

测试报告

编号 : NBIN1912012093PS_CN

日期 : 2019-10-30

页码 : 2 of 21

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	55.4℃	/	
2	比重	ASTM D792-13 方法 B	1.38	/	
3	弯曲测试	ASTM D790-15 ^{e2} 程序 A	弯曲强度	95.4MPa	/
			弯曲模量	3300MPa	
4	悬臂梁缺口冲击强度	ASTM D256-10 ^{e1} 方法 A	29J/m C (完全破坏)	/	
5	邵氏硬度	ASTM D2240-15	D/82/1	/	
6	拉伸模量	ASTM D638-14	3370MPa	/	
7	拉伸测试	ASTM D638-14	拉伸强度	69.9MPa	/
			断裂伸长率	18%	/
8	透光率	JIS K7361-1:1997	79.7 %	/	
9	垂直燃烧	UL 94-2013 Rev.6- 2016 第 8 节	V-0	/	
10	维卡软化温度	ASTM D1525-09	64.4℃	/	
11	尺寸变化	JIS K7133:1999	方向 1	-0.1%	/
			方向 2	-0.4%	
12	表面电阻率	ASTM D257-14	$1.1 \times 10^{16} \Omega/\text{sq}$	/	
13	体积电阻率	ASTM D257-14	$2.0 \times 10^{16} \Omega \cdot \text{cm}$	/	



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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 × 4.86mm × 12.96mm

传热介质: 硅油

升温速率: 120°C/h

负荷: 1.82MPa

跨距: 100mm

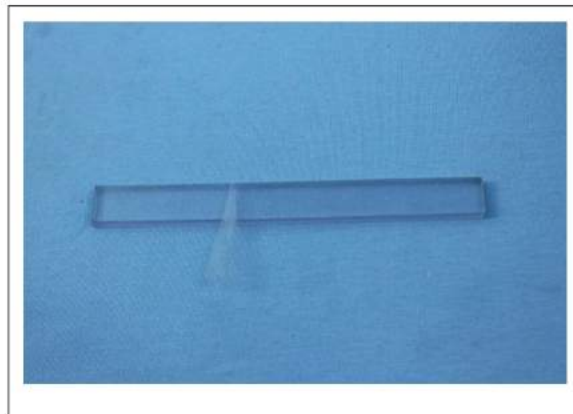
实验室环境条件: (23 ± 2)°C, (50 ± 5)%RH

测试结果:

测试项目	测试结果
负荷变形温度	55.4°C

备注: 测试前撕掉试样的保护膜。

原样照片:



SGS-CS1000
Ningbo Branch

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3. 测试项目: 弯曲测试

测试方法: ASTM D790-15^{e2} 程序 A

测试条件:

试样: 127mm×12.85mm×4.90mm

测试速度: 2.1mm/min

跨距: 78mm

实验室环境条件: (23±2)°C, (50±5)%RH

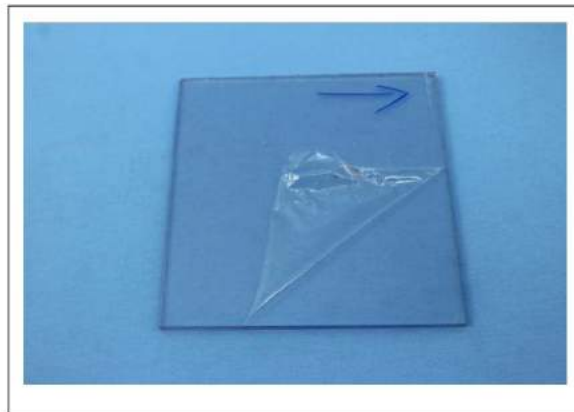
测试结果:

测试项目	测试结果
弯曲强度	95.4MPa
弯曲模量	3300MPa

备注:

- 1.测试试样从样品中截取。
- 2.测试前撕掉试样的保护膜。

原样照片:



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4. 测试项目: 悬臂梁缺口冲击强度

测试方法: ASTM D256-10^{e1} 方法 A

测试条件:

试样宽度: 4.92mm (缺口制备: 机械加工)

摆锤能量: 2.75J

冲击速度: 3.46m/s

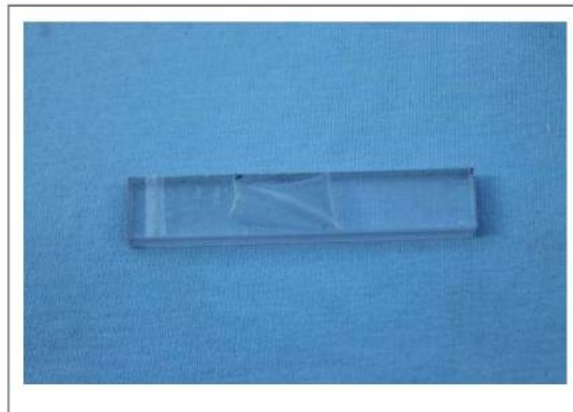
实验室环境条件: (23±2)°C, (50±5)%RH

测试结果:

测试项目	测试结果
悬臂梁缺口冲击强度	29J/m C (完全破坏)

备注: 测试前撕掉试样的保护膜。

原样照片:



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5. 测试项目: 邵氏硬度

测试方法: ASTM D2240-15

测试条件:

试样厚度: 9.96mm (2 层叠加)

实验室环境条件: (23±2)°C, (50±5)%RH

测试结果:

测试项目	测试结果
邵氏硬度	D/82/1

备注:

1. D/X/1 是指硬度计的类型是 D 型; 读数时间是 1s; 硬度值是 X。
2. 测试试样从样品中截取。
3. 测试前撕掉试样的保护膜。

原样照片:



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6. 测试项目: 拉伸模量

测试方法: ASTM D638-14

测试条件:

试样: I 型

试样厚度: 5.01mm

测试速度: 5mm/min

标距: 50mm

夹头间距: 115mm

实验室环境条件: (23±2)°C, (50±5)%RH

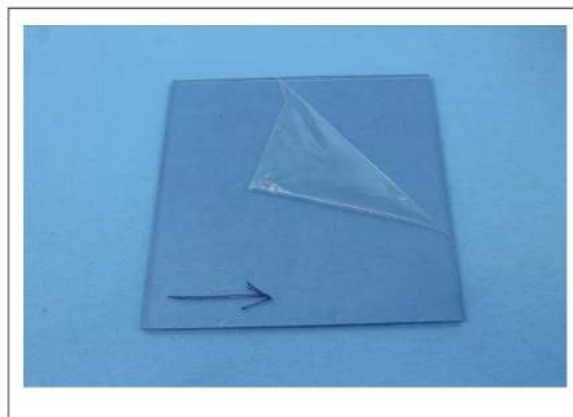
测试结果:

测试项目	测试结果
拉伸模量	3370MPa

备注:

1. 测试前撕掉试样的保护膜。
2. 测试试样从样品中截取

原样照片:



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7. 测试项目: 拉伸测试

测试方法: ASTM D638-14

测试条件:

试样: I 型

试样厚度: 5.01mm

测试速度: 50mm/min

标距: 50mm

夹头间距: 115mm

实验室环境条件: (23±2)°C, (50±5)%RH

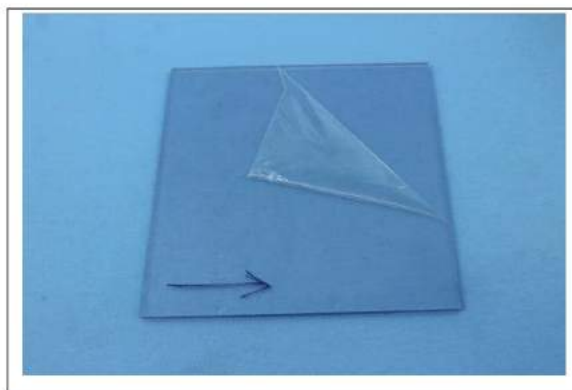
测试结果:

测试项目	测试结果
拉伸强度	69.9MPa
断裂伸长率	18%

备注:

1. 测试前撕掉试样的保护膜。
2. 测试试样从样品中截取

原样照片:



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8. 测试项目: 透光率

测试方法: JIS K7361-1:1997

测试条件:

试样厚度: 4.90mm

光源: D₆₅

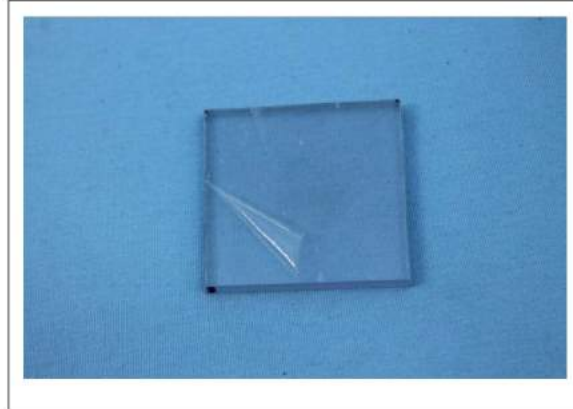
实验室环境条件: (23±2)°C, (50±5)%RH

测试结果:

测试项目	测试结果
透光率	79.7 %

备注: 测试前撕掉试样的保护膜。

原样照片:





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9. 测试项目: 垂直燃烧

测试方法: UL 94-2013 Rev.6-2016 第 8 节

测试条件:

试样: 127 mm × 13.3 mm × 5.0 mm

测试结果:

处理条件	(23±2)°C, (50±5)%RH, 48 h					(70 ±2)°C, 168h→ 干燥器, (23±2)°C, 4 h				
	1	2	3	4	5	1	2	3	4	5
试样										
第一次施加火焰后余焰时间 (s), t ₁	0	0	0	0	0	0	0	0	0	0
第二次施加火焰后余焰时间 (s), t ₂	0	0	0	0	0	0	0	0	0	0
第二次施加火焰后余辉时间 (s), t ₃	0	0	0	0	0	0	0	0	0	0
任何状态调节, 总余焰时间 (s), t ₁ +t ₂	0					0				
第二次施加火焰后余焰时间加余辉 时间 (s), t ₂ +t ₃	0	0	0	0	0	0	0	0	0	0
试样余焰或余辉是否蔓延到夹具	否	否	否	否	否	否	否	否	否	否
燃烧颗粒或滴落物是否引燃脱脂棉	否	否	否	否	否	否	否	否	否	否

等级: V-0 (见表 1)



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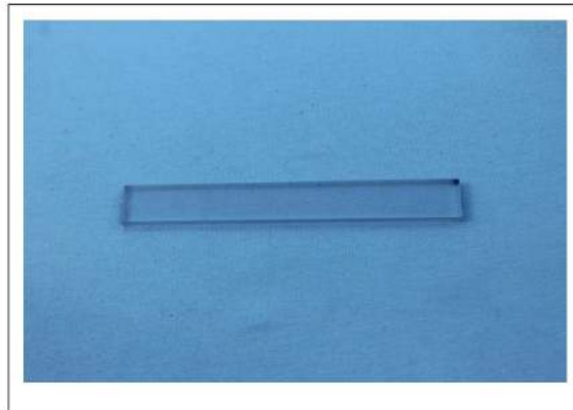
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表 1

判定条件	V-0	V-1	V-2
单个试样余焰时间, t_1 或 t_2	≤ 10 s	≤ 30 s	≤ 30 s
任何状态调节, 总余焰时间(5个试样的 t_1+t_2)	≤ 50 s	≤ 250 s	≤ 250 s
第二次施加火焰后单个试样余焰时间加余辉时间 (t_2+t_3)	≤ 30 s	≤ 60 s	≤ 60 s
任一试样余焰或余辉是否蔓延到夹具	否	否	否
燃烧颗粒或滴落物是否引燃脱脂棉	否	否	是

备注: 测试前撕掉试样的保护膜。

原样照片:



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10. 测试项目: 维卡软化温度

测试方法: ASTM D1525-09

测试条件:

试样厚度: 4.97mm
 传热介质: 硅油
 升温速率: 50°C/h
 负荷: 50N

实验室环境条件: (23±2)°C, (50±5)%RH

测试结果:

测试项目	测试结果
维卡软化温度	64.4°C

备注: 测试前撕掉试样的保护膜。

原样照片:



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11. 测试项目: 尺寸变化

测试方法: JIS K7133:1999

测试条件: 70°C, 5min→冷却至室温

测试结果:

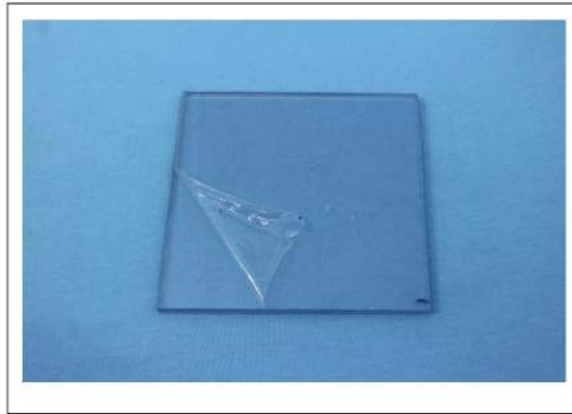
测试项目	测试结果	
尺寸变化	方向 1	-0.1%
	方向 2	-0.4%

备注:

1.尺寸变化, %=(处理后尺寸-处理前尺寸)/处理前尺寸×100

2.测试前撕掉试样的保护膜。

原样照片:



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12. 测试项目: 表面电阻率

测试方法: ASTM D257-14

测试条件:

预处理条件: 23 ± 2 °C, 50 ± 5 %RH, 48 h

测试条件: 23 ± 2 °C, 50 ± 5 %RH

测试电极直径: 26 mm

电极间隙: 6.0 mm

测试电压: 500 Vdc

电化时间: 1 min

测试结果:

测试项目	测试结果
表面电阻率	$1.1 \times 10^{16} \Omega/\text{sq}$

备注:

1. 测试试样从样品中截取。
2. 测试前撕掉试样的保护膜。

原样照片:



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13. 测试项目: 体积电阻率

测试方法: ASTM D257-14

测试条件:

试样厚度: 4.88 mm

预处理条件: 23 ± 2 °C, 50 ± 5 %RH, 48 h

测试条件: 23 ± 2 °C, 50 ± 5 %RH

测试电极直径: 26 mm

电极间隙: 6.0 mm

测试电压: 500 Vdc

电化时间: 1 min

测试结果:

测试项目	测试结果
体积电阻率	$2.0 \times 10^{16} \Omega \cdot \text{cm}$

备注:

1. 测试试样从样品中截取。
2. 测试前撕掉试样的保护膜。

原样照片:



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14. 测试项目: 吸水率

测试方法: ASTM D570-98(2010)^{e1}

测试条件:

干燥条件: 50 3℃, 24h

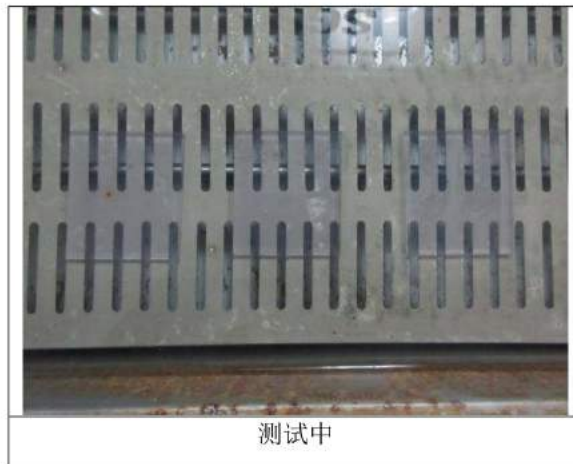
浸泡条件: 水浴, 23 1℃, 24h

测试结果:

测试项目	结果
吸水率	0.10 % ^注

注: 吸水率, %=(测试后的质量-处理后的质量)/处理后的质量×100

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
烘箱	FD53	NBML-006-1	2019/09/20	2019/09/19
密度天平	BS224S	NBML-014	2019/09/20	2019/09/19





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15. 测试项目: 光老化试验-紫外辐射暴露

测试方法: ASTM G154-16

测试条件:

测试循环: ASTM G154-16 循环 1

灯管类型: UVA-340

光照: 8h, (60 ±3)°C BPT, 0.89W/(m²·nm)@340nm

冷凝: 4h, (50 ±3)°C BPT

暴露时间: 168h

测试结果:

样品	外观	灰标等级 ^{注1}
1#	明显发黄	1
2#	明显发黄	1
3#	明显发黄	2

注:

1. 根据 ISO 105-A02:1993/Cor.2:2005, 灰标等级是在标准光源 D65 下评定, 5 级最好, 1 级最差。
2. 测试样从样品中截取。



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测试报告

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