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中国认可
检测
TESTING
CNAS L4566



交GJC交006

检 验 报 告

编号: 2025WJA0080019

样品名称: 反光膜

委托单位: 晋江联兴反光材料有限公司

检测类别: 委 托 检 测

签发时间: 2025年03月06日



交科院检测技术(北京)有限公司

CMA
160001071969

CNAS
Testing CNAS L4566

Transport
GJC Jiao 006

INSPECTION REPORT

(Reference translation of the original Chinese-language report)

Report No.: 2025WJA0080019

Sample Name

Retroreflective Sheeting

Client

Jinjiang Lianxing Reflective Material Co., Ltd. (晋江联兴反光材料有限公司)

Test Category

Commissioned Test

Date of Issue

March 6, 2025

[Official test seal in the original document]

CATS Testing Technology (Beijing) Co., Ltd.

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样品名称	反光膜		
规格型号	IV类，黄色	样品编号	2025WJA0080019-1
	IV类，红色		2025WJA0080019-2
	IV类，绿色		2025WJA0080019-3
	IV类，蓝色		2025WJA0080019-4
委托单位	晋江联兴反光材料有限公司		
生产单位	晋江联兴反光材料有限公司（由委托单位提供）		
来样方式	寄样	样品数量	(150×150)mm/片，无铝板，各 6 件 (150×150)mm/片，有铝板，各 6 件 (230×70)mm/片，无铝板，各 3 件 (200×50)mm/片，有铝板，各 3 件 (230×230)mm/片，无铝板，各 3 件 (25×150)mm/片，无铝板，各 6 件 (150×25)mm/片，有铝板，各 12 件
样品状态	良好	到样日期	2025/02/21
检测地点	顺义实验室	检测日期	2025/02/21-03/15
环境条件	见表 1	仪器设备	见表 2
检测/判定依据	GB/T 18833-2012《道路交通反光膜》		
检测项目	1. 光度性能（逆反射系数） 2. 色度性能（表面色） 3. 抗冲击性能 4. 耐弯曲性能 5. 附着性能 6. 收缩性能 7. 防粘纸可剥离性能 8. 耐溶剂性能 9. 耐盐雾腐蚀性能 10. 耐高低温性能		
检测结论	经实验室检测，晋江联兴反光材料有限公司委托的反光膜样品，所检项目符合 GB/T 18833-2012《道路交通反光膜》标准中相关的技术指标要求。 签发日期：2025 年 03 月 06 日 (盖章) 		
备 注	—		
报 告：	审 核： 批 准：		

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Sample Name	Retroreflective Sheeting		
Specification & Model	Type IV, yellow	Sample Number	2025WJA0080019-1
	Type IV, red		2025WJA0080019-2
	Type IV, green		2025WJA0080019-3
	Type IV, blue		2025WJA0080019-4
Client	Jinjiang Lianxing Reflective Material Co., Ltd.		
Manufacturer	Jinjiang Lianxing Reflective Material Co., Ltd. (provided by the client)		
Sample Arrival Method	Sent by courier	Number of Samples	See details below
Sample Details	(150×150) mm/piece, without aluminum plate, 6 pieces of each color; (150×150) mm/piece, with aluminum plate, 6 pieces of each color; (230×70) mm/piece, without aluminum plate, 3 pieces of each color; (200×50) mm/piece, with aluminum plate, 3 pieces of each color; (230×230) mm/piece, without aluminum plate, 3 pieces of each color; (25×150) mm/piece, without aluminum plate, 6 pieces of each color; (150×25) mm/piece, with aluminum plate, 12 pieces of each color		
Sample Status	Good condition	Receiving Date	2025/02/21
Test Location	Shunyi Laboratory	Test Date	2025/02/21 ~ 2025/03/15
Ambient Condition	See Table 1	Test Equipment	See Table 2
Test / Judgement Basis	GB/T 18833-2012 "Retroreflective Sheeting for Road Traffic Control"		
Test Item	1. Photometric Performance (Coefficient of Retroreflection) 2. Chromaticity Performance (Surface Color) 3. Impact Resistance 4. Bending Resistance 5. Adhesion Performance 6. Shrinkage Performance 7. Release Liner Peelability 8. Solvent Resistance 9. Salt Spray Corrosion Resistance 10. High and Low Temperature Resistance		
Test Results	Based on laboratory testing, the retroreflective sheeting samples submitted by Jinjiang Lianxing Reflective Material Co., Ltd. meet, in all items tested, the corresponding technical requirements specified in GB/T 18833-2012 "Retroreflective Sheeting for Road Traffic Control".		
Comments	—		
Reported by		Audited by	
		Approved by	

(Handwritten signatures and official test seal dated 2025/03/06 in the original document.)

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表 1 检测环境条件

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固定场所	非固定场所
(23±2)℃/(50±10)%RH	——

表 2 检测主要仪器设备

序号	设备名称	规格型号	设备编号
1	反光膜附着性试验装置	——	JA-006
2	盐雾试验箱	SFT080	JGZ-006
3	全自动落锤冲击试验机	ZCJ1302-A	JGZ-050
4	分光测色仪	CM-2500C	JGZ-035
5	逆反射测试仪	933	JG-160

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Table 1. Environmental Conditions of the Test

Fixed Location	Non-fixed Location
(23±2)°C / (50±10)% RH	— —

Table 2. Main Equipment Used in the Test

No.	Equipment	Specification Model	Equipment ID
1	Retroreflective sheeting adhesion test apparatus	— —	JA-006
2	Salt spray test chamber	SFT080	JGZ-006
3	Fully automatic drop-weight impact tester	ZCJ1302-A	JGZ-050
4	Spectrophotometer / colorimeter	CM-2500C	JGZ-035
5	Retroreflectometer	933	JG-160

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反光膜实验室检测结果						
检测项目		技术指标		检测结果	单项判定	
光度性能	逆反射系数 R_A , $\text{cd} \cdot \text{lx}^{-1} \cdot \text{m}^{-2}$ 黄 2025WJA0080019 -1	观测角: 0.2°	入射角: -4° , $R_A \geq 270$	315	合格	
			入射角: 15° , $R_A \geq 202$	257		
			入射角: 30° , $R_A \geq 135$	191		
		观测角: 0.5°	入射角: -4° , $R_A \geq 110$	216		
			入射角: 15° , $R_A \geq 82$	194		
			入射角: 30° , $R_A \geq 54$	102		
		观测角: 1°	入射角: -4° , $R_A \geq 26$	47		
			入射角: 15° , $R_A \geq 20$	46		
			入射角: 30° , $R_A \geq 15$	31		
	逆反射系数 R_A , $\text{cd} \cdot \text{lx}^{-1} \cdot \text{m}^{-2}$ 红 2025WJA0080019 -2	观测角: 0.2°	入射角: -4° , $R_A \geq 65$	107	合格	
			入射角: 15° , $R_A \geq 48$	82		
			入射角: 30° , $R_A \geq 30$	54		
		观测角: 0.5°	入射角: -4° , $R_A \geq 27$	72		
			入射角: 15° , $R_A \geq 20$	81		
			入射角: 30° , $R_A \geq 13$	47		
		观测角: 1°	入射角: -4° , $R_A \geq 5.2$	20.7		
			入射角: 15° , $R_A \geq 4.1$	22.9		
			入射角: 30° , $R_A \geq 3.0$	14.4		
	逆反射系数 R_A , $\text{cd} \cdot \text{lx}^{-1} \cdot \text{m}^{-2}$ 绿 2025WJA0080019 -3	观测角: 0.2°	入射角: -4° , $R_A \geq 50$	66	合格	
			入射角: 15° , $R_A \geq 38$	56		
			入射角: 30° , $R_A \geq 25$	32		
		观测角: 0.5°	入射角: -4° , $R_A \geq 21$	44		
			入射角: 15° , $R_A \geq 16$	40		
			入射角: 30° , $R_A \geq 10$	24		
		观测角: 1°	入射角: -4° , $R_A \geq 4.0$	10.9		
			入射角: 15° , $R_A \geq 3.0$	10.7		
			入射角: 30° , $R_A \geq 2.0$	7.4		
备注		——				

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Laboratory Test Results for Retroreflective Sheeting			
Test Item	Technical Requirement		Result
Coefficient of Retroreflection R_A , $\text{cd}\cdot\text{lx}^{-1}\cdot\text{m}^{-2}$ Yellow 2025WJA0080019-1	Observation Angle: 0.2°	Entrance Angle: -4° , $R_A \geq 270$	315
		Entrance Angle: 15° , $R_A \geq 202$	257
		Entrance Angle: 30° , $R_A \geq 135$	191
	Observation Angle: 0.5°	Entrance Angle: -4° , $R_A \geq 110$	216
		Entrance Angle: 15° , $R_A \geq 82$	194
		Entrance Angle: 30° , $R_A \geq 54$	102
	Observation Angle: 1°	Entrance Angle: -4° , $R_A \geq 26$	47
		Entrance Angle: 15° , $R_A \geq 20$	46
		Entrance Angle: 30° , $R_A \geq 15$	31
	Pass		
Coefficient of Retroreflection R_A , $\text{cd}\cdot\text{lx}^{-1}\cdot\text{m}^{-2}$ Red 2025WJA0080019-2	Observation Angle: 0.2°	Entrance Angle: -4° , $R_A \geq 65$	107
		Entrance Angle: 15° , $R_A \geq 48$	82
		Entrance Angle: 30° , $R_A \geq 30$	54
	Observation Angle: 0.5°	Entrance Angle: -4° , $R_A \geq 27$	72
		Entrance Angle: 15° , $R_A \geq 20$	81
		Entrance Angle: 30° , $R_A \geq 13$	47
	Observation Angle: 1°	Entrance Angle: -4° , $R_A \geq 5.2$	20.7
		Entrance Angle: 15° , $R_A \geq 4.1$	22.9
		Entrance Angle: 30° , $R_A \geq 3.0$	14.4
	Pass		
Coefficient of Retroreflection R_A , $\text{cd}\cdot\text{lx}^{-1}\cdot\text{m}^{-2}$ Green 2025WJA0080019-3	Observation Angle: 0.2°	Entrance Angle: -4° , $R_A \geq 50$	66
		Entrance Angle: 15° , $R_A \geq 38$	56
		Entrance Angle: 30° , $R_A \geq 25$	32
	Observation Angle: 0.5°	Entrance Angle: -4° , $R_A \geq 21$	44
		Entrance Angle: 15° , $R_A \geq 16$	40
		Entrance Angle: 30° , $R_A \geq 10$	24
	Observation Angle: 1°	Entrance Angle: -4° , $R_A \geq 4.0$	10.9
		Entrance Angle: 15° , $R_A \geq 3.0$	10.7
		Entrance Angle: 30° , $R_A \geq 2.0$	7.4
	Pass		

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反光膜实验室检测结果							
检测项目		技术指标		检测结果	单项判定		
光度性能	逆反射系数 R_A , $\text{cd} \cdot \text{lx}^{-1} \cdot \text{m}^{-2}$ 蓝 2025WJA0080019 -4	观测角: 0.2°	入射角: -4° , $R_A \geq 30$	31	合格		
			入射角: 15° , $R_A \geq 22$	28			
			入射角: 30° , $R_A \geq 14$	15			
		观测角: 0.5°	入射角: -4° , $R_A \geq 13$	19			
			入射角: 15° , $R_A \geq 9.5$	22.4			
			入射角: 30° , $R_A \geq 6.0$	14.0			
		观测角: 1°	入射角: -4° , $R_A \geq 2.0$	6.7			
			入射角: 15° , $R_A \geq 1.5$	6.4			
			入射角: 30° , $R_A \geq 1.0$	4.2			
备注		——					

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Laboratory Test Results for Retroreflective Sheeting			
Test Item	Technical Requirement		Result
Coefficient of Retroreflection R_A , cd·lx ⁻¹ ·m ⁻² Blue 2025WJA0080019-4	Observation Angle: 0.2°	Entrance Angle: -4°, $R_A \geq 30$	31
		Entrance Angle: 15°, $R_A \geq 22$	28
		Entrance Angle: 30°, $R_A \geq 14$	15
	Observation Angle: 0.5°	Entrance Angle: -4°, $R_A \geq 13$	19
		Entrance Angle: 15°, $R_A \geq 9.5$	22.4
		Entrance Angle: 30°, $R_A \geq 6.0$	14.0
	Observation Angle: 1°	Entrance Angle: -4°, $R_A \geq 2.0$	6.7
		Entrance Angle: 15°, $R_A \geq 1.5$	6.4
		Entrance Angle: 30°, $R_A \geq 1.0$	4.2
Pass			

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色度性能

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Laboratory Test Results for Retroreflective Sheeting		
Test Item	Technical Requirement	Result
Surface Color Yellow 2025WJA0080019-1	Chromaticity coordinates (point 1, 2, 3, 4): x: 0.545 0.494 0.444 0.481 → measured: x = 0.525 y: 0.454 0.426 0.476 0.518 → measured: y = 0.464	Pass
	Luminance Factor (unmetallized): 0.15 ~ 0.45	0.30 — Pass
	(the result must fall within the area formed by the four points above)	
Surface Color Red 2025WJA0080019-2	Chromaticity coordinates (point 1, 2, 3, 4): x: 0.735 0.681 0.579 0.655 → measured: x = 0.664 y: 0.265 0.239 0.341 0.345 → measured: y = 0.317	Pass
	Luminance Factor (unmetallized): 0.02 ~ 0.15	0.07 — Pass
	(the result must fall within the area formed by the four points above)	
Surface Color Green 2025WJA0080019-3	Chromaticity coordinates (point 1, 2, 3, 4): x: 0.201 0.285 0.170 0.026 → measured: x = 0.139 y: 0.776 0.441 0.364 0.399 → measured: y = 0.452	Pass
	Luminance Factor (unmetallized): 0.03 ~ 0.12	0.07 — Pass
	(the result must fall within the area formed by the four points above)	
Surface Color Blue 2025WJA0080019-4	Chromaticity coordinates (point 1, 2, 3, 4): x: 0.049 0.172 0.210 0.137 → measured: x = 0.145 y: 0.125 0.198 0.160 0.038 → measured: y = 0.109	Pass
	Luminance Factor (unmetallized): 0.01 ~ 0.10	0.04 — Pass
	(the result must fall within the area formed by the four points above)	

Comments: chromaticity coordinates — standard illuminant D65, geometric condition 45°a:0°, 2° field of view.

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反光膜实验室检测结果（2023WJA0080019-1~-4）			
检测项目	技术要求		检测结果
抗冲击性能	反光膜应具备抗冲击性能，经试验后，在受到冲击的表面以外，不应出现裂缝、层间脱离或其他损坏		未见异常
耐弯曲性能	反光膜应承受适度弯曲，按标准要求试验后，表面不应出现裂缝、剥落或层间分离等损坏		未见异常
附着性能, mm	反光膜背胶应有足够的附着力，且各结构层间结合牢固，经试验后，在5min 后的剥离长度≤20		7
收缩性能, mm	经试验后，反光膜不应出现明显收缩，任何一边的尺寸	在 10min 内，其收缩≤0.8	0.1
		在 24h 内，其收缩≤3.2	0.7
防粘纸可剥离性能	经试验后，反光膜无需用水或其他溶剂浸湿，防粘纸即可方便地手工剥下，且无破损、撕裂或从反光膜上带下粘合剂等损坏现象		未见异常
耐溶剂性能	经汽油浸泡后，反光膜表面不应出现软化、皱纹、渗漏、起泡、开裂或被溶解等损坏		未见异常
	经乙醇浸泡后，反光膜表面不应出现软化、皱纹、渗漏、起泡、开裂或被溶解等损坏		未见异常
耐盐雾腐蚀性能	进行盐雾试验后，反光膜表面不应有变色、渗漏、起泡或被侵蚀等损坏		未见异常
耐高低温性能	进行高低温试验后，反光膜表面不应出现裂缝、软化、剥落、皱纹、起泡、翘曲或外观不均匀等损坏		未见异常
备注	——		

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Laboratory Test Results for Retroreflective Sheeting (2025WJA0080019-1 ~ -4)		
Test Item	Technical Requirement	Result
Impact Resistance	The retroreflective sheeting must be impact resistant; after testing, outside the impacted area the surface must show no cracks, delamination, or other damage.	No abnormalities Pass
Bending Resistance	The retroreflective sheeting must withstand moderate bending; after testing in accordance with the standard, the surface must show no cracks, flaking, or delamination.	No abnormalities Pass
Adhesion Performance, mm	The backing adhesive of the retroreflective sheeting must provide sufficient adhesive strength, and all structural layers must remain firmly bonded; after testing, the peeled length at 5 min must not exceed 20 mm.	7 mm Pass
Shrinkage Performance, mm	After testing, the retroreflective sheeting must show no evident shrinkage on any side: within 10 min, shrinkage ≤ 0.8 ; within 24 h, shrinkage ≤ 3.2 .	10 min: 0.1 24 h: 0.7 Pass
Release Liner Peelability	After testing, the release liner must be easily peelable by hand without water or other solvents, with no tearing, ripping, or adhesive residue left on the retroreflective sheeting.	No abnormalities Pass
Solvent Resistance (Gasoline)	After immersion in gasoline, the surface must show no softening, wrinkling, leakage, blistering, cracking, or dissolving.	No abnormalities Pass
Solvent Resistance (Ethanol)	After immersion in ethanol, the surface must show no softening, wrinkling, leakage, blistering, cracking, or dissolving.	No abnormalities Pass
Salt Spray Corrosion Resistance	After the salt spray test, the surface must show no discoloration, leakage, blistering, or corrosion.	No abnormalities Pass
High and Low Temperature Resistance	After the high/low temperature test, the surface must show no cracks, softening, flaking, wrinkling, blistering, warping, or non-uniform appearance.	No abnormalities Pass
Comments	— —	

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交科院检测技术（北京）有限公司简介

交科院检测技术（北京）有限公司原名交通运输部科学研究院交通工程检测中心，隶属于交通运输部科学研究院，按照事业单位改革及国家和交通运输部检验检测机构整合要求改制设立，具有独立的法人资格，是专门从事交通工程及产品质量检验、评价的综合性实体，拥有国家级资质认定（CMA）、国际互认实验室认可（CNAS）、检验机构认可、交通运输部公路水运试验检测机构交通工程专项资质，是全国工业产品生产许可证办公室授权的（桥梁支座）检验机构。



路线图：1、乘地铁5号线和平里北街站下车，出B口，沿和平里北街向东步行500米，至和平里东街向南100米路东即到。

2、驾车至北三环和平东桥，沿和平里东街向南，过和平里北街路口100米路东即到，或至北二环小街桥，沿和平里东街向北，过和平里中街即到。

Profile of CATS Testing Technology (Beijing) Co., Ltd.

CATS Testing Technology (Beijing) Co., Ltd., formerly the Transportation Engineering Inspection Center of the Research Institute of Highway, Ministry of Transport, and affiliated with that institute, was reorganized in accordance with the reform of public institutions and the requirements for integrating inspection and testing bodies of the State and of the Ministry of Transport. It has independent legal-person status and is a comprehensive entity dedicated to the inspection and evaluation of transportation engineering and product quality. It holds the state metrology/quality accreditation (CMA), the China National Accreditation Service for Conformity Assessment (CNAS) mutual-recognition accreditation, inspection-body accreditation, and the special qualification in transportation engineering granted by the Ministry of Transport for highway and inland-waterway transport testing bodies. It is the designated inspection body (for bridge bearings) authorized by the National Certification and Accreditation Administration for industrial products.

[Map and access route — see the original Chinese document]

Address: Ministry of Transport Office Building, Building -1, Courtyard No. 10, Hepingli Dongjie, Dongcheng District, Beijing.

Phone: 010-58278927