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Test Report # J2278-02 Issue 1
CSA-Z94.3-99
Shan Shui Spectacles Industrial Co., Ltd.
514 Spectacles

23 August 2004




Certificate 1722.01

Approved by:

Performed by:



Keith E. Whitten
Laboratory Manager



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Client: Shan Shui Spectacles Industrial Co., Ltd.
No. 43, Hsin Yi South Road,
Tainan, Taiwan 702
R.O.C.

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Objective:

Contract testing to CAN/CSA-Z94.3-02; "Eye and Face Protection."
Section 5 General Requirements
Section 6 Class 1 Protectors—Spectacles

Samples:

514 Spectacles

Description	Quantity	ICS ID
Clear Lens	50	1-X

Date(s) Submitted by Client: 16 August 2004

Procedures:

Testing protocols in accord with good laboratory practice were employed for all tests.

All tests were conducted in a standard laboratory atmosphere unless otherwise specified.

Testing procedures as specified within Section 11 of CAN/CSA-Z94.3-02 were followed, unless otherwise indicated.

Samples were randomly selected from the quantity provided and tested in the as-received condition unless otherwise stated.

Samples were assessed on an Alderson 50th percentile headform for all applicable test except side shield coverage in which case the CSA adult male headform was used.

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Assessment Summary:

Date(s) of test(s): 19 through 20 August 2004

5. General Requirements	Compliant	Non Compliant
5.1 Impact Resistance	X	
5.2 Ignition/Flammability Requirements		
5.2.1 Ignition Resistance	X	
5.2.2 Flame Resistance	X	
5.3 Replacement Components	Not assessed	
5.4 Clear Zero-Power Lenses		
5.4.1 Size	See 6.1	
5.4.2 Residual Power	X	
5.4.3 Resolving Power	X	
5.4.4 Prismatic Deviation	X	
5.4.5 Haze	X	
5.4.6 Luminous Transmittance	X	
6. Class 1 Protectors - Spectacles		
6.1 Minimal Frontal Coverage	X	
6.2 Side Protection	X	
12. Marking	Not assessed	

Samples as assessed meet the requirements of CSA Z94.3-02 for Class 1A spectacles with side protection.

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5.1 Impact Resistance

Sample ID	Location	Velocity (ft/sec)	Pass	Fail
1-31	Bridge	152	X	
1-32	Left Ocular Center 0°	151	X	
1-33	Right Ocular Center 0°	152	X	
1-34	Left Ocular, 0°-15mm to temple	152	X	
1-35	Right Ocular, 0°-15mm to temple	153	X	
1-36	Frontal (0°) Right Temple End Piece	152	X	
1-37	Lateral (90°) Temple End Piece and Eyewire (Left)	153	X	
1-38	Lateral 90° Left, 10mm behind Apex	153	X	
1-39	Lateral 90°Right, 10mm behind Apex up 10mm	153	X	
1-40	Lateral 90°Right, 10mm behind Apex down 10mm	153	X	

5.2.1 Ignition Resistance

Sample ID	Component	Observation	Specification	Pass	Fail
1-1	Lens	No ignition or glow	Shall not ignite, continue to glow or be consumed.	X	
	Temple	No ignition or glow		X	

5.2.2 Flame Resistance

Sample ID	Component	Measured Value	Specification	Pass	Fail
1-2	Lens	0 mm/min	≤ 75 mm/min	X	
	Temple	0 mm/min		X	

5.4.2 Residual Power

Sample ID	Location	Measured Value	Specification	Pass	Fail
1-25	Right Ocular	-0.02 D 0.02 D	Residual Power - ≤ +/- 0.12 D	X	
		0.04 D	Astigmatism - ≤ 0.24 D	X	
	Left Ocular	0.00 D 0.04 D	Residual Power - ≤ +/-0.12 D	X	
		0.04 D	Astigmatism - ≤ 0.24 D	X	

Note: Measured using method defined in ANSI Z87.1 with sample mounted in an as worn position on a suitable fixture.

5.4.3 Resolving Power

Sample ID	Location	Measured Value	Specification	Pass	Fail
1-25	Right Ocular	<60-s	≤ 60-s	X	
	Left Ocular	<60-s		X	

5.4.4 Prismatic Deviation

Sample ID	Measured Value	Specification	Pass	Fail
1-25	0.09 Δ	Vertical Imbalance- ≤ 0.25 Δ	X	
	0.28 Δ Base Out	Horizontal Imbalance- ≤ 0.75 Δ Base Out ≤ 0.25 Δ Base In	X	

Note: measured using method defined in ANSI Z87.1 with sample mounted as worn on a headform.

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5.4.5 Haze

Sample ID	Location	Percent Haze	Specification	Pass	Fail
1-28	Right Ocular	0.1%	≤ 3%	X	

5.4.6 Luminous Transmittance

Sample ID	Location	%T(L)	Specification	Pass	Fail
1-25	Right Ocular	95.3 %	100% ≥ T(L) ≥ 85%	X	
	Left Ocular	95.3 %		X	

6.1 Minimal Frontal Coverage

Sample ID	Parameter	Measured Value	Specification	Pass	Fail
1-25	Height	43 mm	≥ 33 mm	X	
	Width	80 mm	≥ 40 mm	X	
	Field of View				
	Temporal	120°	≥ 40°	X	
	Superior	60°	(Superior + Inferior) ≥ 80°	X	
	Inferior	55°			

6.2 Side Protection

6.2.1 Side protection is incorporated as part of lens/temple.

6.2.2 Coverage

Sample ID	Location	Measured Value	Specification	Pass	Fail
1-13	Front of eye	21 mm above	≥ 16mm above and below	X	
		18 mm below		X	
	20 mm behind apex	19 mm above	≥ 10mm above and below	X	
		11 mm below		X	

6.2.3 Side protection is not vented and is built into the wrap around design of the lens.

6.2.4 Side protection is not vented.

6.2.5 Samples assessed as Class 1A and side protection is not vented.

6.2.6 Not Applicable, not for protection against optical radiation.

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Sample Photograph:



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