

Test Report T6496-01-1 Issue 1 MIL-DTL-43511D (12 October 2006) (Ballistic Resistance) Blueye Eyewear Pty Ltd. MG-10 Goggles 16 June 2011



Approved by:

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Prepared by:

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Issued to: Blueye Eyewear Pty Ltd. PO Box 354 Forestville, NSW, Australia 2087
 Date:
 16 June 2011

 Report:
 T6496-01-1

 Issue:
 1

 Page:
 1 of 2

Objective:

Contract testing to MIL-DTL-43511D (12 October 2006) "Detail Specification-Visors, Flyer's Helmet, Polycarbonate".

Clause: 3.5.10 Ballistic resistance (Method 1)

Samples:

MG-10 Goggles

Lens Color	Frame Color	Quantity	Sample ID
Clear	Black	15	6A-x

Date submitted: 09 June 2011

Equipment:

- 1. Pneumatic Air Gun.
- 2. Propellant, Nitrogen.
- 3. Fragment Simulating Projectiles (FSP), 4340 steel, Hardness 30 +/- 2 Rockwell C, -0.22 caliber, 17 grain
- 4. Oehler Research Precision Ballistic Chronographs, two sets of screens with 1' spacing between start and stop. (Set 1: stop screen ~16.0" from sample, Set 2: stop screen ~ 12.5" from sample)
- 5. Ballistic Alderson 50th percentile headform with 0.002 inch witness sheet, nominally 2" behind sample.

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.

Ten samples were selected at random from the quantity provided.

Samples were mounted on headform and impacted with a 0.22 caliber projectile at a velocity of 550 to 560 fps. There were up to three impacts per sample unless failure was observed after the first or second impact. Impacts were normal to the front curve, coincident with the left eye, right eye and then vertical center. Left and right impact locations were to the visual centers (a point centered on the horizontal center line and 32mm from the vertical center line). If necessary samples were reassembled by ICS between impacts.

Any velocity loss of the projectile is considered to be negligible with respect to the geometries of the test bench.

The result was considered to be a failure if the aluminum foil witness sheet was punctured or if the lens cracked through its entire thickness.

Summary:

Date tested: 15 June 2011

The samples as assessed met the ballistic resistance requirements of MIL-DTL-43511D (12 October 2006).



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 Report:
 T6496-01-1

 Issue:
 1

 Page:
 2 of 2

Results:

Sample	Left Oc	Left Ocular		Right Ocular		Center		Fail
	Velocity (ft/s)		Velocity (ft/s)		Velocity (ft/s)		Pass	
ID								
	Set 1	Set 2	Set 1	Set 2	Set 1	Set 2		
6A-1	555	555	556	555	558	557	Х	
6A-2	556	556	556	555	560	559	Х	
6A-3	556	556	555	554	555	554	Х	
6A-4	558	557	555	554	556	555	Х	
6A-5	559	559	557	556	554	553	Х	
6A-6	557	556	556	555	551	550	Х	
6A-7	556	555	557	556	557	556	Х	
6A-8	557	557	552	551	557	556	Х	
6A-9	557	557	558	557	558	557	Х	
6A-10	557	556	556	555	557	556	Х	

Sample Photograph:



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- 14. ICS hereby objects to any conflicting terms contained in any order or acceptance submitted by Client.

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- 16. Certain work may be subcontracted to ICS authorized affiliate laboratories as required or applicable.
- Client agrees to pay any and all additional costs associated with unexpected or above standard communications and/or consultations with client or third parties as designated by client.
- 18. Client agrees to pay any and all additional costs for work additional to the original scope of work as agreed to by client.
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- 22. In the event that payment is not received within 15 days of invoice date, Client agrees to pay a late payment charge on the unpaid balance equal to 1-1/2% per month or the maximum charge allowed by law, whichever is less, and all costs and expenses, including attorney's fees where recovery of the same is not prohibited by law, incurred by ICS in collecting such invoices.
- 23. All costs associated with compliance with any subpoena (s) for documents, testimony in a court of law, or for any other purpose relating to work performed by ICS in connection with work performed for that Client, shall be paid by Client. Client shall also pay ICS's then existing standard fee for consulting, deposition and trial testimony and all expenses related thereto.
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