



Client: Herhild De Mexico, S.A. DE C.V.
AV Guerrero No. 2820-A
Monterrey, NL
Mexico

Date: 08 October 2002
Report: J1651
Issue: 1
Page: 1 of 5

Objective:

Contract testing to: ANSI Z87.1-1989 (R1998); "Practice for Occupational and Educational Eye and Face Protection." Section 8, and applicable references thereof.

Samples:

Model: Cosmo/Spirit

1. Sixteen (16) Cosmos/Spirit Spectacles

Physical Description: Clear one-piece lenses with the following frame color variations:
Blue frame with red and white temples; ICS ID 1-1 thru 1-4
Black frame with black temples; ICS ID 2-1 thru 2-4

Date(s) Submitted by Client: 04 October 2002

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 15 of ANSI Z87.1-1989 (R1998) were followed.

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

All data was referenced from Report J1637 with the exception of:
Clause 8.2.1.1 High Mass Impact

Client: Herhild De Mexico, S.A. DE C.V.
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Date: 08 October 2002
 Report: J1651
 Issue: 1
 Page: 2 of 5

Assessment Summary:

Date(s) of test(s): 08 October 2002

8. Spectacles Requirements	Pass	Fail
8.1 Introduction		
8.2 Spectacles with Removable Lenses		
8.2.1 Frame Tests		
8.2.1.1 High Mass Impact	X	
8.2.1.2 High Velocity Impact	X	
8.2.2 Lens Tests		
8.2.2.1 Drop Ball Impact	X	
8.2.2.2 Minimum Thickness	X	
8.2.2.3 Penetration Test (Plastic Only)	X	
8.3 Spectacles with Non-Removable Lenses	Not applicable	
8.4 Optical Requirements for Plano Spectacles		
8.4.1 Lift-Front Lenses	Not applicable	
8.4.2 Prismatic Power	X	
8.4.3 Refractive Power	X	
8.4.4 Resolving Power (Definition)	X	
8.4.5 Haze (Clear Plano Lenses Only)	X	
8.4.6 Transmittance	X	
8.5 Flammability	X	
8.6 Corrosion Resistance (Metal Only)	Not applicable	
8.7 Cleanability	X	
8.8 Prescription (Rx) Spectacle Performance	Not applicable	
8.9 Special Purpose Spectacle Requirements		
8.10 Marking	X	

Client: Herhild De Mexico, S.A. DE C.V.
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 Monterrey, NL
 Mexico

Date: 08 October 2002
 Report: J1651
 Issue: 1
 Page: 3 of 5

Results:

8.2.1.1 High Mass Impact

Sample ID	Location	Pass	Fail
1-1	Right Ocular	X	
1-2	Left Ocular	X	
2-3	Right Ocular	X	
2-4	Left Ocular	X	

8.2.1.2 High Velocity Impact

Sample ID	Location	Velocity (m/sec)	Pass	Fail
1-5	Right Ocular 15° Nasal	45.4	X	
1-6	Right Ocular 0°	45.4	X	
1-7	Right Ocular 15° Temporal	45.4	X	
1-8	Right Ocular 30° Temporal	45.7	X	
1-9	Right Ocular 45° Temporal	45.7	X	
1-10	Right Ocular 60° Temporal	45.7	X	
1-11	Right Ocular 75° Temporal	45.4	X	
1-12	Right Ocular 90° Temporal	45.7	X	
1-13	Right Ocular 90° Temporal +10 mm	45.7	X	
1-14	Right Ocular 90° Temporal -10 mm	45.4	X	
1-15	Left Ocular 15° Nasal	46.0	X	
1-16	Left Ocular 0°	45.4	X	
1-17	Left Ocular 15° Temporal	46.0	X	
1-18	Left Ocular 30° Temporal	46.3	X	
1-19	Left Ocular 45° Temporal	45.4	X	
1-20	Left Ocular 60° Temporal	45.4	X	
1-21	Left Ocular 75° Temporal	45.4	X	
1-22	Left Ocular 90° Temporal	45.4	X	
1-23	Left Ocular 90° Temporal +10 mm	45.4	X	
1-24	Left Ocular 90° Temporal -10 mm	45.1	X	

Side Shield Coverage

Sample ID	Direction	Measured Coverage	Specification	Pass	Fail
1-25	Above Center	24mm	≥10mm	X	
	Below Center	20mm		X	

Note: "The function and coverage of side protection are defined by the high velocity impact test (Section 14.2)". Due to asymmetries of the Alderson 50th percentile headform the left eye is used for this assessment as it provides better correlation to published specifications and the standard fitting practices.

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 Mexico

Date: 08 October 2002
 Report: J1651
 Issue: 1
 Page: 4 of 5

8.2.2.1 Drop Ball Impact

Sample ID	Location	Pass	Fail
1-26	Left Ocular	X	

8.2.2.2 Minimum Thickness

Sample ID	Measured Value	Pass	Fail
1-25	2.1mm	X	

8.2.2.3 Penetration

Sample ID	Location	Pass	Fail
1-26	Right Ocular	X	

8.4.2 Prismatic Power

Sample ID	Measured Value	Specification	Pass	Fail
1-25	0.13 Δ	Prismatic Power- ≤ 0.50 Δ	X	
	0.00 Δ	Vertical Imbalance- ≤ 0.25 Δ	X	
	0.07 Δ	Horizontal Imbalance- ≤ 0.50 Δ Base Out ≤ 0.25 Δ Base In	X	

8.4.3 Refractive Power

Sample ID	Location	Measured Value	Specification	Pass	Fail
1-25	Right Ocular	-0.02 D -0.05 D	Refractive Power- ≤ +/- 0.062 D	X	
		0.03 D	Astigmatism- ≤ 0.062 D	X	
	Left Ocular	-0.02 D -0.03 D	Refractive Power- ≤ +/-0.062 D	X	
		0.01 D	Astigmatism- ≤ 0.062 D	X	

8.4.4 Resolving Power

Sample ID	Location	Measured Value	Specification	Pass	Fail
1-25	Right Ocular	Pattern > 20	≥ Pattern 20	X	
	Left Ocular	Pattern > 20		X	

8.4.5 Haze (Clear Lenses Only)

Sample ID	Location	Measured Value	Specification	Pass	Fail
1-25	Right Ocular	0.3%	≤ 3%	X	

8.4.6 Transmittance

Sample ID	Location	%T(L)	Specification	Pass	Fail
1-25	Right Ocular	90.4 %	100% ≥ T(L) ≥ 85%	X	
	Left Ocular	90.5 %		X	
	L/R Ratio	1.00	1.10 ≥ L/R ≥ 0.90	X	

8.5 Flammability

Sample ID	Component	Measured Value	Specification	Pass	Fail
1-26	Lens	0mm/min	≤ 76mm/min	X	
	Frame Front	60mm/min		X	
	Temple	60mm/min		X	

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Report: J1651
Issue: 1
Page: 5 of 5

8.7 Cleanability; Result: Pass Samples are cleanable.

8.10 Markings

Component	How Marked	Specification	Pass	Fail
Clear Lens	"HH"	Manufacturer's Mark	X	
Frame	"Herhild", "ANSI Z87.1"	Manufacturer's Mark, Z87.1	X	

Sample Photographs:



Picture A1: Sample 1-25.