

## 测试报告

编号 : NBIN1707007068PS\_CN

日期 : 2017-07-27

页码 : 1 of 18

客户名称: 宁波浙创科技有限公司  
客户地址: 宁波慈溪市古塘街道科技路 777 号

样品名称 : ABS-101  
生产商 : 宁波浙创科技有限公司

以上信息及样品由客户提供及确认, SGS 不承担证实客户提供信息的准确性、适当性和(或)完整性的责任。

\*\*\*\*\*

收样日期 : 2017-07-19  
测试开始时间 : 2017-07-19  
测试结束时间 : 2017-07-27  
测试结果 : 请见下页 (除另有特别说明外, 此报告结果仅对测试样品负责)

通标标准技术服务有限公司宁波分公司  
授权签名



严波

授权签字人



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### 结果总结:

序号	测试项目	测试方法	结果	结论
1	负荷变形温度	ASTM D648-16 方法 B	55.1℃	/
2	悬臂梁缺口冲击强度	ASTM D256-10 <sup>e1</sup> 方法 C	16J/m C(完全破坏)	/
3	邵氏硬度	ASTM D2240-15	D/78/1	/
4	拉伸模量	ASTM D638-14	2170MPa	/
5	玻璃化转变温度	ASTM D6604-00(2013)	详见结果	/
6	液体密度	GB/T 13354-92	1.120 g/cm <sup>3</sup>	/
7	粘度	GB/T 2794-2013	1.76 × 10 <sup>2</sup> mPa·s	/
8	弯曲测试	ASTM D790-15 <sup>e2</sup>	见测试结果	/
9	拉伸测试	ASTM D638-14	见测试结果	/
10	吸水率	ASTM D570-98(2010) <sup>e1</sup>	见测试结果	/

备注: 合格: 达到要求  
 不合格: 未达到要求  
 /: 不下判定



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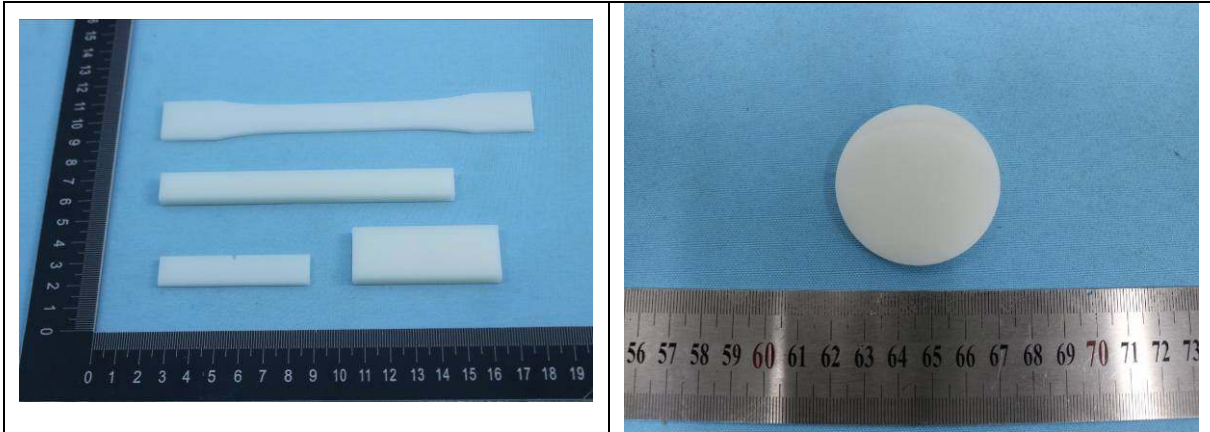
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原样照片:



样品 A



样品 B



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1. 测试项目: 负荷变形温度

测试方法: ASTM D648-16 方法 B

测试条件:

试样: 127mm × 6.91mm × 12.66mm

传热介质: 硅油

升温速率: 120°C/h

负荷: 1.82MPa

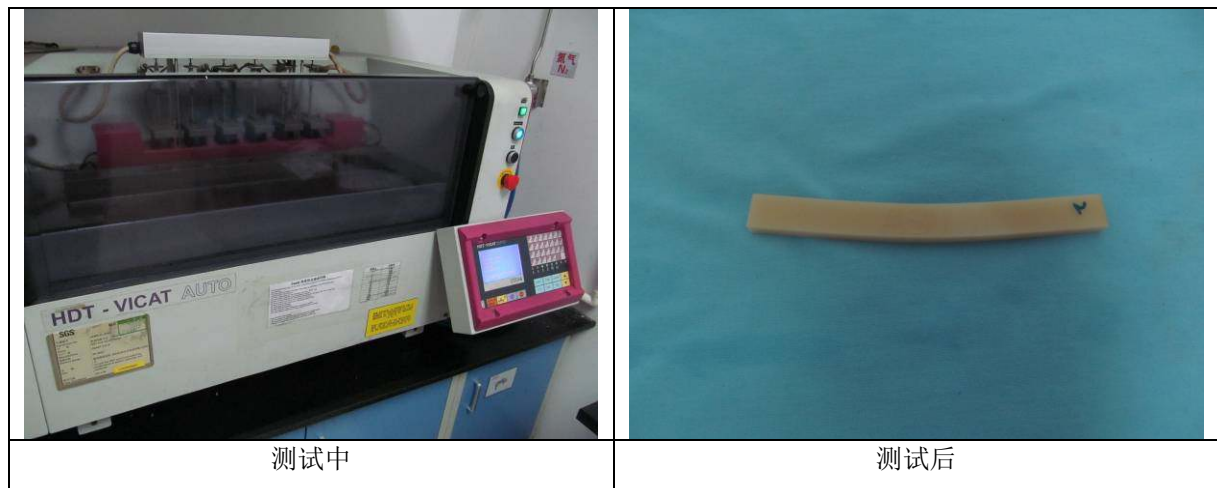
跨距: 100mm

实验室环境条件: (23±2)°C, (50±5)%RH

测试结果:

样品	测试项目	测试结果
A	负荷变形温度	55.1°C

测试照片:



设备信息:

设备	型号	设备编号	校准日期	下次校准日期
热变形维卡测定仪	6970.000	GZMR-PL-E091	2017-05-08	2018-05-07



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2. 测试项目: 悬臂梁缺口冲击强度

测试方法: ASTM D256-10<sup>e1</sup> 方法 C

测试条件:

试样缺口的剩余深度: 10.56mm

试样宽度: 3.72mm

摆锤能量: 2.75J

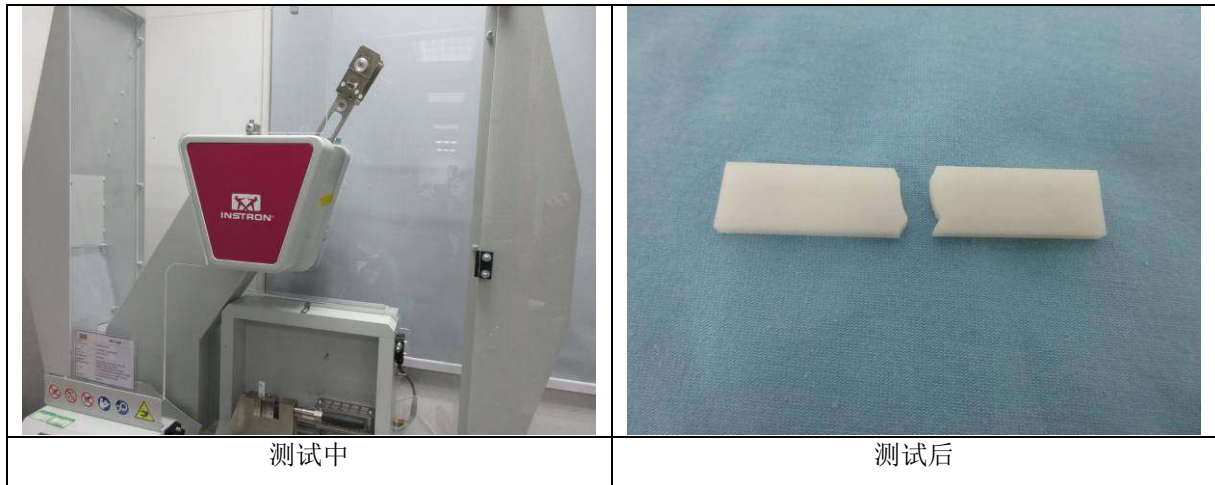
冲击速度: 3.46m/s

实验室环境条件: (23±2)°C, (50±5)%RH

测试结果:

样品	测试项目	测试结果
A	悬臂梁缺口冲击强度	16J/m C(完全破坏)

测试照片:



设备信息:

设备	型号	设备编号	校准日期	下次校准日期
冲击试验仪	CEAST 9050	GZMR-PL-E198	2016-12-12	2017-12-11



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### 3. 测试项目: 邵氏硬度

测试方法: ASTM D2240-15

测试条件:

试样厚度: 6.45mm

实验室环境条件: 23 ± 2 °C, 50 ± 5 % RH

测试结果:

样品	测试项目	测试结果
A	邵氏硬度	D/78/1

备注: D/X/1 是指硬度计的类型是 D 型; 读数时间是 1 s; 硬度值是 X。

测试照片:



设备信息:

设备	型号	设备编号	校准日期	下次校准日期
多功能硬度计	Digitest II	GZMR-PL-E156	2017-06-05	2018-06-04



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### 4. 测试项目: 拉伸模量

测试方法: ASTM D638-14

测试条件:

试样: 哑铃型

试样较窄部位宽度: 13.02mm

试样厚度: 3.98 mm

测试速度: 5 mm/min

标距: 50 mm

夹头间距: 115 mm

实验室环境条件: 23 ± 2 °C, 50 ± 5 % RH

测试结果:

样品	测试项目	测试结果
A	拉伸模量	2170MPa

测试照片:



测试中



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设备信息:

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电子万能材料试验机	Z030	GZMR-PL-E140	2016-10-12	2017-10-11

5. 测试项目: 玻璃化转变温度( $T_g$ )

测试方法: ASTM D6604-00(2013), 分析仪器为 DSC。

测试条件:

样品容器类型: Al,

吹扫气体流速(氮气: 99.999%): 50ml/min,

平衡在-85°C,

以 10°C/min 升温到 150°C, 保持温度 10min,

急速降温到-85°C, 保持温度 10min,

以 10°C/min 再次升温到 150°C。

测试结果:

样品	测试项目	第一次升温扫描 (DSC 曲线见图 1)	第二次升温扫描 (DSC 曲线见图 2)
A	外推起始温度 $T_{eig}$	45.1°C	50.8°C
	中点温度 $T_{mg}$	52.4°C	62.4°C
	外推终止温度 $T_{efg}$	59.7°C	73.9°C





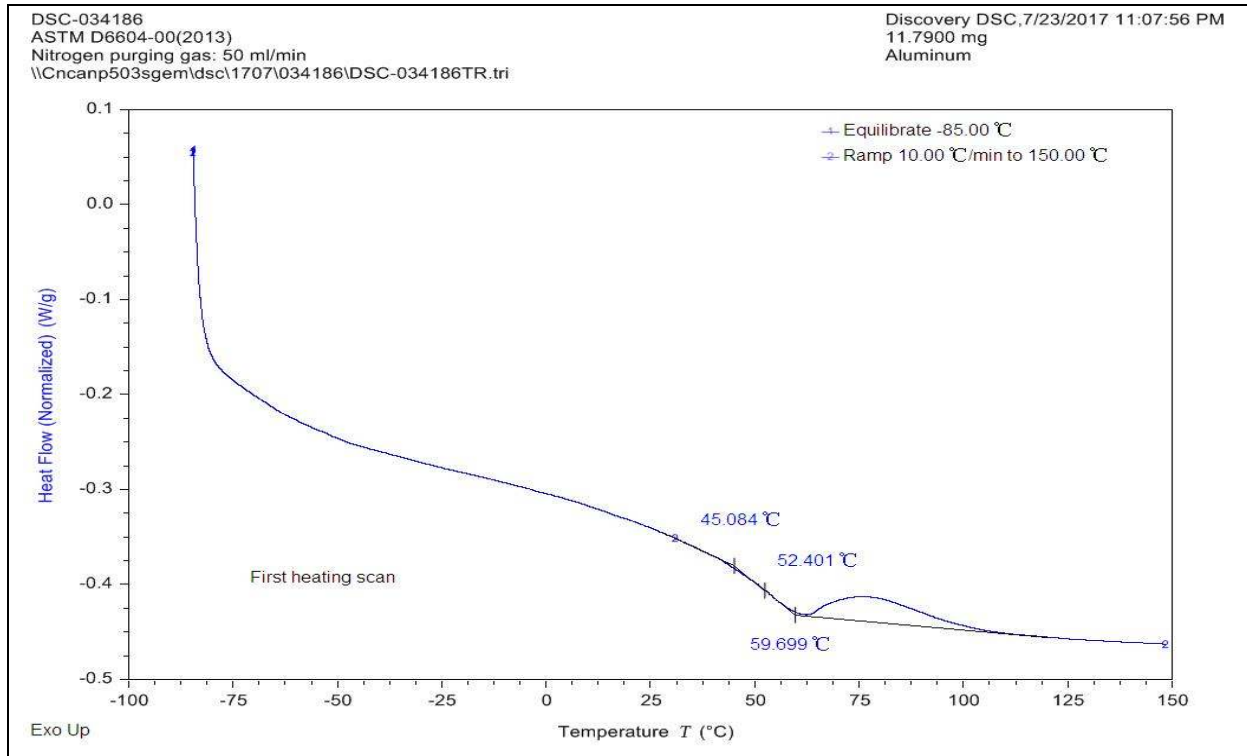
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图 1



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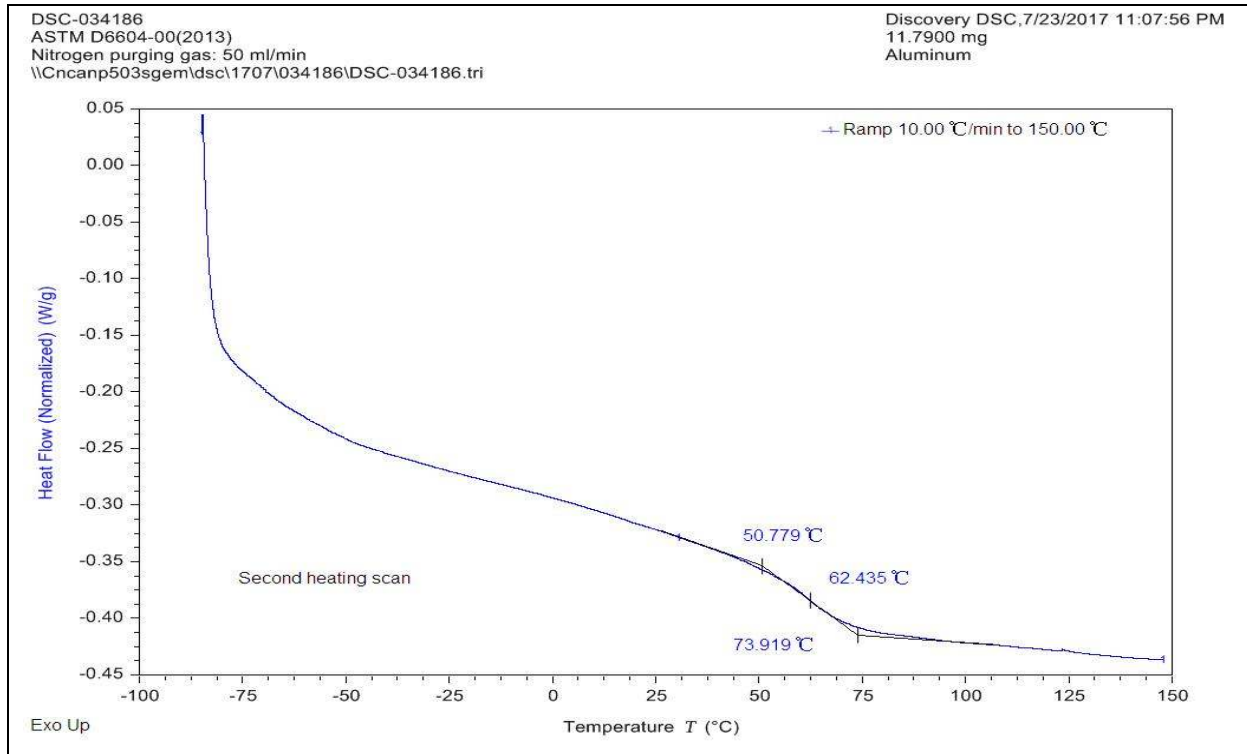
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图 2



设备信息:

设备	型号	设备编号	校准日期	下次校准日期
差示扫描量热仪	Discovery DSC	GZMR-PL-E136	2016-10-12	2017-10-11



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6. 测试项目: 液体密度

测试方法: GB/T 13354-92

测试条件:

测试温度: 25°C

比重杯: 37ml

测试结果:

样品	测试项目	测试结果
B	液体密度	1.120 g/cm <sup>3</sup>

测试照片:



设备信息:

设备	型号	设备编号	校准日期	下次校准日期
涂料比重杯	QBB	GZMR-AG-E034-04	2017-02-22	2018-02-21
电子天平	AL204	GZMR-AG-E107	2016-09-01	2017-08-31
低温恒温槽	DC-0506	GZMR-PL-E007	2017-06-12	2018-06-11



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### 7. 测试项目: 粘度

测试方法: GB/T 2794-2013

测试条件:

测试温度: 30°C

转子: 1#

转速: 12rpm

测试结果:

样品	测试项目	测试结果
B	粘度	$1.76 \times 10^2$ mPa·s

测试照片:



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设备	型号	设备编号	校准日期	下次校准日期
博勒菲表盘式粘度计	LVT	GZMR-AG-E028	2016-09-11	2017-09-10
低温恒温槽	DC-0506	GZMR-PL-E007	2017-06-12	2018-06-11



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### 8. 测试项目: 弯曲测试

测试方法: ASTM D790-15<sup>E2</sup>

测试条件:

程序 A 类型 I :

试样尺寸: 12.98mm×3.92mm

测试速度: 1.6 mm/min

跨距: 62 mm

压头直径: 10 mm

支座直径: 10 mm

程序 B 类型 I :

试样尺寸: 127.02×12.69mm×3.77mm

测试速度: 16 mm/min

跨距: 60 mm

压头直径: 10 mm

支座直径: 10 mm

测试结果:

样品		结果		
A	程序 B	在规定挠度时弯曲应力	56.4MPa <sup>注</sup>	
		最大弯曲应力	60.7MPa	
A	程序 A	弯曲模量	1#	1.24×10 <sup>3</sup> MPa
			2#	1.72×10 <sup>3</sup> MPa
			3#	1.09×10 <sup>3</sup> MPa
			4#	2.01×10 <sup>3</sup> MPa

注: 该样品在规定挠度前即不屈服也不断裂, 为标准 ASTM D790-15<sup>E2</sup> 中曲线 C, 规定挠度即弯曲应变为 5%。



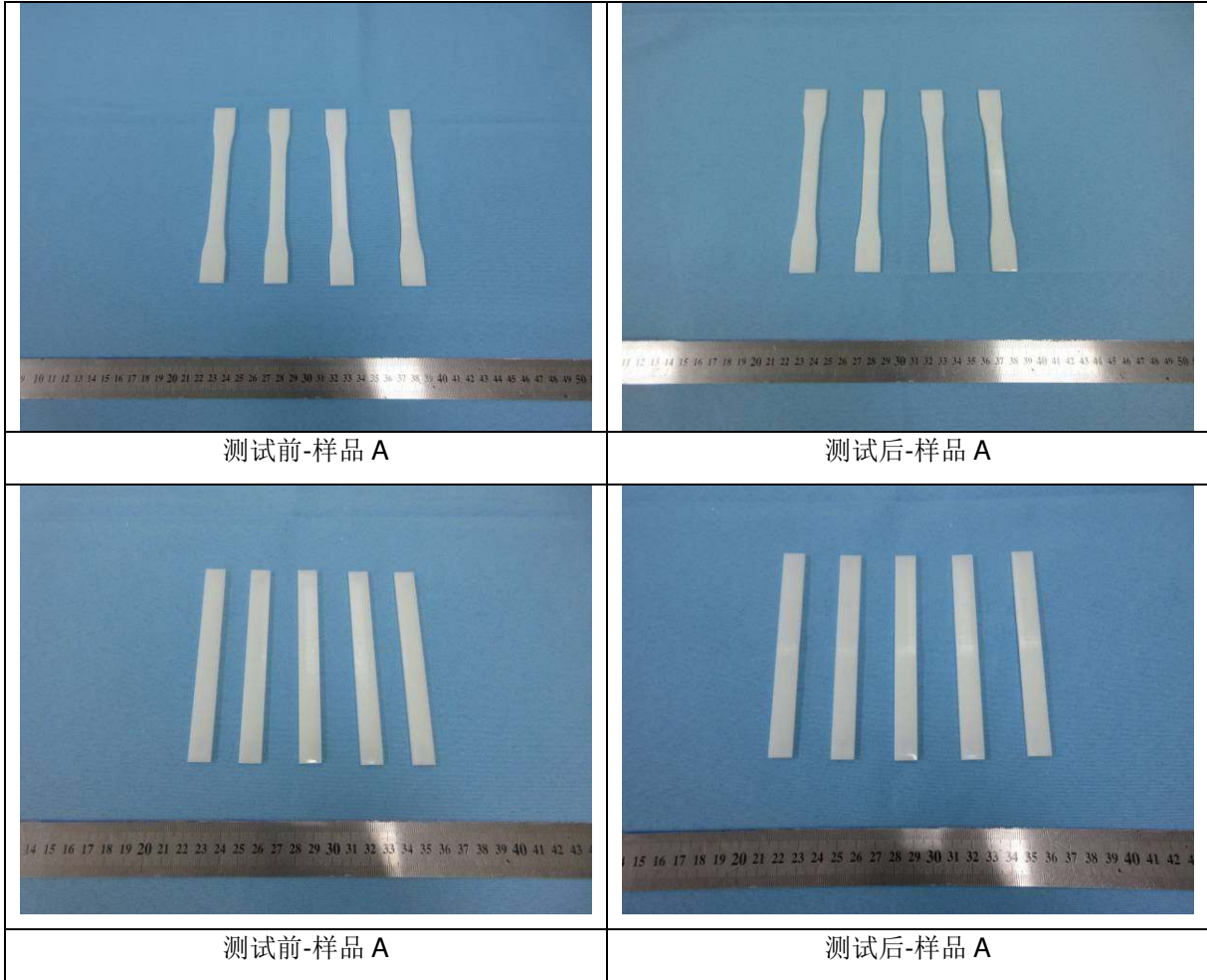
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测试照片:



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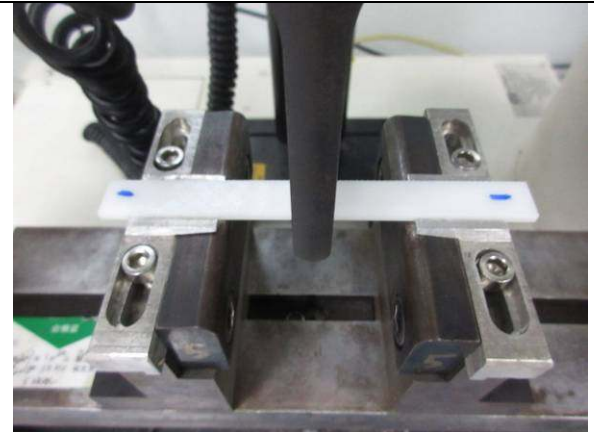
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测试中-样品 A



测试中-样品 A

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万能材料试验机	3366	NBML-028	2016/09/20	2017/09/19
数显外径千分尺	0-25mm	NBML-078-1	2016/11/17	2017/11/16
数显卡尺	d68970	NBML-136	2016/11/02	2017/11/01



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### 9. 测试项目: 拉伸测试

测试方法: ASTM D638-14

测试条件:

试样类型: Type I

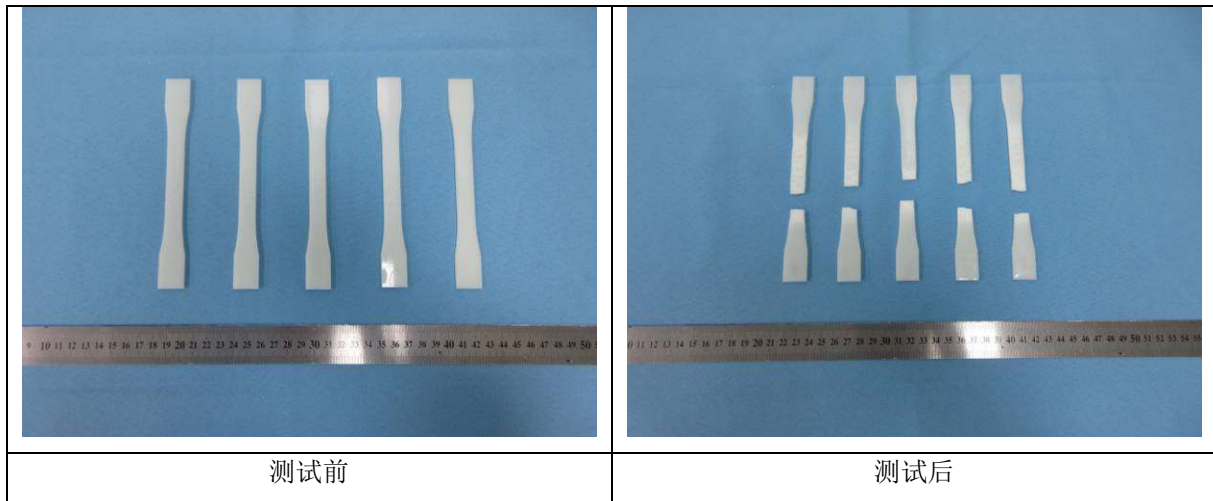
夹头距离: 115 mm

测试速度: 5 mm/min

测试结果:

样品	结果	
A	拉伸强度	42.6MPa
	断裂标称应变	8.6%

测试照片:





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数显外径千分尺	0-25mm	NBML-078-1	2016/11/17	2017/11/16
万能材料试验机	3366	NBML-028	2016/09/20	2017/09/19

10. 测试项目: 吸水率

测试方法: ASTM D570-98(2010)<sup>E1</sup>

测试条件:

干燥条件: 50±3℃, 24h

浸泡条件: 水浴, 23℃, 24h

测试结果:

样品	结果 <sup>注</sup>
A	0.92%

注: 吸水率, %=(测试后的质量-处理后的质量)/处理后的质量×100



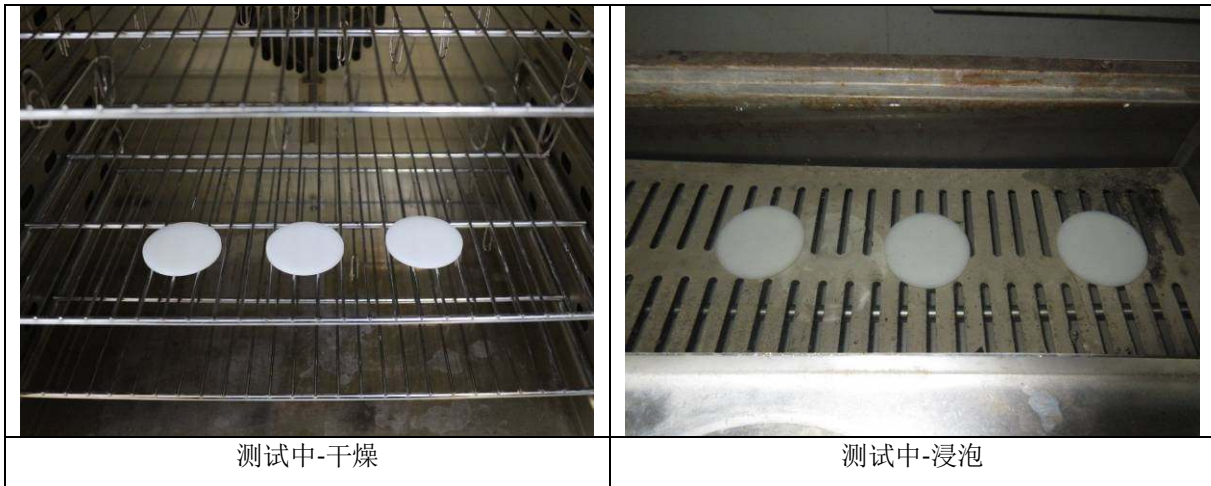
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烘箱	FD53	NBML-006-1	2017/03/20	2018/03/19
密度天平	BS224S	NBML-014	2016/09/20	2017/09/19
数显恒温水浴锅	HH8	NBML-107	2016/07/27	2017/07/26

- 以上测试由 SGS 集团内部实验室执行。
- “在中华人民共和国境内，报告加盖 CMA 章，表示测试项目在资质认定范围内；未加盖 CMA 章，表示部分/全部项目未在 CMA 资质认定范围内，结果仅供内部参考。”

\*\*\*\*\* 报告结束 \*\*\*\*\*

