

TEST RESULTS and REPORT

for

LIBUS PPE

LIBUS FALL DUAL

by



COLTS | Laboratories™

Precision Testing. Definitive Results.

**COLTS Laboratories maintains A2LA accreditation to ISO/IEC 17025 for the tests listed on Certificate # 1612.01.
Any tests not included on this certificate have been identified on the appropriate test result page.**

Also Certified for testing by the Safety Equipment Institute

Z-LIB020619-01

- Unless otherwise stated, results in this report apply only to the samples tested and not to lots from which they were taken.
- This report shall not be reproduced, except in full, without written approval from COLTS Laboratories.
- Unless otherwise requested, test samples will be discarded 21 days from the report date.

COLTS Laboratories

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**PRODUCT
 RESULTS
 SUMMARY**

A2LA Accredited Certificate # 1612.01

**LIBUS PPE
 LIB020619-01**

COLTS Project ID	Test/Models(s)	Results Pass / Fail	Reason	Page
Z-LIB020619-01-01	ANSI Z87.1-2015 High Impact Spectacles - Base Model LIBUS FALL DUAL Green Frame with Foam Inner Cushion and Green Temples, Clear Lens	Pass		1
Z-LIB020619-01-02	ANSI Z87.1-2015 - 6.2.2 High Mass Impact LIBUS FALL DUAL Green Frame with Foam Inner Cushion and Black Strap, Clear Lens	Pass		8
Z-LIB020619-01-03	ANSI Z87.1-2015 Spectacles - High Velocity LIBUS FALL DUAL Green Frame with Foam Inner Cushion and Black Strap, Clear Lens	Pass		10
Z-LIB020619-01-04	ANSI Z87.1-2015 High Impact Spectacles - Variant LIBUS FALL DUAL Green Frame with Foam Inner Cushion and Green Temples, Smoke Lens	Fail	6.1.1 Protectors Marked for Impact Protection, 6.1.2 Frames and Shells, 6.2.3 High Velocity Impact (Spectacles)	12

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**Report
Summary**

A2LA Accredited Certificate # 1612.01

Report To:

LIBUS PPE
Calle 21 Nro. 1213
Berazategui, Bs.As.

Project

of Model(s): LIBUS FALL DUAL
Report of: ANSI Z87.1-2015
Project ID(s): Z-LIB020619-01-01

Attn: Miguel Caro

Date: February 22, 2019

Product Description: Green Frame with Foam Inner Cushion and Green Temples, Clear Lens



On February 06, 2019, COLTS Laboratories received Spectacles: LIBUS FALL DUAL from LIBUS PPE. From February 11, 2019 through February 21, 2019 COLTS Laboratories tested these Spectacles in accordance with ANSI Z87.1-2015 to the following test protocol: ANSI Z87.1-2015 High Impact Spectacles - Base Model.

Detailed test results are included.

Final Conclusion:

The Spectacles: LIBUS FALL DUAL (Green Frame with Foam Inner Cushion and Green Temples, Clear Lens) do comply with ANSI Z87.1-2015 for the test(s) included in this report.

*NOTE: Do Not Assess Markings.

COLTS makes all statements of conformity (Pass/Fail) based on actual values reported.

Please contact us should you have any questions concerning this report.

Respectfully submitted,

COLTS Laboratories

Daryl Neely
Vice-President & COO

Dale Payne
Technical Services Manager

Report To: LIBUS PPE
 Project No: Z-LIB020619-01-01



Sample ID:
 LIBUS FALL DUAL
 Green Frame with Foam Inner Cushion and Green Temples,
 Clear Lens

A2LA Accredited Certificate # 1612.01

Report Date: 2/22/2019

Lab Temp (C): 22
 Lab Rh: 46

Report of: ANSI Z87.1-2015

Test/Property	Paragraph	Requirement	Test Results	Acceptance
Optical Quality	5.1.1	Protector lenses shall be free of: striae, bubbles, waves and other visible defects which would impair the wearer's vision.	Acceptable	Pass
Luminous Transmittance	5.1.2	Clear lenses shall have a luminous transmittance of not less than 85%. Luminous Transmittance	Acceptable	Pass
		Left Eye	90.7%	Pass
		Right Eye	90.5%	Pass
Haze - Clear Lenses Only	5.1.3	Clear plano lenses shall not exhibit more than 3% haze. Haze	Acceptable	Pass
		Left Eye	0.34%	Pass
		Right Eye	0.37%	Pass
Spectacle Refractive Power, Astigmatism, Resolving Power, Prism and Prism Imbalance for Plano Protectors	5.1.4	The tolerance on refractive power, astigmatism and resolving power shall be as indicated below. The tolerance on prism and prism imbalance shall be as indicated below. Filter lenses of shade 9 or higher are exempt from this section.		
		Refractive Power (± 0.06)	Acceptable	Pass
		Left Eye	-0.020	Pass
		Right Eye	-0.020	Pass
		Astigmatism (0.06 Max)	Acceptable	Pass
		Left Eye	0.04	Pass
		Right Eye	0.04	Pass
		Resolving Power (20 Min)	Acceptable	Pass
		Left Eye	Acceptable	Pass
		Right Eye	Acceptable	Pass
		Complete Prism (0.50 Max)	Acceptable	Pass
		Left Eye	0.158	Pass
		Right Eye	0.071	Pass
		Prismatic Imbalance	Acceptable	Pass
		Vertical (0.25 Max)	0.00	Pass
		Horizontal Base In/Out (In 0.25 Max; Out 0.50 Max)	0.20 in	Pass

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Report To: LIBUS PPE
 Project No: Z-LIB020619-01-01



Sample ID:
 LIBUS FALL DUAL
 Green Frame with Foam Inner Cushion and Green Temples,
 Clear Lens

A2LA Accredited Certificate # 1612.01

Report Date: 2/22/2019

Lab Temp (C): 22
 Lab Rh: 46

Report of: ANSI Z87.1-2015

Test/Property	Paragraph	Requirement	Test Results	Acceptance
Physical Requirements	5.2	Protectors shall be free from: projections, sharp edges or other defects which are likely to cause discomfort or injury during use.	Acceptable	Pass
Ignition (Spectacle)	5.2.2	Protectors shall not ignite or continue to glow once the rod is removed. Each externally exposed material (exclusive of textiles or elastic bands) shall be tested.		
		Lens	Acceptable	Pass
		Front	Acceptable	Pass
		Temple	Acceptable	Pass
		Other	Acceptable	Pass
				Foam inner cushion
Corrosion Resistance of Metal Components	5.2.3	Metal components used in protectors shall be corrosion resistant to the degree that the function of the protector shall not be impaired by the corrosion and the protector can be worn as intended. Lenses and electrical components are excluded from these requirements. Corrosion Resistant	Acceptable	Pass
Minimum Coverage Area	5.2.4	The frames, lens housings or carriers and lens(es) shall cover an area of not less than 40 mm (34 mm for small head sizes) in width and 33 mm (28 mm for small head sizes) in height (elliptical) in front of each eye, centered on the geometrical center of the lens. Minimum Coverage Area	Acceptable	Pass
Required Protector Markings (Spectacles)	5.3	All protectors shall bear the permanent and legible markings in specified locations. Protector markings shall be placed in relatable proximity to each other on the product.		
		Manufacturer's marks or logos are exempt from the proximity requirement if they are clearly present elsewhere on the product.		
		Markings permanent, legible and in relatable proximity	N/A	N/A
		Markings representative of other standards shall not interfere with or be intermixed with the markings required by this standard.	N/A	N/A
			Not assessed per customer request	

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Report of: ANSI Z87.1-2015

Test/Property	Paragraph	Requirement	Test Results	Acceptance
Required Protector Markings (Spectacles)	5.3	All protectors shall bear the permanent and legible markings in specified locations. Protector markings shall be placed in relatable proximity to each other on the product.		
		Manufacturer's marks or logos are exempt from the proximity requirement if they are clearly present elsewhere on the product.		
		Complete Device Markings	N/A	N/A
		In relatable proximity	N/A	N/A
		Manufacturer's Mark or Logo	N/A	N/A
		Z87 Mark	N/A	N/A
		+ Mark	N/A	N/A
		H Mark (Coverage - small head sizes)	N/A	N/A
		Lens Type (multiple claim sequence W,U,L,R,V,S)	N/A	N/A
		Use (multiple claim sequence D3,D4,D5)	N/A	N/A
			Not assessed per customer request	
		Replaceable Lens Markings	N/A	N/A
		In relatable proximity	N/A	N/A
		Manufacturer's Mark or Logo	N/A	N/A
		+ Mark	N/A	N/A
		H Mark (Coverage - small head sizes)	N/A	N/A
		Lens Type (multiple claim sequence W,U,L,R,V,S)	N/A	N/A
			Not assessed per customer request	
		Spectacle Frame Front Markings	N/A	N/A
		In relatable proximity	N/A	N/A
		Manufacturer's Mark or Logo	N/A	N/A
		Z87 Mark (Z87-2 for Rx)	N/A	N/A
		+ Mark	N/A	N/A
		H Mark (Coverage - small head sizes)	N/A	N/A
		Use (multiple claim sequence D3,D4,D5)	N/A	N/A
			Not assessed per customer request	

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Report of: ANSI Z87.1-2015

Test/Property	Paragraph	Requirement	Test Results	Acceptance
Required Protector Markings (Spectacles)	5.3	All protectors shall bear the permanent and legible markings in specified locations. Protector markings shall be placed in relatable proximity to each other on the product.		
		Manufacturer's marks or logos are exempt from the proximity requirement if they are clearly present elsewhere on the product.		
		At Least One Temple Marked	N/A	N/A
		In relatable proximity	N/A	N/A
		Manufacturer's Mark or Logo	N/A	N/A
		Z87 Mark (Z87-2 for Rx)	N/A	N/A
		+ Mark	N/A	N/A
		H Mark (Coverage - small head sizes)	N/A	N/A
		Use (multiple claim sequence D3,D4,D5)	N/A	N/A
Not assessed per customer request				
Aftermarket Components and Accessories	5.6	All original equipment manufacturers (OEM) and non-OEM aftermarket components not sold with the original device shall be tested.		
		Aftermarket Components and Accessories	Manufacturer requirement	Not testable
Protectors Marked for Impact Protection	6.1.1	Protectors and replaceable components marked for impact protection in accordance with Table 3 shall meet applicable requirements of Section 6.		
		Impact requirements	Acceptable	Pass
		Marking requirements	N/A	N/A
Not assessed per customer request				
Frames and Shells	6.1.2	Frames and shells shall meet the requirements for high mass impact and high velocity impact in order to be impact-rated. These components shall be tested as a complete device. For frames and shells to be used with prescription lenses, they shall be fitted with representative test lenses having a nominal plano power and the minimum lens thickness to be used by the manufacturer, in no case less than 2.0 mm (0.079 in.). Frames and shells are exempt from the penetration requirement		
		Frames and Shells	Acceptable	Pass

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 Clear Lens

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Report Date: 2/22/2019

Lab Temp (C): 22
 Lab Rh: 46

Report of: ANSI Z87.1-2015

Test/Property	Paragraph	Requirement	Test Results	Acceptance
Lateral (Side) Coverage	6.1.3	Impact rated protectors shall provide continuous lateral coverage (i.e. no openings greater than 1.5mm in diameter) from the vertical plane of the lenses tangential to a point not less than 10 mm posterior to the corneal plane and not less than 10 mm in height (or 8 mm for the smaller headform) above and not less than 10 mm in height (or 8 mm for the smaller headform) below the horizontal plane centered on the eyes of the headform. Lateral (Side) Coverage	Acceptable	Pass
High Mass Impact	6.2.2	The complete device shall meet the protector acceptance criteria when impacted by a pointed projectile weighing a minimum of 500 g (17.6 oz) dropped from a height of at least 127 cm (50.0 in.). Left Eye Sample 1 Left Eye Sample 2 Right Eye Sample 3 Right Eye Sample 4	Acceptable Acceptable Acceptable Acceptable	Pass Pass Pass Pass
High Velocity Impact (Spectacles)	6.2.3	The complete device shall meet the protector acceptance criteria when impacted by a 6.35 mm (0.25 in) diameter steel ball traveling at 150 feet per second. Left Eye Center Left Eye 30° Right Eye Center Right Eye 30° One Side 90° at 10mm Above (H - 8mm) Opposite Side 90° at 10mm Below (H - 8mm)	153 fps 153 fps 152 fps 153 fps 152 fps 153 fps	Pass Pass Pass Pass Pass Pass
Penetration Test (lenses only)	6.2.4	Lenses for all complete devices shall meet the protector acceptance criteria when penetrated by a weighted needle with a minimum total weight of 44.2 g (1.56 oz) dropped from a height of at least 127 cm (50.0 in.). Left Eye Sample 1 Left Eye Sample 2 Right Eye Sample 3 Right Eye Sample 4	Acceptable Acceptable Acceptable Acceptable	Pass Pass Pass Pass

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Clear Lens

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Lab Rh: 46

Report of: ANSI Z87.1-2015

Test/Property	Paragraph	Requirement	Test Results	Acceptance
Protectors with Clear Lenses	7.1	Clear plano, reader, magnifier and prescription lenses shall have a luminous transmission of not less than 85%. Representative test lenses of plano power may be substituted for prescription, reader or magnifier lenses in this test.		
		Transmittance	Acceptable	Pass

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Summary**

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Report To:

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Calle 21 Nro. 1213
Berazategui, Bs.As.

Project

of Model(s): LIBUS FALL DUAL
Report of: ANSI Z87.1-2015
Project ID(s): Z-LIB020619-01-02

Attn: Miguel Caro

Date: February 22, 2019

Product Description: Green Frame with Foam Inner Cushion and Black Strap, Clear Lens



On February 06, 2019, COLTS Laboratories received Spectacles: LIBUS FALL DUAL from LIBUS PPE. From February 11, 2019 through February 22, 2019 COLTS Laboratories tested these Spectacles in accordance with ANSI Z87.1-2015 to the following test protocol: ANSI Z87.1-2015 - 6.2.2 High Mass Impact.

Detailed test results are included.

Final Conclusion:

The Spectacles: LIBUS FALL DUAL (Green Frame with Foam Inner Cushion and Black Strap, Clear Lens) do comply with ANSI Z87.1-2015 for the test(s) included in this report.

COLTS makes all statements of conformity (Pass/Fail) based on actual values reported.

Please contact us should you have any questions concerning this report.

Respectfully submitted,

COLTS Laboratories

Daryl Neely
Vice-President & COO

Dale Payne
Technical Services Manager

Report To: LIBUS PPE
 Project No: Z-LIB020619-01-02



Sample ID:
 LIBUS FALL DUAL
 Green Frame with Foam Inner Cushion and Black Strap,
 Clear Lens

A2LA Accredited Certificate # 1612.01

Report Date: 2/22/2019

Lab Temp (C): 22
 Lab Rh: 56

Report of: ANSI Z87.1-2015

Test/Property	Paragraph	Requirement	Test Results	Acceptance
Protectors Marked for Impact Protection	6.1.1	Protectors and replaceable components marked for impact protection in accordance with Table 3 shall meet applicable requirements of Section 6.		
		Impact requirements	Acceptable	Pass
		Marking requirements	N/A	N/A
Not assessed per customer request				
Frames and Shells	6.1.2	Frames and shells shall meet the requirements for high mass impact and high velocity impact in order to be impact-rated. These components shall be tested as a complete device. For frames and shells to be used with prescription lenses, they shall be fitted with representative test lenses having a nominal plano power and the minimum lens thickness to be used by the manufacturer, in no case less than 2.0 mm (0.079 in.). Frames and shells are exempt from the penetration requirement		
		Frames and Shells	Acceptable	Pass
High Mass Impact	6.2.2	The complete device shall meet the protector acceptance criteria when impacted by a pointed projectile weighing a minimum of 500 g (17.6 oz) dropped from a height of at least 127 cm (50.0 in.).		
		Left Eye Sample 1	Acceptable	Pass
		Left Eye Sample 2	Acceptable	Pass
		Right Eye Sample 3	Acceptable	Pass
		Right Eye Sample 4	Acceptable	Pass

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Summary**

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Report To:

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Berazategui, Bs.As.

Project

of Model(s): LIBUS FALL DUAL
Report of: ANSI Z87.1-2015
Project ID(s): Z-LIB020619-01-03

Attn: Miguel Caro

Date: February 22, 2019

Product Description: Green Frame with Foam Inner Cushion and Black Strap, Clear Lens



On February 06, 2019, COLTS Laboratories received Spectacles: LIBUS FALL DUAL from LIBUS PPE. From February 11, 2019 through February 22, 2019 COLTS Laboratories tested these Spectacles in accordance with ANSI Z87.1-2015 to the following test protocol: ANSI Z87.1-2015 Spectacles - High Velocity.

Detailed test results are included.

Final Conclusion:

The Spectacles: LIBUS FALL DUAL (Green Frame with Foam Inner Cushion and Black Strap, Clear Lens) do comply with ANSI Z87.1-2015 for the test(s) included in this report.

COLTS makes all statements of conformity (Pass/Fail) based on actual values reported.

Please contact us should you have any questions concerning this report.

Respectfully submitted,

COLTS Laboratories

Daryl Neely
Vice-President & COO

Dale Payne
Technical Services Manager

Report To: LIBUS PPE
Project No: Z-LIB020619-01-03



Sample ID:
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Green Frame with Foam Inner Cushion and Black Strap,
Clear Lens

A2LA Accredited Certificate # 1612.01

Report Date: 2/22/2019

Lab Temp (C): 22
Lab Rh: 56

Report of: ANSI Z87.1-2015

Test/Property	Paragraph	Requirement	Test Results	Acceptance
High Velocity Impact (Spectacles)	6.2.3	The complete device shall meet the protector acceptance criteria when impacted by a 6.35 mm (0.25 in) diameter steel ball traveling at 150 feet per second.		
		Left Eye Center	154 fps	Pass
		Left Eye 30°	153 fps	Pass
		Right Eye Center	153 fps	Pass
		Right Eye 30°	153 fps	Pass
		One Side 90° at 10mm Above (H - 8mm)	154 fps	Pass
		Opposite Side 90° at 10mm Below (H - 8mm)	151 fps	Pass