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中国认可
检测
TESTING
CNAS L4566



交GJC交006

检 验 报 告

交检检(W-FGM)字[2025]第068号

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30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 report)

Jiao Jian Jian (W-FGM) Zi [2025] No. 068
交检检(W-FGM)字[2025]第068号

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 30, 2025

[Official test seal in the original document]

CATS Testing Technology (Beijing) Co., Ltd.
交科院检测技术(北京)有限公司

交科院检测技术（北京）有限公司
检验报告

委托单号：20251466

报告编号：交检检(W-FGM)字[2025]第068号

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样品名称	反光膜		
规格型号	IV类，白色	样品编号	2025-FGM-063
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	无铝板，(150×150)mm/片，共6件 有铝板，(150×150)mm/片，共3件 无铝板，(230×230)mm/片，共3件 无铝板，(25×150)mm/片，共3件 有铝板，(150×25)mm/片，共12件 有铝板，(150×150)mm/片，共3件 无铝板，(150×150)mm/片，共3件
样品状态	良好	到样日期	2025/02/12
检测地点	顺义实验室	检测日期	2025/02/12-2025/02/24
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.收缩性能 6.防粘纸可剥离性能 7.耐溶剂性能 8.耐盐雾腐蚀性能 9.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30日 (盖章)		
备注	——		
报告：马晓蒙 审核：乔晓琳 批准：李光			

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Sample Name	Retroreflective Sheeting		
Specification & Model	Type IV, white	Sample Number	2025-FGM-063
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	Unmetallized board, (150×150) mm/piece, 6 pieces; Metallized board, (150×150) mm/piece, 3 pieces; Unmetallized board, (230×230) mm/piece, 3 pieces; Unmetallized board, (25×150) mm/piece, 3 pieces; Metallized board, (150×25) mm/piece, 12 pieces; Metallized board, (150×150) mm/piece, 3 pieces; Unmetallized board, (150×150) mm/piece, 3 pieces		
Sample Status	Good condition	Receiving Date	2025/02/12
Test Location	Shunyi Laboratory	Test Date	2025/02/12 ~ 2025/02/24
Ambient Condition	See Table 1	Test Equipment	See Table 2
Test Basis / 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. Shrinkage Performance 6. Release Liner Peelability 7. Solvent Resistance 8. Salt Spray Corrosion Resistance 9. High and Low Temperature Resistance		
Test Results	Based on laboratory testing, the retroreflective sheeting sample submitted by Jinjiang Lianxing Reflective Material Co., Ltd. meets, 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	
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(Handwritten signatures and official test seal dated 2025/03/30 in the original document.)

交科院检测技术（北京）有限公司
检验报告

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表 1 检测环境条件

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	电子秒表	PC2250	JD-017
2	全自动落锤冲击试验机	ZCJ1302-A	JGZ-050
3	游标卡尺	(0-150)mm/0.01mm	JD-082
4	逆反射测试系统	933	JG-160
5	分光测色仪	CM-2500C	JGZ-035
6	可编程高低温试验箱	HLT812P	JGZ-005
7	盐雾试验箱	SFT080	JGZ-006
8	电热鼓风干燥箱	FXB101-3	JG-172-1

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Table 1. Ambient Test Conditions

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

Table 2. Main Equipment Used in the Test

No.	Equipment	Model / Specification	Equipment ID
1	Electronic timer	PC2250	JD-017
2	Fully automatic drop-weight impact tester	ZCJ1302-A	JGZ-050
3	Vernier caliper	(0-150) mm / 0.01 mm	JD-082
4	Retroreflectometer system	933	JG-160
5	Spectrophotometer / colorimeter	CM-2500C	JGZ-035
6	Programmable high/low temperature chamber	HLT812P	JGZ-005
7	Salt spray test chamber	SFT080	JGZ-006
8	Forced air oven	FXB101-3	JG-172-1

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 , $\text{cd} \cdot \text{lx}^{-1} \cdot \text{m}^{-2}$ 白 2025-FGW-063	观测角: 0.2°	入射角: -4° , $R_A \geq 360$				470	合格	
			入射角: 15° , $R_A \geq 265$				383		
			入射角: 30° , $R_A \geq 170$				247		
		观测角: 0.5°	入射角: -4° , $R_A \geq 150$				288		
			入射角: 15° , $R_A \geq 111$				263		
			入射角: 30° , $R_A \geq 72$				157		
		观测角: 1°	入射角: -4° , $R_A \geq 35$				79		
			入射角: 15° , $R_A \geq 28$				73		
			入射角: 30° , $R_A \geq 20$				45		
色度性能	表面色 白 2025-FGW-063	色品坐标	1	2	3	4	$x=0.308$ $y=0.324$	合格	
		x	0.350	0.305	0.295	0.340			
		y	0.360	0.315	0.325	0.370			
		(检测结果应在以上四点组成的图形范围内)							
		亮度因数(无金属镀层) ≥ 0.27				0.48			
备注		色品坐标(标准照明体 D_{65} , 几何条件 45° a: 0° , 2° 视场角)							

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Laboratory Test Results for Retroreflective Sheeting			
Test Item	Technical Requirement	Result	Individual Judgement
Coefficient of Retroreflection R_A , $\text{cd}\cdot\text{lx}^{-1}\cdot\text{m}^{-2}$ White 2025-FGW-063	Observation Angle: 0.2° — Entrance Angle: -4° , $R_A\geq 360$	470	Meets requirements
	Observation Angle: 0.2° — Entrance Angle: 15° , $R_A\geq 265$	383	
	Observation Angle: 0.2° — Entrance Angle: 30° , $R_A\geq 170$	247	
	Observation Angle: 0.5° — Entrance Angle: -4° , $R_A\geq 150$	288	
	Observation Angle: 0.5° — Entrance Angle: 15° , $R_A\geq 111$	263	
	Observation Angle: 0.5° — Entrance Angle: 30° , $R_A\geq 72$	157	
	Observation Angle: 1° — Entrance Angle: -4° , $R_A\geq 35$	79	
	Observation Angle: 1° — Entrance Angle: 15° , $R_A\geq 28$	73	
	Observation Angle: 1° — Entrance Angle: 30° , $R_A\geq 20$	45	
Surface Color White 2025-FGW-063	Chromaticity coordinates (point 1, 2, 3, 4): x: 0.350 0.305 0.295 0.340 → measured: x = 0.308 y: 0.360 0.315 0.325 0.370 → measured: y = 0.324 (the result must fall within the area formed by the four points above)	Meets requirements	
Luminance Factor (unmetallized) ≥ 0.27	0.48	Meets requirements	

Comments: chromaticity coordinates — standard illuminant D65, geometric condition $45^\circ\text{a}:0^\circ$, 2° field of view.

交科院检测技术（北京）有限公司
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反光膜实验室检测结果 (2025-FGW-075)				
检测项目	技术要求		检测结果	单项判定
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	合格
耐弯曲性能	反光膜应能承受适度弯曲，经试验后，表面不应出现裂缝、剥落或层间分离等损坏		未见异常	合格
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	0.03	合格
		在 24h 内，其收缩 ≤ 3.2	0.5	
防贴纸可剥离性能	经试验后，反光膜无需用水或其他溶剂浸湿，防贴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	合格
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	合格
	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	合格
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	合格
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	合格
备注	——			

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Laboratory Test Results for Retroreflective Sheeting (2025-FGW-075)		
Test Item	Technical Requirement	Result
Impact Resistance	The retroreflective sheeting must be impact resistant; after the test, outside the impacted surface there must be no cracks, delamination between layers, or other damage.	No abnormalities Pass
Bending Resistance	The retroreflective sheeting must withstand moderate bending; after the test, the surface must show no cracks, flaking, or delamination between layers.	No abnormalities Pass
Shrinkage Performance, mm	After the test, the retroreflective sheeting must show no noticeable shrinkage on any side: within 10 min, shrinkage ≤ 0.8 ; within 24 h, shrinkage ≤ 3.2 .	10 min: 0.03 24 h: 0.5 Pass
Release Liner Peelability	After the test, the release liner must be easily peelable by hand without the need for water or other solvent, with no tearing, ripping, or adhesive pick-off from 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。

Introduction to CATS Testing Technology (Beijing) Co., Ltd.

CATS Testing Technology (Beijing) Co., Ltd., formerly the Transport Engineering Inspection Center of the China Academy of Transportation Sciences under the Ministry of Transport, and affiliated with that academy, was restructured in accordance with the reform of public institutions and the requirements for consolidating the inspection and testing bodies of the State and of the Ministry of Transport. It has independent legal-person status and is a comprehensive entity engaged in the inspection and evaluation of transport engineering and product quality. It holds the state metrology certification (CMA), the China National Accreditation Service for Conformity Assessment (CNAS) mutual recognition, inspection body accreditation, and the special qualification in transport engineering granted by the Ministry of Transport for highway and waterway transport testing bodies. It is the accredited inspection body (for bridge bearings) authorized by the National Industrial Product Production Licensing Office.

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

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