

检 测 报 告
TEST REPORT

报告编号 (No.) :UTS24120288M04 报告日期 (Report Date) : 2025/02/28

委托单位/Client : 滨州双峰石墨密封材料有限公司
BINZHOU DOUBLE PEAKS GRAPHITE SEALING MATERIAL Co., LTD.
地 址/Address : 山东省滨州市渤海五路 744 号
NO.744 5TH BOHAI ROAD BINZHOU SHANDONG CHINA

以下样品信息由申请人提供及确认:

The sample(s) information below is/are provided and confirmed by client:

样品名称/Sample Name : 柔性石墨板/Flexible graphite plate
规格/型号/批号 : δ 0.5mm (出厂编号/Manufacturing No. : 20241207)
Type/Model/Batch No. 密度/Density 1.1g/cm³
接样日期/Receiving Date : 2024/12/24



签 发 樊建红
Approved by 樊建红 授权签字人

审 核 张传水
Reviewed by 张传水

编 制 金颖
Prepared by 金颖

Page 1 of 27

This Test Report is issued by the Company subject to its General Conditions of Service printed overleaf or available on request. Attention is drawn to the limitations of liability, indemnification and jurisdictional policies defined therein. The results shown in this Test report refer only to the sample(s) tested unless otherwise stated. This test report shall not be reproduced, except in full, without written approval of the Company. 本报告按本公司所制定之通用服务条款所编制发放。请注意本报告首页背面之此条款, 本公司之义务、免责、管辖权均有明确规定, 该条款也可向本公司索取。除非另有说明, 本报告仅对来样负责, 未经许可, 不得部分复制本报告。

江苏省优联检测技术有限公司

地址: 苏州市吴中区越溪街道北官渡路50号3幢 215021
电话 (Tel): +0512-66358200

UNITED TESTING SERVICES (JIANGSU) CO., LTD.

Address: Building 3, No.50 Beiguandu Road, Wuzhong Zone, Suzhou, Jiangsu, China, 215021
传真 (Fax): +0512-66358088

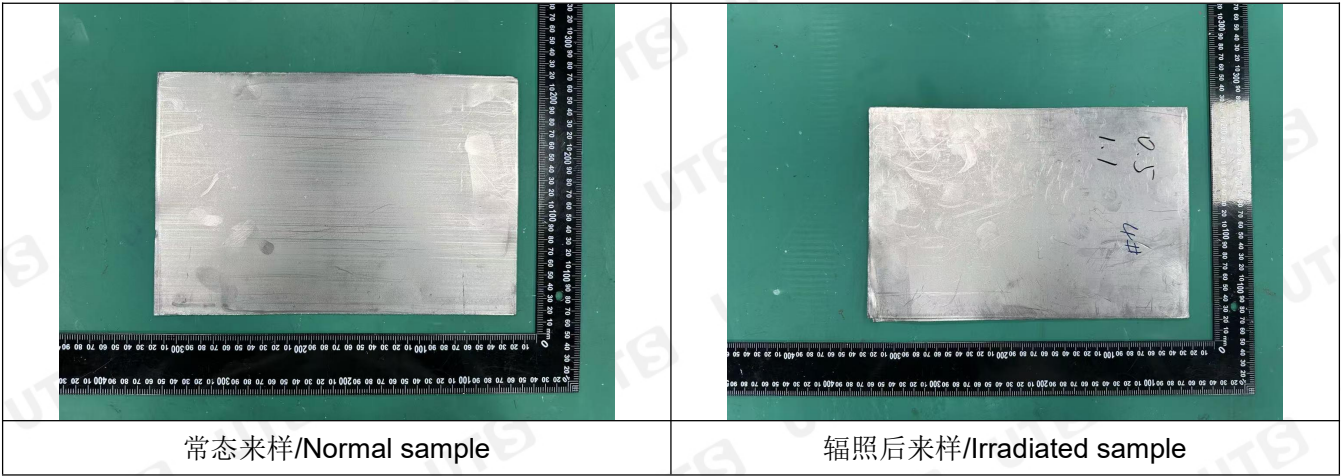
----- www.uts.com.cn -----

检 测 报 告
TEST REPORT

报告编号 (No.) :UTS24120288M04 报告日期 (Report Date) : 2025/02/28

结果总结/Summary of Result(s):

样品名称 Sample Name	序号 No.	项目 Item(s)	判定 Determine	页码 Page No.
柔性石墨板 /Flexible graphite plate	1	厚度/Thickness	符合/PASS	3-4
	2	密度/Density	符合/PASS	4-5
	3	拉伸强度/Tensile strength	符合/PASS	6-7
	4	压缩率/Compression ratio	符合/PASS	7-9
		回弹率/Rate of rebound	符合/PASS	7-9
	5	压缩强度/Strength of compression	符合/PASS	10-11
	6	摩擦系数/Coefficient of friction	符合/PASS	11-13
	7	热失重/Thermal weight loss	符合/PASS	13-14
	8	灰分/Residue on ignition tolerance	符合/PASS	15-16
	9	总碳含量/Total carbon content	符合/PASS	17-19
	10	卤素/Halogen	符合/PASS	19-20
	11	低熔点重金属/Low-melting heavy metal	符合/PASS	21-22
	12	辐照后拉伸强度/Tensile strength after irradiation	符合/PASS	23-24
	13	辐照后压缩率/Compression rate after irradiation	符合/PASS	25-27
		辐照后回弹率/Recovery rate after irradiation	符合/PASS	25-27



检 测 报 告
TEST REPORT

报告编号 (No.) :UTS24120288M04 报告日期 (Report Date) : 2025/02/28

一、厚度/Thickness

1、测试标准/Test Standard

JB/T7758.2-2005

2、测试日期/Test Date

2024/12/30-2424/12/31

3、测试仪器/Test Equipment

设备名称 Test Equipment	设备编号 Equipment Number	校准有效期 Calibration Period of Validity
橡胶测厚仪 Rubber thickness gauge	M-1-526	2025/11/20

4、测试条件/Test Conditions

状态调节/State adjustment : (23±2)℃, (50±5)%RH, 24 h

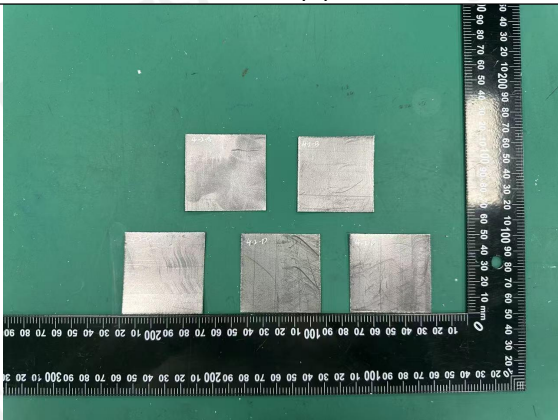
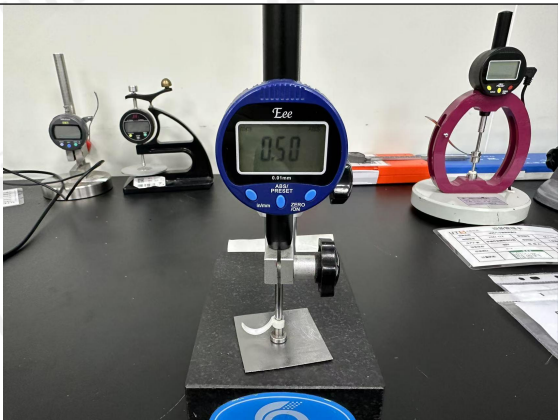
5、测试结果/Test Result(s)

单位/Unit: mm

4-1-A	4-1-B	4-1-C	4-1-D	4-1-E	平均值 Average	判定限值 Judgment limit	判定 Determine
0.50	0.50	0.50	0.50	0.50	0.50	0.5±0.03	符合/PASS

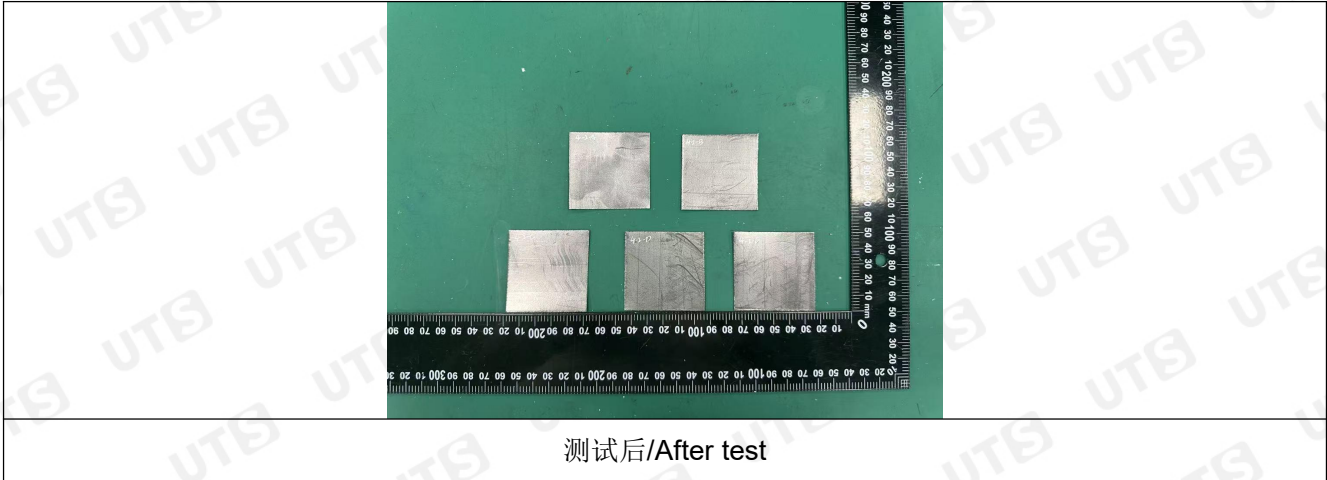
备注/Remark: 判定限值依客户要求。/The prescribed limit(s) is/are according to client's requirement.

6、测试照片/Test Photo(s)

	
测试前/Before test	测试中/During test

检 测 报 告
TEST REPORT

报告编号 (No.) :UTS24120288M04 报告日期 (Report Date) : 2025/02/28



测试后/After test

二、密度/Density tolerance

1、测试标准/Test Standard

JB/T9141.1-2013

2、测试日期/Test Date

2024/12/30-2424/12/31

3、测试仪器/Test Equipment

设备名称 Test Equipment	设备编号 Equipment Number	校准有效期 Calibration Period of Validity
电子天平 Electronic Balance	CD-1-063	2025/11/20
数显游标卡尺 Digital display vernier caliper	M-1-610	2025/09/13
橡胶测厚仪 Rubber thickness gauge	M-1-526	2025/11/20

4、测试条件/Test Condition

状态调节/Status adjustment : (23±2) °C, (50±5) %RH, 24 h

检 测 报 告
TEST REPORT

报告编号 (No.) :UTS24120288M04 报告日期 (Report Date) : 2025/02/28

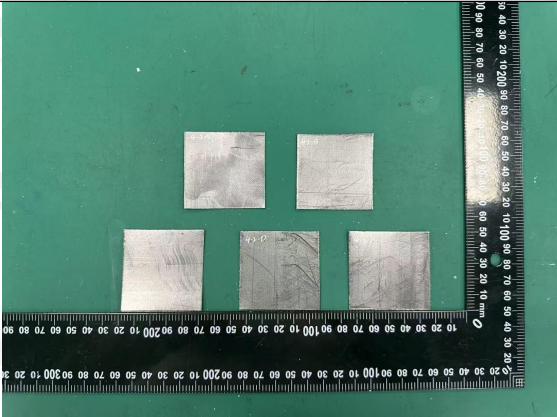
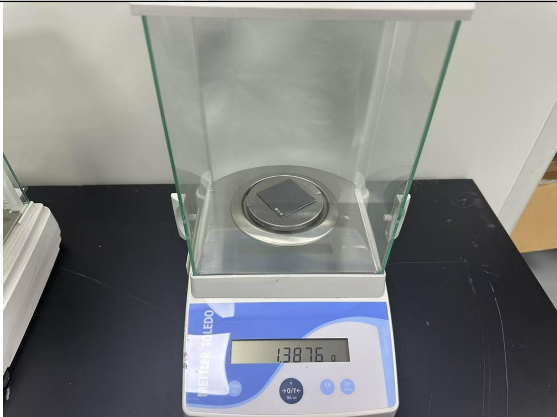
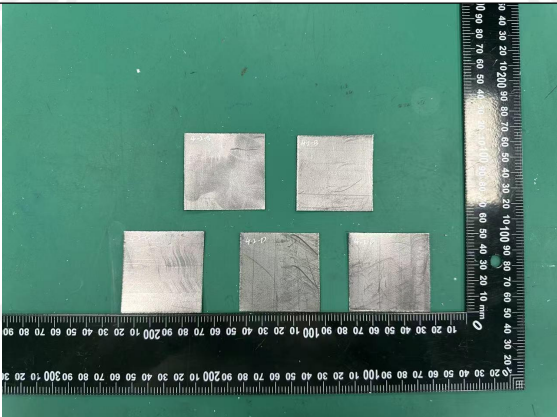
5、测试结果/Test Result(s)

单位/Unit: g/cm³

4-2-A	4-2-B	4-2-C	4-2-D	4-2-E	平均值 Average	判定依据 Judgment Basis	判定 Determine
1.09	1.09	1.09	1.08	1.10	1.09	1.1±0.05	符合/PASS

备注/Remark: 判定限值依客户要求。/Decision limit depends on customer requirement.

6、测试照片/Test photo(s)

	
测试前/Before test	测试中/During test
	/
测试后/After test	/

检 测 报 告
TEST REPORT

报告编号 (No.) :UTS24120288M04

报告日期 (Report Date) : 2025/02/28

三、拉伸强度/Tensile strength

1、测试标准/Test standard

JB/T9141.2-2013

2、测试日期/Test Date

2025/01/02-2025/01/03

3、测试仪器/Test Equipment

设备名称 Test Equipment	设备编号 Equipment Number	校准有效期 Calibration Period of Validity
万能试验机 Universal testing machine	M-1-005	2025/04/29
数显游标卡尺 Digital display vernier caliper	M-1-610	2025/09/13
橡胶测厚仪 Rubber thickness gauge	M-1-526	2025/11/20

4、测试条件/Test Condition

状态调节/Status adjustment : (23±2) °C, (50±5) %RH, 24 h

速 度/Speed : 5 mm/min

标 距/Gauge length : 115 mm

试样类型/Sample type : 长条/A long strip (100*20)mm

5、测试结果/Test Result(s)

单位/Unit: MPa

4-3-A	4-3-B	4-3-C	4-3-D	4-3-E	平均值 Average	判定依据 Judgment Basis	判定 Determine
6.16	5.83	6.13	5.91	6.29	6.06	≥5.0	符合/PASS

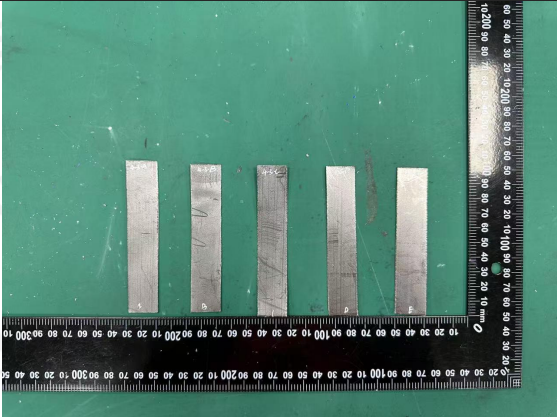
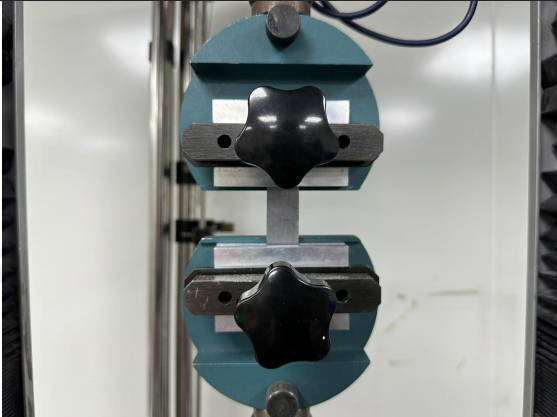
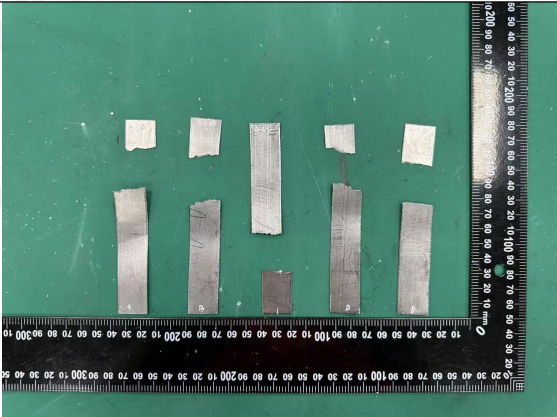
备注/Remark: 判定限值依客户要求。/Decision limit depends on customer requirement.

检 测 报 告

TEST REPORT

报告编号 (No.) :UTS24120288M04 报告日期 (Report Date) : 2025/02/28

6、测试照片/Test Photo(s)

	
测试前/Before test	测试中/During test
	/
测试后/After test	/

四、压缩率&回弹率/Compression ratio&Rate of rebound

1、测试标准/Test Standard

JB/T9141.4-2013

2、测试日期/Test Date

2025/02/08-2025/02/10

.....接下页/ To be continued.....

检 测 报 告
TEST REPORT

报告编号 (No.) :UTS24120288M04

报告日期 (Report Date) : 2025/02/28

3、测试仪器/Test Equipment

设备名称 Test Equipment	设备型号 Equipment Type	校准有效期 Calibration Period of Validity
万能试验机 Universal testing machine	M-1-005	2025/04/29
橡胶测厚仪 Rubber thickness gauge	M-1-526	2025/11/20

4、测试条件/Test Condition

状态调节/Status adjustment : (23±5)℃, (50±5)%RH, 24h

试样尺寸/Specimen size : 50*50mm

测试方法/Test method : 将试样放入砧座和压头之间,使载荷通过压头轴线,匀速施加 22.2 N(包括压头和压杆自重)的初载荷,维持 15 s 后记录试样的厚度 t_0 ; 而后在 10s 内匀速加上 1090N 的主载荷(至总载荷 1112N),维持 60s 后记录试样在总载荷下的厚度 t_1 ,卸掉主载荷,60s 后记录试样回到初载荷下的厚度 t_2 。/The sample was placed between the anute and the indenter, so that the load passed through the axis of the indenter, and the initial load of 22.2N (including the white weight of the indenter and the pressure rod) was applied at a uniform speed. After maintaining for 15 s, the thickness of the sample t_0 was recorded. Then, the main load of 1090N (to the total load of 1112N) was added at a constant speed within 10s. After maintaining for 60s, the thickness t_1 of the sample under the total load was recorded. After unloading the main load, the thickness t_2 of the sample under the initial load was recorded for 60s.

5、测试结果/Test Result(s)

5.1 压缩率/Compression ratio

单位/Unit: %

4-4-A	4-4-B	4-4-C	4-4-D	4-4-E	平均值 Average	判定依据 Judgment Basis	判定 Determine
46.1	45.1	44.3	43.9	42.7	44.4	≥41	符合/PASS

备注/Remark: 判定限值依客户要求。 /The prescribed limit(s) is/are according to client's requirement.

检 测 报 告

TEST REPORT

报告编号 (No.) :UTS24120288M04 报告日期 (Report Date) : 2025/02/28

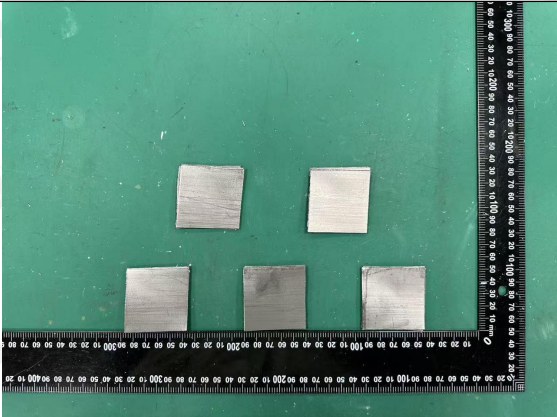
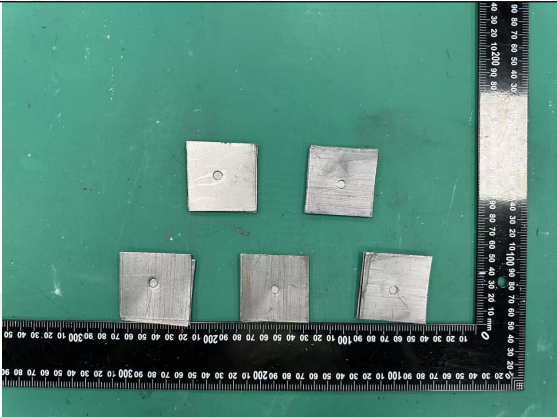
5.2 回弹率/Rate of rebound

单位/Unit: %

4-5-A	4-5-B	4-5-C	4-5-D	4-5-E	平均值 Average	判定依据 Judgment Basis	判定 Determine
19.5	19.0	19.6	19.2	19.7	19.4	≥12	符合/PASS

备注/Remark: 判定限值依客户要求。 /The prescribed limit(s) is/are according to client' s requirement.

6、测试照片/Test Photo(s)

	
测试前/Before test	测试中/During test
	/
测试后/After test	/

检 测 报 告
TEST REPORT

报告编号 (No.) :UTS24120288M04 报告日期 (Report Date) : 2025/02/28

五、压缩强度/Strength of compression

1、测试标准/Test standard

JB/T9141.3-2013

2、测试日期/Test Date

2025/01/07-2025/01/08

3、测试仪器/Test Equipment

设备名称 Test Equipment	设备编号 Equipment Number	校准有效期 Calibration Period of Validity
万能试验机 Universal testing machine	M-1-003	2025/04/29
数显游标卡尺 Digital display vernier caliper	M-1-610	2025/09/13

4、测试条件/Test Condition

状态调节/Status adjustment : (23±2) °C, (50±5) %RH, 24 h

速度/Speed : 3 mm/min

试样尺寸/Specimen size : (φ 75* φ 55*厚度/Thickness)mm (厚度/Thickness ≥1.6mm)

5、测试结果/Test Result(s)

单位/Unit: MPa

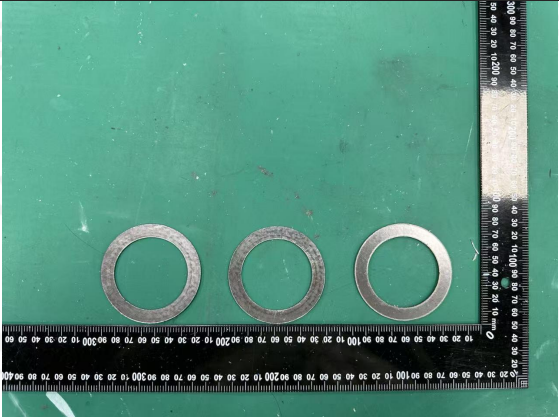
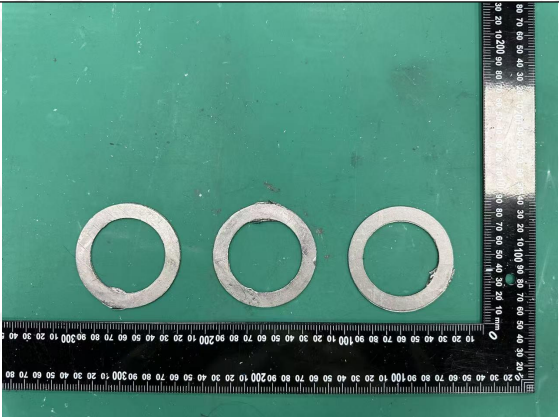
4-6-A	4-6-B	4-6-C	平均值 Average	判定依据 Judgment Basis	判定 Determine
>176	>176	>176	>176 无压溃 /No pressure rout	≥170	符合/PASS

备注/Remark: 判定限值依客户要求。/Decision limit depends on customer requirement.

检 测 报 告
TEST REPORT

报告编号 (No.) :UTS24120288M04 报告日期 (Report Date) : 2025/02/28

6、测试照片/Test Photo(s)

	
测试前/Before test	测试中/During test
	/
测试后/After test	/

六、摩擦系数/Coefficient of friction

1、测试标准/Test standard

JB/T9141.8-2016

2、测试日期/Test Date

2024/12/28-2025/01/02

3、测试仪器/Test Equipment

设备名称 Test Equipment	设备编号 Equipment Number	校准有效期 Calibration Period of Validity
滑动摩擦磨损试验机 Sliding friction and wear testing machine	M200	2025/10/10

检 测 报 告
TEST REPORT

报告编号 (No.) :UTS24120288M04 报告日期 (Report Date) : 2025/02/28

4、测试条件/Test Condition

环境温度/Ambient temperature : (23±2)℃
环境湿度/Ambient humidity : (50±5)%RH
转 速/Speed : 200 r/min
载 荷/Load : 70 N
测试时间/Test time : 1h
试样尺寸/Specimen size : (30*70*6)mm

5、测试结果/Test Result(s)

样品编号 Sample No.	检测结果 Detection results	判定依据 Judgment Basis	判定 Determine
4-7-A	0.093	≤0.1±0.05	符合/PASS
4-7-B	0.096		符合/PASS
4-7-C	0.095		符合/PASS

6、测试照片/Test Photo(s)

	
测试前/Before test	测试中/During test

检 测 报 告
TEST REPORT

报告编号 (No.) :UTS24120288M04 报告日期 (Report Date) : 2025/02/28

	/
测试后/After test	/

七、热失重/Thermal weight loss

1、测试标准/Test standard

JB/T9141.7-2013

2、测试日期/Test Date

2024/12/28-2024/12/29

3、测试仪器/Test Equipment

设备名称 Test Equipment	设备编号 Equipment Number	校准有效期 Calibration Period of Validity
马弗炉 Muffle furnace	C-1-056	2025/09/26
电子天平 Electronic scales	CD-1-063	2025/11/20

4、测试条件/Test Condition

状态调节/Status adjustment : (23±2) °C, (50±5) %RH, 24 h

测试方法/Test method : 称取(1~1.2)g(精确至 0.0001g)试样,平铺在预先在 800℃的马弗炉中灼烧至恒重的瓷方舟中,置入(450±10)℃的马弗炉中,关闭炉门灼烧 1h,冷却(1~2)min,移入干燥器中冷却至室温,称重。/(1~1.2)g(accurate to 0.0001g) of samples were weighed, and the samples were laid flat in a porcelain ark that was burned to constant weight in a muffle furnace at 800℃, placed in a muffle furnace at (450±10)℃, the furnace door was closed and burned for 1h, cooled for (1~2)min, transferred to a desiccator and cooled to room temperature, and weighed.

检 测 报 告

TEST REPORT

报告编号 (No.) :UTS24120288M04 报告日期 (Report Date) : 2025/02/28

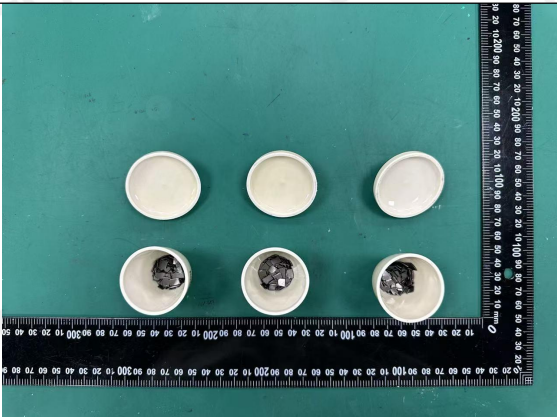
5、测试结果/Test Result(s)

单位/Unit:%

4-8-A	4-8-B	4-8-C	平均值 Average	判定依据 Judgment Basis	判定 Determine
0.13	0.15	0.15	0.14	≤0.5	符合/PASS

备注/Remark: 判定限值依客户要求。/Decision limit depends on customer requirement.

6、测试照片/Test Photo(s)

	
测试前/Before test	测试中/During test
	/
测试后/After test	/

检 测 报 告
TEST REPORT

报告编号 (No.) :UTS24120288M04 报告日期 (Report Date) : 2025/02/28

八、灰分/Residue on ignition tolerance

1、测试标准/Test standard

JB/T9141.5-2020

2、测试日期/Test Date

2025/01/09-2025/01/10

3、测试仪器/Test Equipment

设备名称 Test Equipment	设备编号 Equipment Number	校准有效期 Calibration Period of Validity
马弗炉 Muffle furnace	C-1-056	2025/09/26
电子天平 Electronic scales	CD-1-063	2025/11/20

4、测试条件/Test Condition

状态调节/Status adjustment : (23±2) °C , (50±5) %RH, 24 h

测试方法/Test method : ①将制备好的试样，放入 105~110℃的干燥箱中烘 1h 后取出，放在干燥器中冷却 30 min。
②在已灼烧至恒重的瓷皿中，准确称取 1g 干燥过的试样，准确至±0.0002 g。
③把盛有试样的瓷皿放入马福炉内，炉门不宜关严，在 800℃下灼烧至无黑色斑点为止。
④从炉内取出瓷皿，在空气中冷却 5~10min，然后放入干燥器中冷却至室温，称重。
⑤把瓷皿放回马福炉中，继续灼烧 30min，按④步骤称重，如此重复进行，直至两次称量值的误差小于 0.0005g 为止，用最后一次结果进行计算。
/① Put the prepared sample into the drying oven at 105~110℃ for 1h, then take it out and cool it in the dryer for 30 min.
②In a porcelain dish that has been burned to constant weight, accurately weigh 1g of dried sample to ± 0.0002g.
③Put the porcelain dish containing the sample into the Maffu furnace. The furnace door should not be closed tightly and burned at 800℃ until there is no black spot.
④Take out the porcelain dish from the furnace, cool it in the air for 5~10min, and then put it into the dryer to cool to room temperature, and weigh it.

检 测 报 告
TEST REPORT

报告编号 (No.) :UTS24120288M04 报告日期 (Report Date) : 2025/02/28

⑤ Put the porcelain dish back into the Maffu furnace, continue to burn for 30min, weigh according to the steps of ④, and repeat until the error of the two weighing values is less than 0.0005g, and use the last result for calculation.

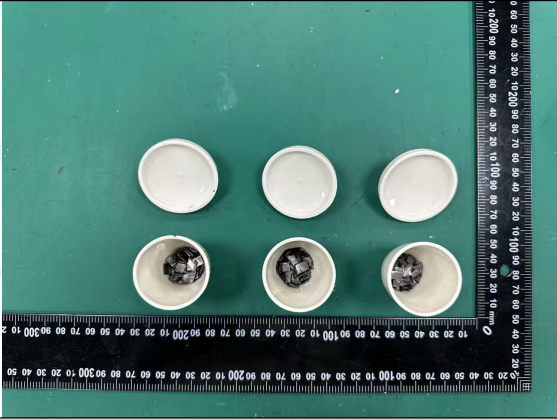
5、测试结果/Test Result(s)

单位/Unit:%

4-9-A	4-9-B	4-9-C	平均值 Average	判定依据 Judgment Basis	判定 Determine
0.68	0.63	0.71	0.67	≤1.0	符合/PASS

备注/Remark: 判定限值依客户要求。/Decision limit depends on customer requirement.

6、测试照片/Test Photo(s)

	
测试前/Before test	测试中/During test
	/
测试后/After test	/

检 测 报 告
TEST REPORT

报告编号 (No.) :UTS24120288M04 报告日期 (Report Date) : 2025/02/28

九、总碳含量/Total carbon content

1、测试标准/Test standard

JB/T9141.6-2020

2、测试日期/Test Date

2025/01/12-2025/01/14

3、测试仪器/Test Equipment

设备名称 Test Equipment	设备编号 Equipment Number	校准有效期 Calibration Period of Validity
马弗炉 Muffle furnace	C-1-056	2025/09/26
电子天平 Electronic scales	CD-1-063	2025/11/20

4、测试条件/Test Condition

状态调节/Status adjustment : (23±2) °C, (50±5) %RH, 24 h

测试方法/Test method : 称取(1~1.2)g 试样, 精确至 0.2mg, 平铺于预先在 800 °C 灼烧至恒重的双盖瓷坩埚中, 盖上双盖。将坩埚置于坩埚架上, 迅速送入(400±10) °C 箱式电阻炉中。当坩埚架接触炉膛时, 开始计时, 同时关严炉门。灼烧 10min, 取出, 冷却(1~2)min, 移入干燥器中冷却至室温, 称重, 精确至 0.2mg。试样放入炉中后, 在 3min 内炉温应升到规定温度, 否则试验无效。/Weigh (1~1.2)g sample, accurate to 0.2mg, and lay it on the double cover porcelain crucible which has been burned to constant weight at 800 °C in advance, and cover with double cover. The crucible is placed on the crucible rack and quickly fed into the box resistance furnace at (400±10) °C. When the crucible frame contacts the furnace, the timing starts and the furnace door is closed. Burn for 10min, take out, cool (1~2)min, transfer to a desiccator and cool to room temperature, weigh, accurate to 0.2mg. After the sample is placed in the furnace, the furnace temperature should rise to the specified temperature within 3min, otherwise the test is invalid.

固定碳含量/Fixed carbon content $\omega_c=100\%-(\omega_v+\omega_a)$ 其中/Among:

挥发分/Volatile matter $\omega_v=\frac{m_0-m_1}{m_0-m} \times 100\%$

灰分 ω_a 详见灰分测试/Ash ω_a are detailed in the Ash test

检 测 报 告
TEST REPORT

报告编号 (No.) :UTS24120288M04 报告日期 (Report Date) : 2025/02/28

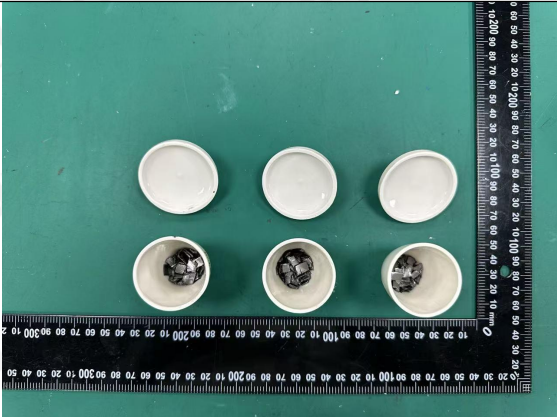
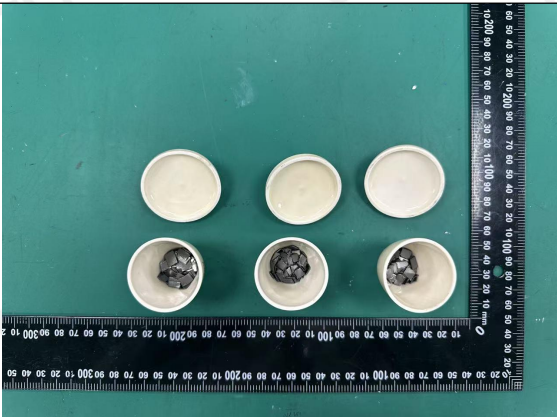
5、测试结果/Test Result(s)

单位/Unit:%

4-10-A	4-10-B	4-10-C	平均值 Average	判定依据 Judgment Basis	判定 Determine
99.28	99.33	99.22	99.28	>99.0	符合/PASS

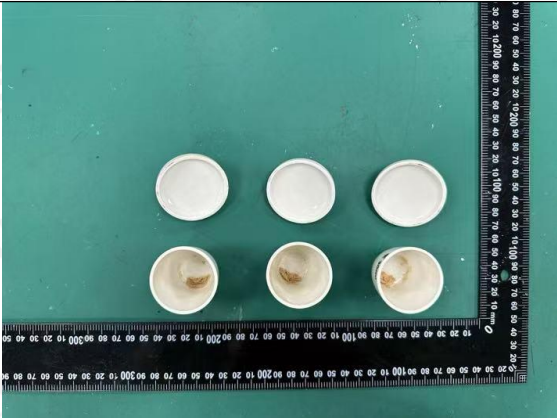
备注/Remark: 判定限值依客户要求。/Decision limit depends on customer requirement.

6、测试照片/Test Photo(s)

	
测试前/Before test	挥发份/Fugitive constituent
	
挥发份后/After volatile	灰分/Ash content

检 测 报 告
TEST REPORT

报告编号 (No.) :UTS24120288M04 报告日期 (Report Date) : 2025/02/28

	/
灰分后/After the ash	/

十、卤素/Halogen

1、测试标准/Test Standard(s)

EN 14582:2016

2、测试日期/Test Date(s)

2024/12/26-2024/12/27

3、测试设备/Test Equipment(s)

设备名称 Test Equipment	设备编号 Equipment Number	校准有效期 Calibration Period of Validity
离子色谱仪 IC	E-1-1038	2026/11/21

4、测试结果/Test Result(s)

检测项目 Test Item	方法检测限 MDL (µg/g)	检测结果 Results (µg/g)	限值* Limits (µg/g)
氟/Fluorine (F)	30	N.D.	---
氯/Chlorine (Cl)	30	N.D.	---
溴/Bromine (Br)	30	N.D.	---
碘/Iodine (I)	30	N.D.	---
总计/Total (F+Cl+Br+I)	---	N.D.	< 200

注意/Remark : *报告中提及的限值根据是客户要求。/The Limits are based on the customer requirements.

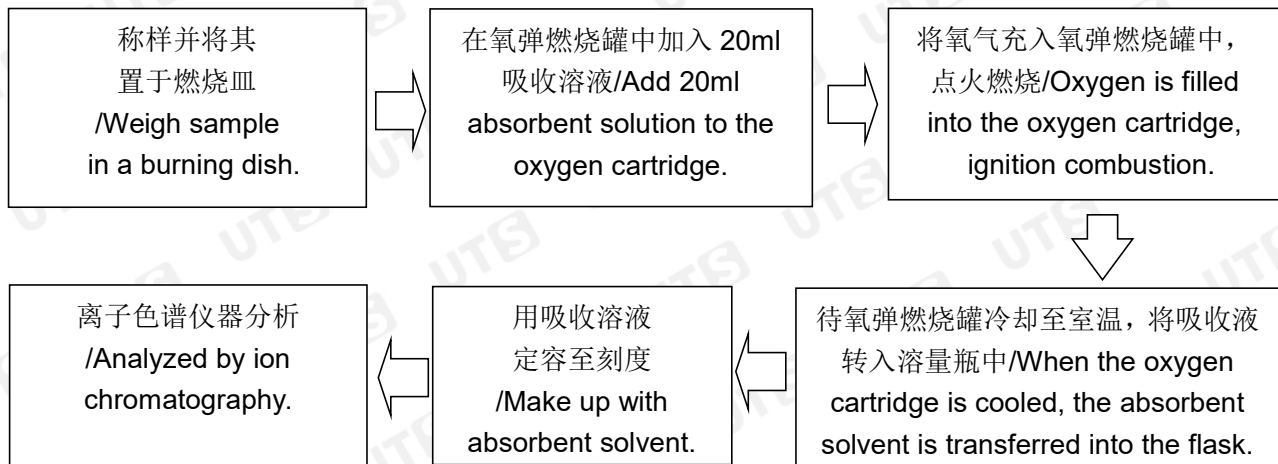
检测报告 TEST REPORT

报告编号 (No.) :UTS24120288M04 报告日期 (Report Date) : 2025/02/28

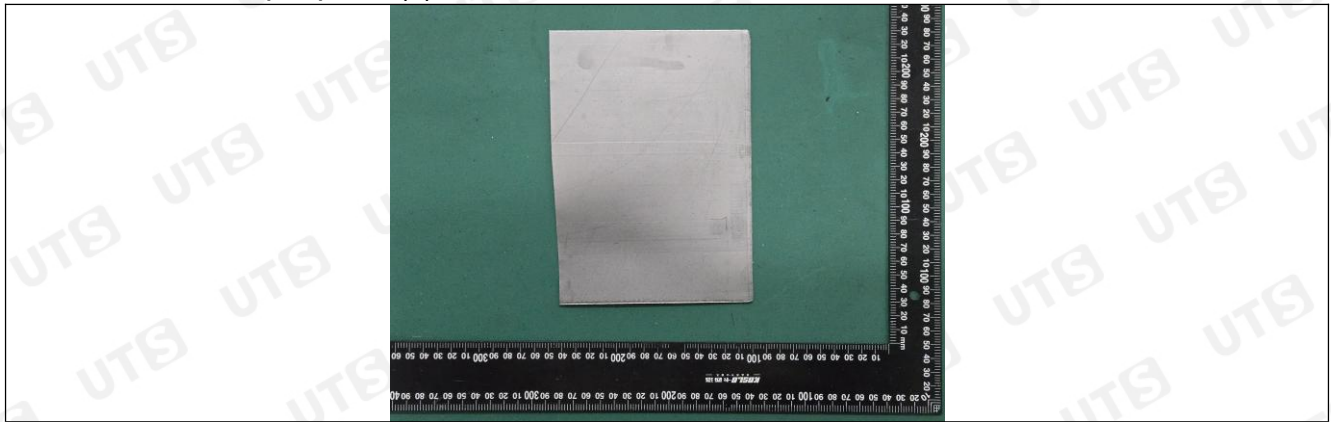
- 备注 1) “---” = 未明确规定/Not Regulated.
/Note : 2) N.D. = 未检出, 小于方法检测限/Not detected, less than MDL.
 3) 参考 EN 14582: 2016, 采用离子色谱法(IC)进行检测。
 With reference to EN 14582: 2016, analysis was performed by IC.

检测部位描述/TEST PART DESCRIPTION: 非金属/Non-metal

检测流程图/FLOW CHART



5、样品照片/Sample photo(s)



检 测 报 告
TEST REPORT

报告编号 (No.) :UTS24120288M04 报告日期 (Report Date) : 2025/02/28

十一、低熔点重金属/Low-melting heavy metal

1、测试标准/Test Standard(s)
EPA 3052:1996 & EPA 6010D:2018

2、测试日期/Test Date(s)
2024/12/31

3、测试设备/Test Equipment(s)

设备名称 Test Equipment	设备编号 Equipment Number	校准有效期 Calibration Period of Validity
等离子体发射光谱仪 ICP-OES	M-1-584	2025/12/14

4、测试结果/Test Result(s)

测试项目 Test Items	方法检测限 MDL (µg/g)	检测结果 Results (µg/g)	限值* Limits (µg/g)
铅/Pb	10	N.D.	---
铝/Al	10	126.64	---
锑/Sb	10	N.D.	---
砷/As	10	N.D.	---
铋/Bi	10	N.D.	---
镉/Cd	10	N.D.	---
铜/Cu	10	N.D.	---
镓/Ga	10	N.D.	---
铟/In	10	N.D.	---
镁/Mg	10	N.D.	---
银/Ag	10	N.D.	---
锡/Sn	10	N.D.	---
锌/Zn	10	N.D.	---
汞/Hg	10	N.D.	---
磷/P	10	N.D.	---
总计/Total	---	126.64	≤ 500

注意/Remark : *报告中提及的限值根据是客户要求。/The Limits are based on the customer requirements.

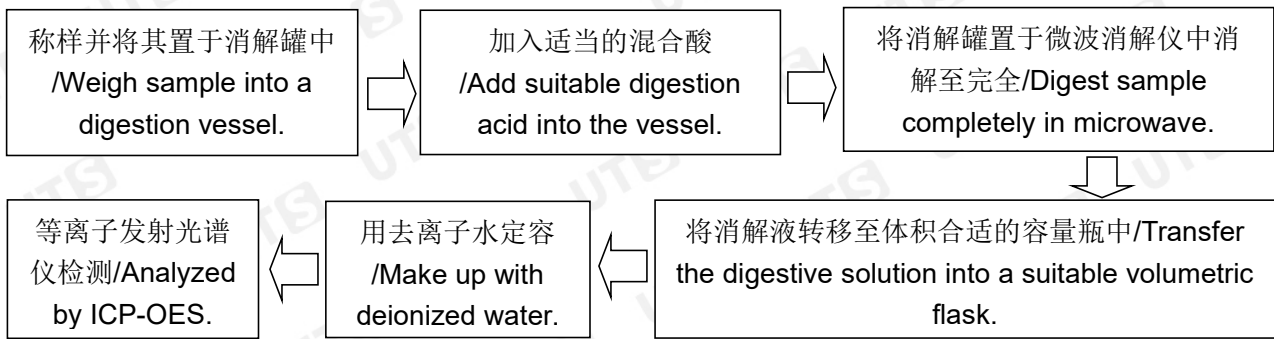
检测报告 TEST REPORT

报告编号 (No.) :UTS24120288M04 报告日期 (Report Date) : 2025/02/28

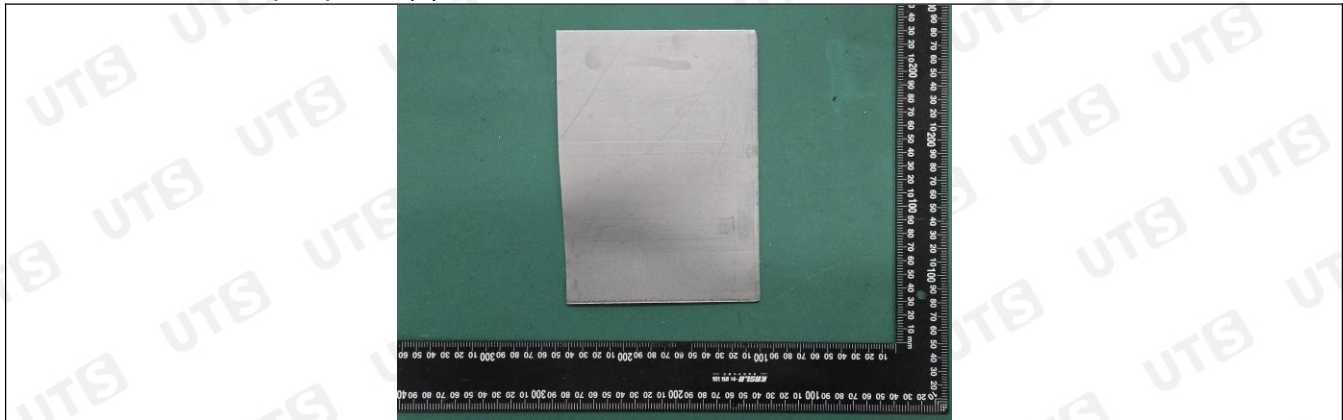
备注/Note: 1) 参考 EPA 3052:1996 & EPA 6010D:2018, 采用 ICP-OES 进行分析。
With reference to EPA 3052:1996 & EPA 6010D:2018, Analysis was performed by ICP-OES.
2) N.D. = 未检出, 小于方法检测限/Not detected, less than MDL.

检测部位描述/TEST PART DESCRIPTION: 非金属/Non-metal

检测流程图/FLOW CHART



5、样品照片/Sample photo(s)



检 测 报 告
TEST REPORT

报告编号 (No.) :UTS24120288M04 报告日期 (Report Date) : 2025/02/28

十二、辐照后拉伸强度/Tensile strength after irradiation

1、测试标准/Test standard

JB/T9141.2-2013

2、测试日期/Test Date

2025/02/08-2025/02/10

3、测试仪器/Test Equipment

设备名称 Test Equipment	设备编号 Equipment Number	校准有效期 Calibration Period of Validity
万能试验机 Universal testing machine	M-1-005	2025/04/29
数显游标卡尺 Digital display vernier caliper	M-1-610	2025/09/13
橡胶测厚仪 Rubber thickness gauge	M-1-526	2025/11/20

4、测试条件/Test Condition

状态调节/Status adjustment : (23±2) °C, (50±5) %RH, 24 h

速 度/Speed : 5 mm/min

标 距/Gauge length : 50 mm

试样类型/Sample type : 长条/A long strip (100*20)mm

5、测试结果/Test Result(s)

5.1 辐照后拉伸强度/Tensile strength after irradiation

单位/Unit: MPa

4-13-A	4-13-B	4-13-C	4-13-D	4-13-E	平均值 Average
5.61	5.53	5.60	5.59	5.72	5.61

检 测 报 告
TEST REPORT

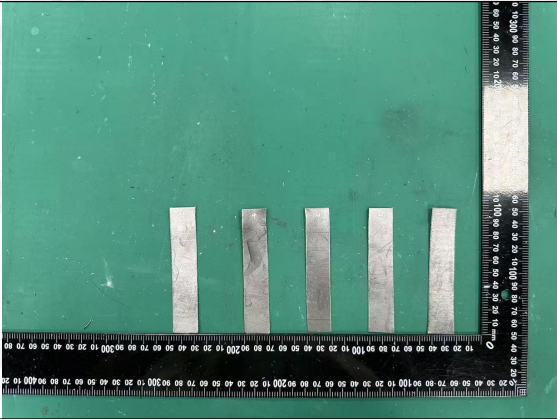
报告编号 (No.) :UTS24120288M04 报告日期 (Report Date) : 2025/02/28

5.2 辐照后拉伸强度变化率/Rate of change in the tensile strength after irradiation

常态 (MPa) Normalcy	辐照后 (MPa) After irradiation	结果 (%) Result	判定依据 (%) Judgment Basis	判定 Determine
6.06	5.61	-7.42	±10	符合/PASS

备注/Remark: 判定限值依客户要求。/Decision limit depends on customer requirement.

6、测试照片/Test Photo(s)

	
测试前/Before test	测试中/During test
	/
测试后/After test	/

检 测 报 告
TEST REPORT

报告编号 (No.) :UTS24120288M04 报告日期 (Report Date) : 2025/02/28

十三、辐照后压缩率&回弹率/Compression ratio & rebound ratio after irradiation

1、测试标准/Test Standard

JB/T9141.4-2013

2、测试日期/Test Date

2025/02/07-2025/02/08

3、测试仪器/Test Equipment

设备名称 Test Equipment	设备型号 Equipment Type	校准有效期 Calibration Period of Validity
万能试验机 Universal testing machine	M-1-005	2025/04/29
橡胶测厚仪 Rubber thickness gauge	M-1-526	2025/11/20

4、测试条件/Test Condition

状态调节/Status adjustment : (23±5)℃, (50±5)%RH, 24h

试样尺寸/Specimen size : 50*50mm

测试方法/Test method : 将试样放入砧座和压头之间,使载荷通过压头轴线,匀速施加 22.2 N(包括压头和压杆自重)的初载荷,维持 15 s 后记录试样的厚度 t_0 ; 而后在 10s 内匀速加上 1090N 的主载荷(至总载荷 1112N), 维持 60s 后记录试样在总载荷下的厚度 t_1 , 卸掉主载荷, 60s 后记录试样回到初载荷下的厚度 t_2 。/The sample was placed between the anute and the indenter, so that the load passed through the axis of the indenter, and the initial load of 22.2N (including the white weight of the indenter and the pressure rod) was applied at a uniform speed. After maintaining for 15 s, the thickness of the sample t_0 was recorded. Then, the main load of 1090N (to the total load of 1112N) was added at a constant speed within 10s. After maintaining for 60s, the thickness t_1 of the sample under the total load was recorded. After unloading the main load, the thickness t_2 of the sample under the initial load was recorded for 60s.

检 测 报 告
TEST REPORT

报告编号 (No.) :UTS24120288M04 报告日期 (Report Date) : 2025/02/28

5、测试结果/Test Result(s)

5.1 辐照后压缩率/Compression rate after irradiation

单位/Unit: %

4-14-A	4-14-B	4-14-C	4-14-D	4-14-E	平均值 Average
47.0	46.4	47.4	47.8	47.9	47.3

5.2 辐照后压缩率变化率/Rate of change of the compression rate after irradiation

单位/Unit: %

常态 Normalcy	辐照后 After irradiation	结果 Result	判定依据 Judgment Basis	判定 Determine
44.4	47.3	6.53	±10	符合/PASS

备注/Remark: 判定限值依客户要求。 /The prescribed limit(s) is/are according to client's requirement.

5.3 辐照后回弹率/Recovery rate after irradiation

单位/Unit: %

4-15-A	4-15-B	4-15-C	4-15-D	4-15-E	平均值 Average
18.5	18.2	18.2	18.8	18.0	18.4

5.4 辐照后回弹率变化率/Rate of change of rebound after irradiation

单位/Unit: %

常态 Normalcy	辐照后 After irradiation	结果 Result	判定依据 Judgment Basis	判定 Determine
19.4	18.4	-5.15	±10	符合/PASS

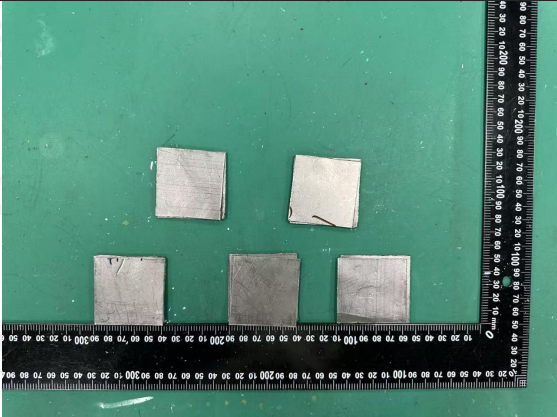
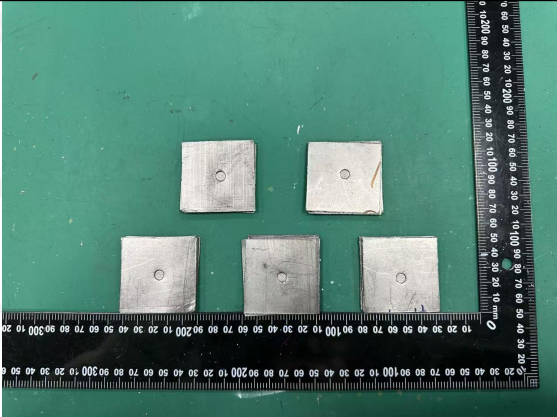
备注/Remark: 判定限值依客户要求。 /The prescribed limit(s) is/are according to client's requirement.

.....接下页/ To be continued.....

检 测 报 告
TEST REPORT

报告编号 (No.) :UTS24120288M04 报告日期 (Report Date) : 2025/02/28

6、测试照片/Test Photo(s)

	
测试前/Before test	测试中/During test
	/
测试后/After test	/

.....报告结束/End of Report.....

本报告中结果仅作为科研、教学或内部质量控制之用。

Test results in this report are only used for scientific research, teaching and internal quality control.