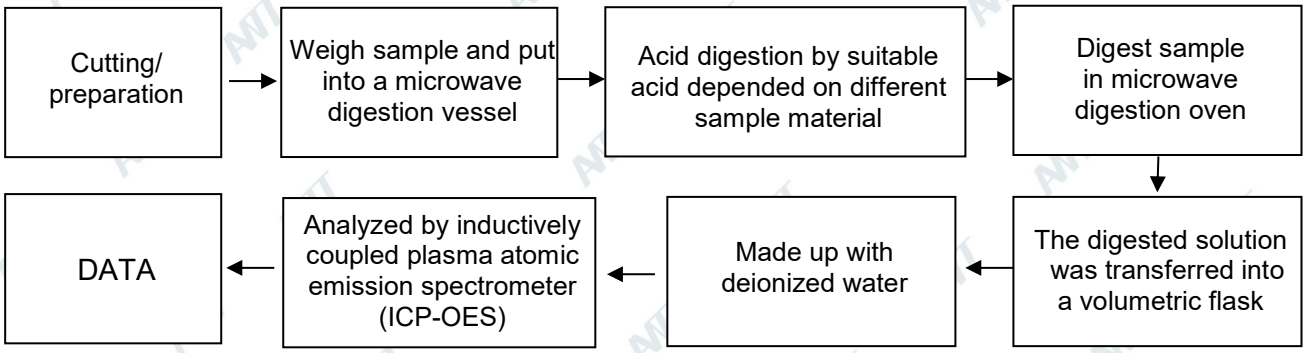
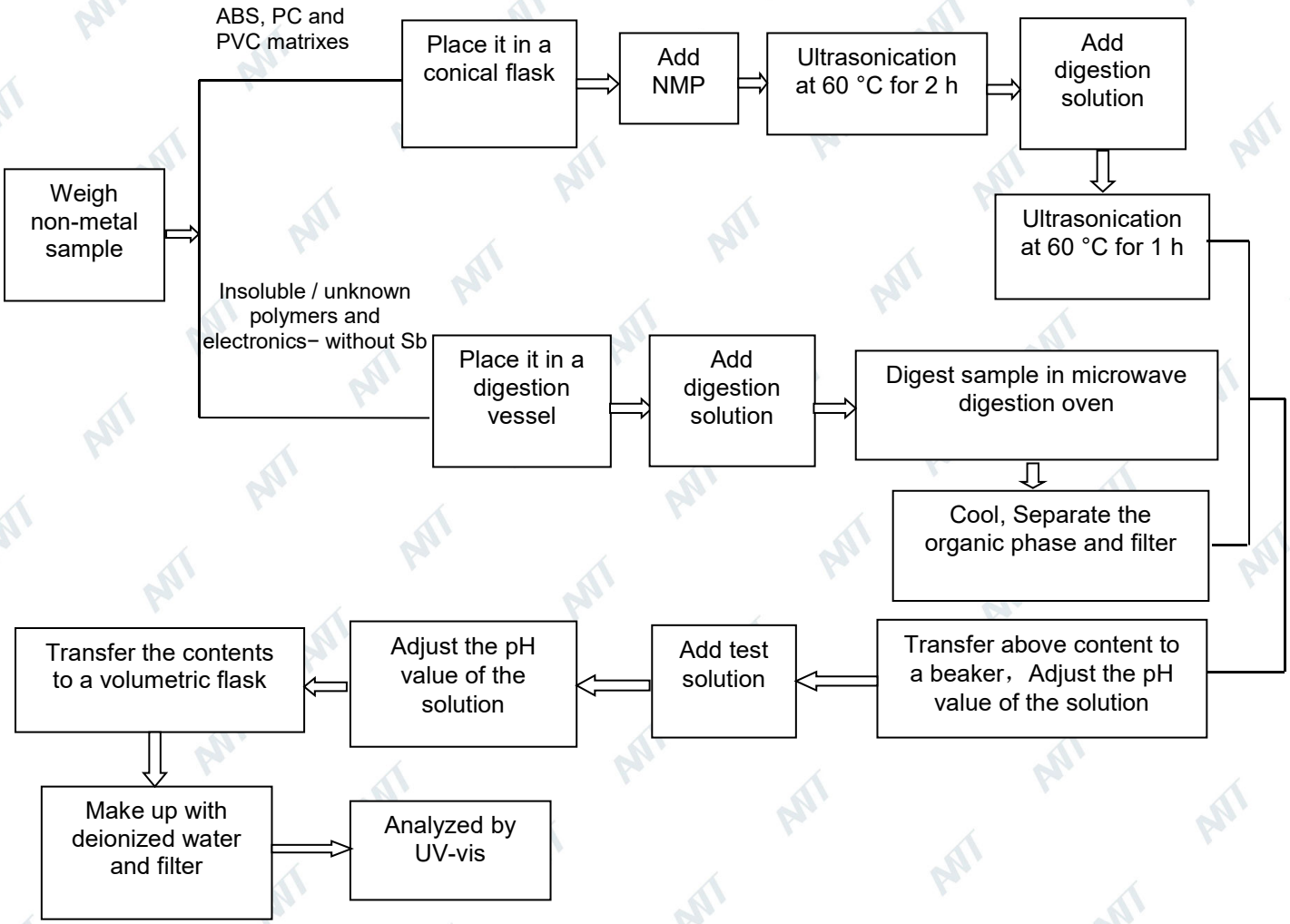
Appendix

1. Test Flow chart for Cd/Pb /Hg content



2. Hexavalent Chromium(For non-metal material)



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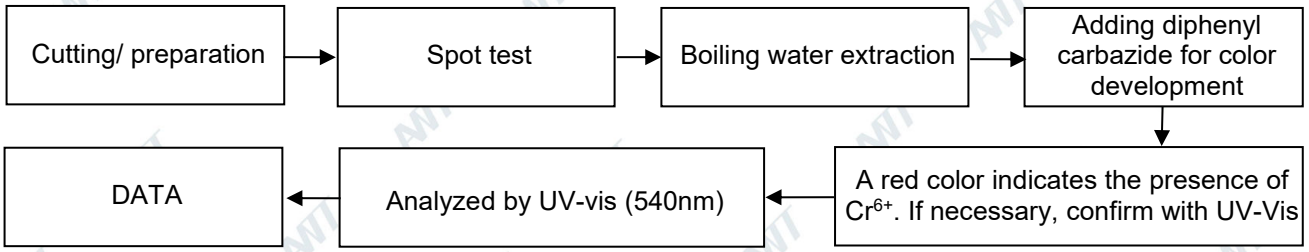
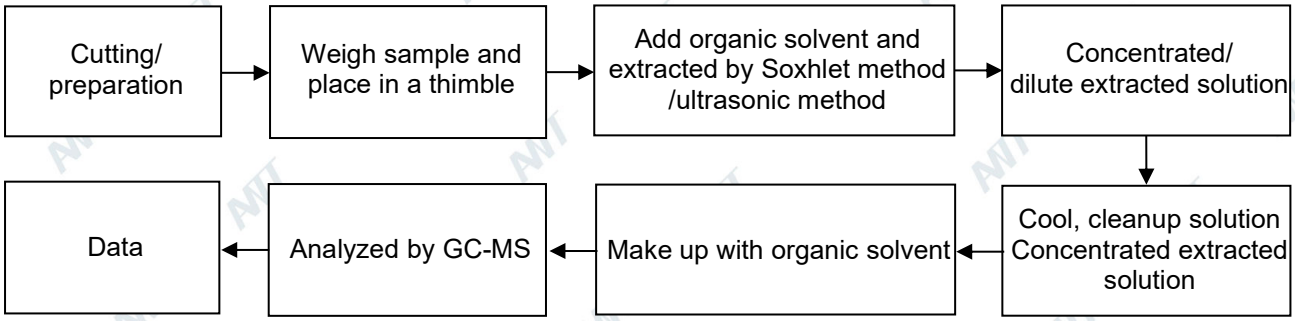
Test Flowchart for Cr^{6+} content (For metal material)



3. Test Flow chart for PBBs & PBDEs & DBP & BBP & DEHP & DIBP content



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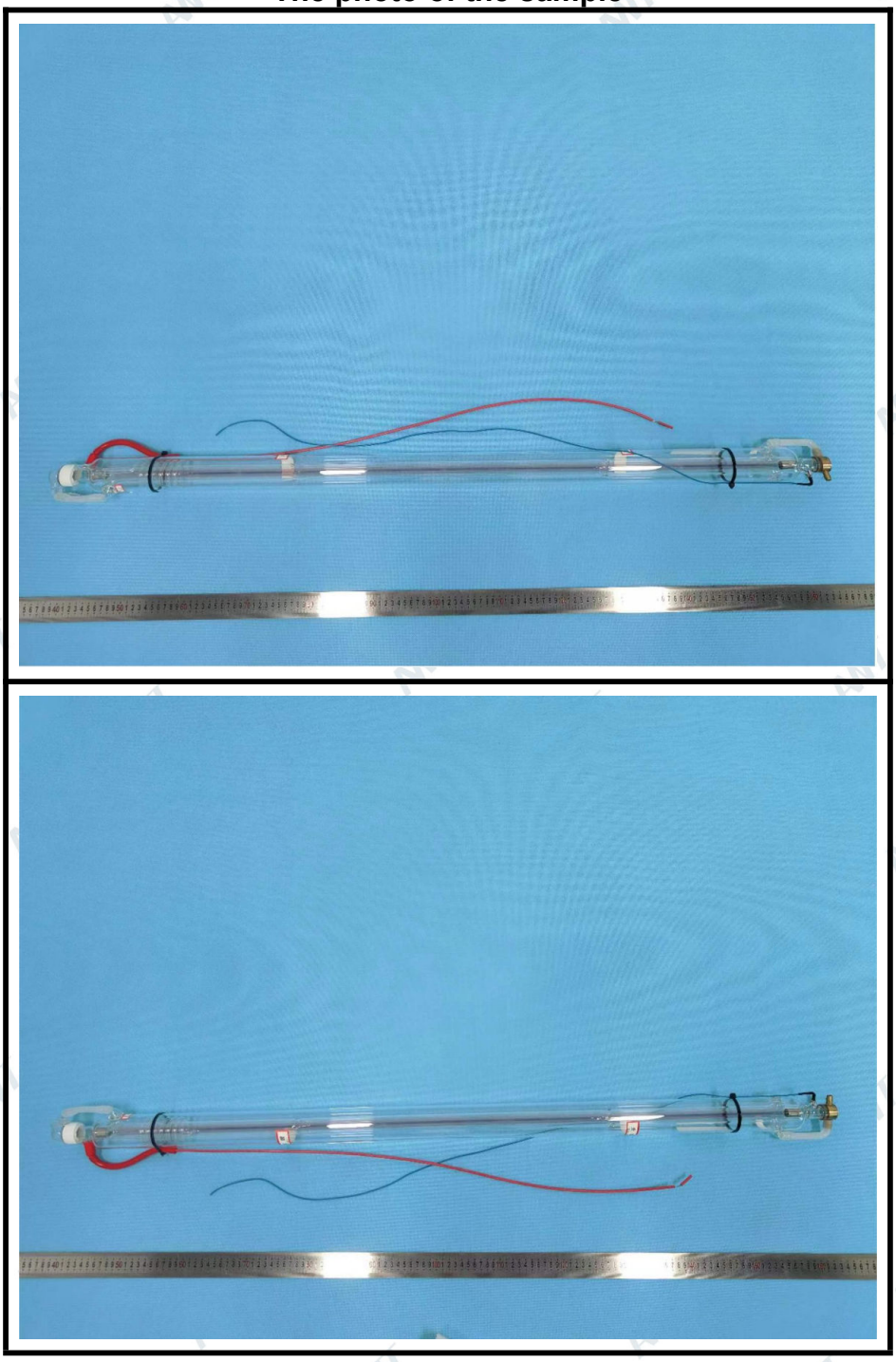
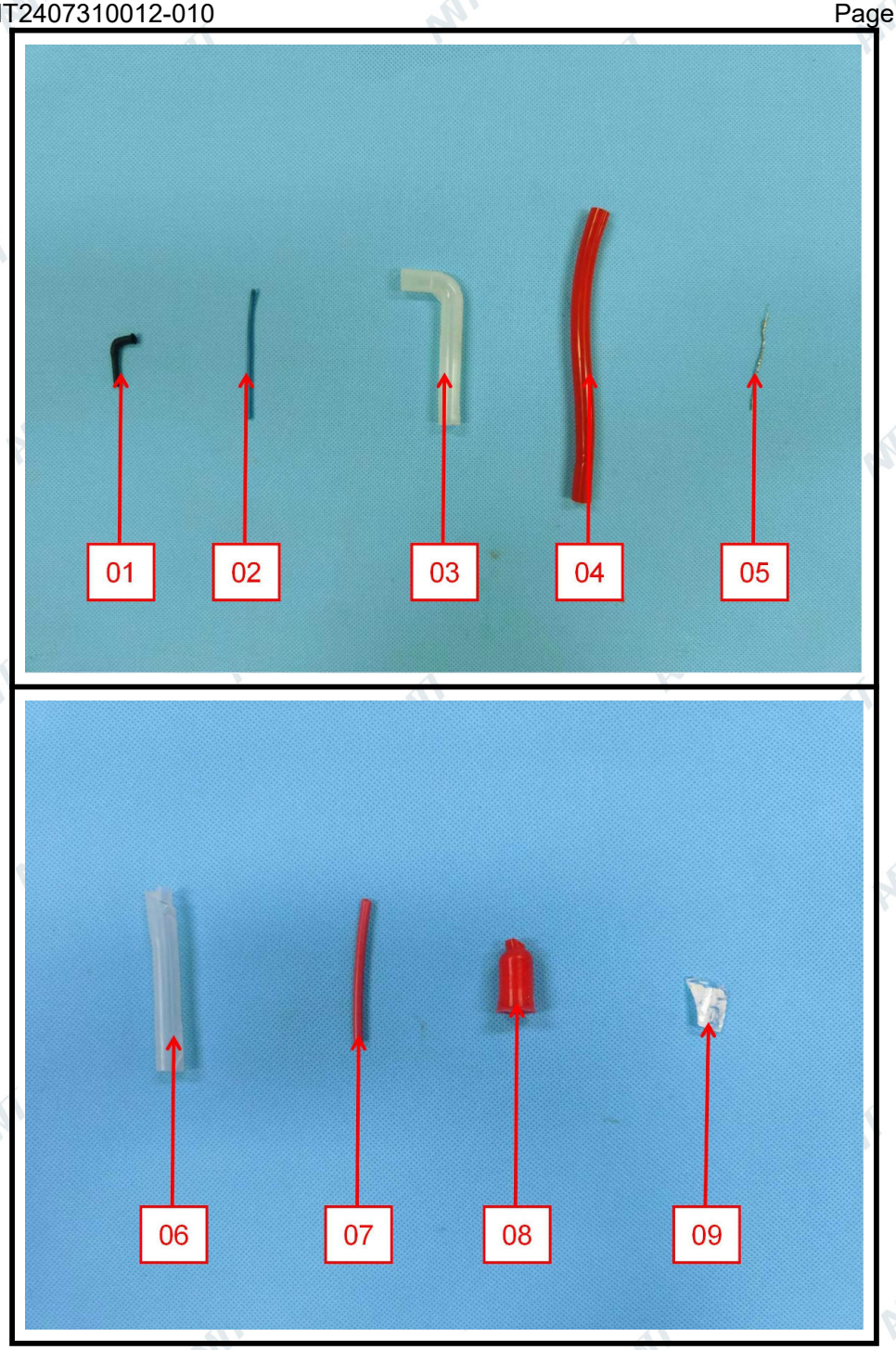
The photo of the sample





ANT authenticate the photo on original report only

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*** End of Report ***