

LENTES **ECOLINE AF**



Características:

- Diseñado para proteger el ojo contra golpes impacto de partículas polvo y chispas.
- Filtro UV.
- Lente de policarbonato.
- Gris Fumé: indicado para uso exterior donde la luz solar pueda causar fatiga visual. Provee buen Reconocimiento del color.
- Anti-empañ (AF): película resistente a la condensación de humedad sobre el lente.
- Gracias a la película anti-empañ que el lente posee es más resistente a las rayaduras.
- Diseño ojo de gato clásico elegante y económico.
- Su radio de curvatura y las patillas siguiendo la línea logran un calce perfecto a la cara.
- Tornillo de acero inoxidable.

Almacenamiento:

- Mantener en su embalaje original en lugar seco limpio alejado de la luz solar directa fuentes de alta temperatura vapores solventes o químicos. Temperatura: -5°C a +50°C / Humedad relativa ambiente < 80%.

Uso:

- La duración del anteojos una vez retirado de su embalaje original dependerá de la frecuencia y condiciones de uso. Para un uso diario se recomienda cambiarlo cada 6 meses pero bajo condiciones extremas el protector podría deteriorarse más rápido; en cualquiera de los casos deseche el producto y reemplácelo por uno nuevo. No intente repararlo.

Certificaciones:

- IRAM EN166
- ANSI Z87.1

Ni el vendedor ni el fabricante serán responsables de cualquier lesión personal, pérdida o daños ya sean directos o consecuentes del mal uso de este producto. Antes de ser usado, se debe determinar si el producto es apropiado para el uso pretendido.





**MINISTÉRIO DO TRABALHO E EMPREGO - MTE
SECRETARIA DE INSPEÇÃO DO TRABALHO - SIT
DEPARTAMENTO DE SEGURANÇA E SAÚDE NO TRABALHO - DSST**

EQUIPAMENTO DE PROTEÇÃO INDIVIDUAL

**CERTIFICADO DE APROVAÇÃO - CA Nº 36.032
VÁLIDO**

Validade: 02/06/2025

Nº. do Processo: 14021.157810/2020-55

Produto: Importado

Equipamento: ÓCULOS

Descrição: Óculos de segurança constituídos de armação e visor confeccionado em uma única peça de policarbonato, com ponte e apoio nasal injetado do mesmo material, hastes tipo espátula, confeccionadas de material plástico, fixadas às extremidades do visor através de parafusos metálicos.

Aprovado para: PROTEÇÃO DOS OLHOS DO USUÁRIO CONTRA IMPACTOS DE PARTÍCULAS VOLANTES, CONTRA RAIOS ULTRAVIOLETA (U), E, NO CASO DA LENTE DE COR CINZA, CONTRA LUZ INTENSA (L).

Observação: I) EPI não aprovado contra infravermelho (R) e Soldagem e Processos Similares (W). II) EPI não aprovado contra Luz Intensa (L) no caso da lente incolor, amarela e verde. III) EPI aprovado para a resistência a alto impacto, devendo apresentar a marcação "+" segundo a norma técnica ANSI/ISEA Z87.1-2015. Os óculos possuem essa marcação. IV) Demais especificações técnicas do EPI deverão ser obtidas junto ao fabricante.

Marcação do CA: No visor/haste.

Referências: ECOLINE

Tamanhos: Único.

Cores: Incolor, amarela, cinza e verde (hastes preta, amarela e verde).

Normas técnicas: ANSI/ISEA Z87.1-2015

Laudos:

Nº. Laudo: 1 114 436-203

Laboratório: IPT/SP - INSTITUTO DE PESQUISAS TECNOLÓGICAS

Nº. Laudo: 1 118 700-203

Laboratório: IPT/SP - INSTITUTO DE PESQUISAS TECNOLÓGICAS

Empresa: LIBUS DO BRASIL EQUIPAMENTOS LTDA

CNPJ: 19.860.927/0001-20 **CNAE:** 4642 - Comércio atacadista de artigos do vestuário e acessórios

Endereço: FRANCISCO RODRIGUES FILHO 4896 GALPAO: A;

Bairro: VILA SUISSA

Cidade: MOGI DAS CRUZES

CEP: 08810000

UF: SP

LICENCIA DE MARCA IRAM »



LICENCIA QUE OTORGA IRAM PARA EL USO DE LA MARCA IRAM DE CONFORMIDAD CON UN DOCUMENTO NORMATIVO Y LA MARCA DE SEGURIDAD DE LA S.I.C. y M.

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DC-P-L56-003.1 (C15)

Se deja constancia, por medio de la presente, que IRAM, Instituto Argentino de Normalización y Certificación, ha otorgado la Certificación según el Sistema N°5 recomendado en la Resolución N° 19 de fecha 25 de junio de 1992 del GRUPO MERCADO COMUN (MERCOSUR) en cumplimiento con la Resolución S.I.C. y M. N° 896/1999 al producto cuyas características se detallan a continuación.

This document is a written evidence that IRAM, Instituto Argentino de Normalización y Certificación, has granted the Certification according to System N°5 recommended by Resolution N°19 dated on 25th June 1992 of GRUPO MERCADO COMUN (MERCOSUR) in compliance with Resolution S.I.C. & M. N°896/1999 to the product with the following characteristics:

EMPRESA BENEFICIARIA (TITULAR) / COMPANY NAME (LICENSE HOLDER):

ARGUL y Cía. S.A.

DOMICILIO LEGAL / OFFICE ADDRESS:

Calle 21, Nicolás Videla 1213, Berazategui, Pcia de Buenos Aires, ARGENTINA

DOMICILIO DE LA(S) PLANTA(S) DE PRODUCCIÓN SUJETA(S) A INSPECCIÓN / ADDRESS(ES) OF THE PRODUCTION PLANT(S) UNDER INSPECTION:

ARGUL y Cía. S.A. \ Calle 21, Nicolás Videla 1213, Berazategui, Pcia. de Buenos Aires, ARGENTINA

PRODUCTO / PRODUCT:

Protectores oculares

REFERENCIA DE TIPO O MODELO / TYPE REFERENCE OR MODEL:

Ver Anexo

MARCA / TRADE MARK OR NAME:

LIBUS

EN CONFORMIDAD CON LA(S) NORMA(S) / IN CONFORMITY WITH THE STANDARD(S):

EN 166:2001

Esta Certificación IRAM estará vigente siempre y cuando el Licenciario cumpla con las condiciones establecidas en: el Acuerdo de Contratación del Servicio de Certificación IRAM de Productos, Procesos y Servicios (DC-R 001) que ha sido conformado; el procedimiento de aplicación de las Marcas IRAM de Conformidad de la Certificación de Productos, Procesos y Servicios (DC-PG 129); la resolución ex. S.I.C.y M. N° 896/99; la resolución ex. S.I.C.y M. N° 799/99; sus Resoluciones y Disposiciones complementarias y demás requisitos legales vigentes aplicables.

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OBSERVACIONES ADICIONALES / ADDITIONAL REMARKS:

Esta Licencia de IRAM ha sido otorgada en base al Informe N° / This IRAM License has been granted on the basis of the Report No. OT N° 060; N° 061; N° 062; N° 063; N° 128; N° 129; N° 130; N° 131; N° 1104; N° 1104 C01; N° 1105; N° 1181; N° 1405 emitido por / issued by LOM. .

Esta Licencia anula y reemplaza a la Licencia N°: DC-P-L56-003.1 (C14)

This License cancels and replaces to License N°: DC-P-L56-003.1 (C14)

Fecha de aprobación original:
Original approval date:

2010-07-20

Fecha de aprobación:
Approval date:

2022-03-09



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ANEXO / APPENDIX

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EMPRESA BENEFICIARIA (TITULAR) / COMPANY NAME (LICENSE HOLDER):

ARGUL y Cía. S.A.

DOMICILIO LEGAL / OFFICE ADDRESS:

Calle 21, Nicolás Videla 1213, Berazategui, Pcia. de Buenos Aires, ARGENTINA

DETALLES / DETAILS

Código	Tipo y modelo	Marcado
900494	Argón (anteojo) HC Gris	5-2,5 1F K
900555	Eco line (anteojo) HC Gris	5-2,5 1F K
901607	Impact (anteojo) HC Gris	5-2,5 1F K
900499	Argón (anteojo) HC Transparente	2-1,2 1F K
901409	Argón (anteojo) HC Amarillo	2-1,2 1F K
900558	Eco line (anteojo) HC Transparente	2-1,2 1F K
900561	Eco line (anteojo) HC Amarillo	2-1,2 1F K
901605	Impact (anteojo) HC Transparente	2-1,2 1F K
901608	Impact (anteojo) AF Amarillo	2-1,2 1F N
901439	Progress (anteojo) AF Amarillo	2-1,2 1F N
901370	Progress (anteojo) HC Gris	5-2,5 1F K
901366	Progress (anteojo) HC Transparente	2-1,2 1F K
901926	Eco plus (Anteojo) AF Gris	5-2,5 1F N
901925	Eco plus (Anteojo) AF Transparente	2-1,2 1F N
901386 + 901383	Burbuja (protector ocular de pantalla) y soporte c/ arnés a cremallera Transparente	2-1,2 1A
901387 + 901383	Burbuja (protector ocular de pantalla) y soporte c/ arnés a cremallera Gris	1A
901398 + 901383	Burbuja (protector ocular de pantalla) y soporte c/ arnés a cremallera Verde	1A
901442	MIG (Anteojo) HC Transparente	2-1,2 1F K
901446	Eco sport (Anteojo) AF Gris	5-2,5 1F N
901372	Eco sport (Anteojo) AF Transparente	2-1,2 1F N
901543 + 901385	Plano (protector ocular de pantalla) y adaptador para Casco modelo GENESIS Transparente	1S
902020	Argón Elite (anteojo) HC Transparente	2-1,2 1F K
902022	Argón Elite (anteojo) HC Gris	5-2,5 1F K
902023	Neón (anteojo) HC Transparente	2-1,2 1F K
901454	Argón (anteojo) AF tricolor Transparente	2-1,2 1F N
900497	Argón (anteojo) AF Transparente	2-1,2 1F N
900498	Argón (anteojo) AF Gris	5-2,5 1F N
901455	Argón (anteojo) AF tricolor Gris	5-2,5 1F N
900559	Eco Line (anteojo) AF Transparente	2-1,2 1F N
900556	Eco Line (anteojo) AF Gris	5-2,5 1F N
901604	Impact (anteojo) AF Transparente	2-1,2 1F N
901606	Impact (anteojo) AF Gris	5-2,5 1F N
901364	Progress (anteojo) AF Transparente	2-1,2 1F N
901368	Progress (anteojo) AF Gris	5-2,5 1F N



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DETALLES / DETAILS

Código	Tipo y modelo	Marcado
901443	Mig (anteojo) AF Transparente	2-1.2 1F N
901611	Mig (anteojo) HC Amarillo	2-1.2 1F K
901612	Mig (anteojo) HC Verde	1F K
902027	Neón (anteojo) AF Transparente	2-1.2 1F N
902063	Neón (anteojo) AF Amarillo	2-1.2 1F N
902064	Neón (anteojo) HC Amarillo	2-1.2 1F K
902065	Neón (anteojo) AF Verde	1F N
902066	Neón (anteojo) HC Verde	1F K
902026	Argón Elite (anteojo) AF Gris	5-2.5 1F N
902025	Argón Elite (anteojo) AF Transparente	2-1.2 1F N
902067	Argón Elite (anteojo) AF Amarillo	2-1.2 1F N
902068	Argón Elite (anteojo) HC Amarillo	2-1.2 1F K
902069	Argón Elite (anteojo) AF Verde	1F N
902070	Argón Elite (anteojo) HC Verde	1F K
902108	New Classic (antiparra) AF Gris	5-2 1FT N
902110	New Classic (antiparra) HC Gris	5-2 1FT K
902107	New Classic (antiparra) AF Transparente	2C-1.2 1FT N
902109	New Classic (antiparra) HC Transparente	2C-1.2 1FT K
901444	Mig (anteojo) AF Gris	2-2.5 1F N
901593	Mig (anteojo) HC Gris	2-2.5 1F K
902024	(anteojo) Neón HC Gris	5-2.5 1F K
902028	(anteojo) Neón AF Gris	5-2.5 1F N
902463	(Anteojo) Argón Elite Naranja	2-1,7 1F N
902040	(Anteojo) Argón Elite DIN 3	3 1F N
902041	(Anteojo) Argón Elite DIN 5	5 1F N
902439	(protector ocular de pantalla) Tipo Burbuja DIN 3	3 1F N
902440	(protector ocular de pantalla) Tipo Burbuja DIN 5	5 1F N
902517	(Anteojo) VISOR para Casco MILENIUM Transp. HC Transparente	2-1,2 1F K
902518	(Anteojo) VISOR para Casco MILENIUM Gris HC Gris fumé	5-2,5 1F K
902744	(Anteojo) Eco Reflect AF Transparente	2-1,2 1F N
902745	(Anteojo) Eco Reflect AF Gris	5-2,5 1F N
901386 + 902493	Burbuja (protector ocular de pantalla) y adaptador casco Facial/Audit. Millenium Transparente	2-1,2 1A
901387 + 902493	Burbuja (protector ocular de pantalla) y adaptador casco Facial/Audit. Millenium Gris	1A
901398 + 902493	Burbuja (protector ocular de pantalla) y adaptador casco Facial/Audit. Millenium Verde	1A



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DETALLES / DETAILS

Código	Tipo y modelo	Marcado
902439 + 902493	(protector ocular de pantalla) Tipo Burbuja y adaptador casco Facial/Audit. Millenium DIN 3	3 1 F N
902440 + 902493	(protector ocular de pantalla) Tipo Burbuja y adaptador casco Facial/Audit. Millenium DIN 5	5 1 F N
901543 + 902493	Plano (protector ocular de pantalla) y adaptador casco Facial/Audit. Millenium Transparente	1S
903096	Anteojos ECO SOFT Transparente AF	2-1,2 1 F N
903097	Anteojos ECO SOFT Gris AF	5-2,5 1 F N
902420	Antiparra AVIATOR transparente AF LILA	2C-1,2 1 B N
903117	Antiparra AVIATOR transparente AF VERDE	2C-1,2 1 B N
903118	Antiparra AVIATOR transparente AF NARANJA	2C-1,2 1 B N
903121	Antiparra AVIATOR transparente AF GRIS	2C-1,2 1 B N
903113 + 901383	Protector ocular de pantalla cilíndrico TRANSP HC + Soporte p/prot. Facial c/arnés cremallera	2-1,2 1 A K
903114 + 902438	Protector ocular de pantalla cilíndrico GRIS HC + Soporte p/prot. Facial c/arnés estándar	5-3,1 1 A K
903115 + 902493	Protector ocular de pantalla cilíndrico AMARILLO HC + adaptador casco facial / audit. M	5-3,1 1 A K
903649 + 902493	Protector ocular de pantalla CILÍNDRICO Transp HC c/MENTO + Adaptador casco Facial/Audit. M	2-1,2 LIBUS 1AK
903649 + 901383	Protector ocular de pantalla CILÍNDRICO Transp HC c/MENTO + Soporte p/Prot.Facial c/Arnés Cremallera	2-1,2 LIBUS 1AK
903649 + 902438	Protector ocular de pantalla CILÍNDRICO Transp HC c/MENTO + Soporte p/Prot.Facial c/Arnés Estándar	2-1,2 LIBUS 1AK
903650 + 902493	Protector ocular de pantalla CILÍNDRICO Gris HC c/MENTO + Adaptador casco Facial/Audit. M	5-3,1 LIBUS 1AK
903650 + 901383	Protector ocular de pantalla CILÍNDRICO Gris HC c/MENTO + Adaptador casco Facial/Audit. M	5-3,1 LIBUS 1AK
903650 + 902438	Protector ocular de pantalla CILÍNDRICO Gris HC c/MENTO + Soporte p/Prot.Facial c/Arnés Cremallera	5-3,1 LIBUS 1AK
903909	Anteojos NEON PLUS Transparente HC	2-1,2 LIBUS 1FK
903910	Anteojos NEON PLUS Gris HC	5-2,5 LIBUS 1FK
903911	Anteojos NEON PLUS Transparente AF	2-1,2 LIBUS 1FN

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Organismo
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Acreditación

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OCP 001

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DETALLES / DETAILS

Código	Tipo y modelo	Marcado
903912	Anteojo NEON PLUS Gris AF	5-2,5 LIBUS 1FN
903981	Anteojo FALL DUAL Transparente AF	2-1,2 LIBUS 1FN
903982	Anteojo FALL DUAL Gris AF	5-2,5 LIBUS 1FN
904241	Anteojo ARGON ELITE FLEX Transparente AF	2-1,2 LIBUS 1FN
904242	Anteojo ARGON ELITE FLEX Gris AF	5-2,5 LIBUS 1FN
904374	Anteojo ECO PLUS SOFT Transparente AF	2-1,2 1 F N
904376	Anteojo ECO PLUS SOFT Gris AF	5-2,5 1 F N

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Test Report: LIB-00793, Issue: 1

ANSI Z87.1-2020

LIBUS PPE

ECOLINE

October 23, 2023



- a. Reports are issued pursuant to the COLTS Laboratories [Terms and Conditions](#) agreement.
- b. Unless otherwise requested, test samples will be discarded 21 days from the report date.
- c. Reproduction of the report is prohibited except in full, unless approved in writing by COLTS Laboratories.
- d. Unless otherwise stated, results in this report apply only to the samples tested and not the lots from which they were taken.
- e. Decision Rule – COLTS makes all statements of conformity (pass/fail) based on actual values reported, unless otherwise stated.

Authorized By:

A handwritten signature in black ink, appearing to read 'Jacob Gary'.

Jacob Gary
Director of Operations

Reviewed By:

A handwritten signature in black ink, appearing to read 'Dale Payne'.

Dale Payne
Technical Services Manager

Report Summary

Product Description: ECOLINE: Clear Lens and Black Temples
Date Received: October 02, 2023
Date(s) Tested: October 18, 2023 to October 19, 2023
Standard: ANSI Z87.1-2020
Laboratory Conditions: 21°C, 52% RH

Final Conclusion:

The Spectacle Sample: ECOLINE (Clear Lens and Black Temples) **does** comply with ANSI Z87.1-2020 for the test(s) included in this report.

Test Name	Result
ANSI Z87.1-2020 Base Model General Requirements	
5.1.1 Optical Quality	Pass
5.1.2 Luminous Transmittance	Pass
5.1.3 Haze – Clear Lenses Only	Pass
5.1.4 Refractive/Resolving Power, Astigmatism	Pass
5.1.4 Prism/Prism Imbalance (Spectacle)	Pass
5.2 Physical Requirements	Pass
5.2.2 Ignition	Pass
5.2.3 Corrosion Resistance of Metal Components	Pass
5.2.4 Minimum Coverage Area	Pass
5.3.2 Placement of Markings	N/A
ANSI Z87.1-2020 Optional Claim (+)	
7.1.3 Lateral (Side) Coverage	Pass
7.1.4.2 High Mass Impact	Pass
7.1.4.3 High Velocity Impact (Spectacle)	Pass
7.1.4.4 Penetration Test (lenses only)	Pass



Test Results - LIB-00793-01/ECOLINE Clear Lens and Black Temples
ANSI Z87.1-2020 Base Model General Requirements
5.1.1 Optical Quality

Test	Specification	Pass
Free of visible defects that impair vision		Pass

5.1.2 Luminous Transmittance

Test	Specification	Pass
Left Eye	Min: 85.00	91.2 (%)
Right Eye	Min: 85.00	91.1 (%)

5.1.3 Haze – Clear Lenses Only

Test	Specification	Pass
Left Eye	Max: 3.00	0.19 (%)
Right Eye	Max: 3.00	0.16 (%)

5.1.4 Refractive/Resolving Power, Astigmatism

Test	Specification	Pass
Refractive Power		Pass
Left Eye	-0.06/0.06	-0.05 (Diopters)
Right Eye	-0.06/0.06	-0.02 (Diopters)
Astigmatism		Pass
Left Eye	-0.06/0.06	0.04 (Diopters)
Right Eye	-0.06/0.06	0.06 (Diopters)
Resolving Power		Pass
Left Eye		Pass
Right Eye		Pass

5.1.4 Prism/Prism Imbalance (Spectacle)

Test	Specification	Pass
Complete Prism		Pass
Left Eye	Max: 0.50	0.158 (Diopters)
Right Eye	Max: 0.50	0.292 (Diopters)
Prismatic Imbalance		Pass
Vertical	Max: 0.25	0.00 (Diopters)
Horizontal Base Out	Max: 0.50	0.20 (Diopters)

5.2 Physical Requirements

Test	Specification	Pass
Free of defects which may cause discomfort or injury		Pass

Test Results - LIB-00793-01/ECOLINE Clear Lens and Black Temples

5.2.2 Ignition

Test	Specification	Pass
Lens		Pass
Front		N/A
Temple		Pass
Other		N/A

5.2.3 Corrosion Resistance of Metal Components

Test	Specification	Pass
Function of protector not impaired		Pass

5.2.4 Minimum Coverage Area

Test	Specification	Pass
40 x 33 mm (34 x 28 mm - H)		Pass

5.3.2 Placement of Markings

Test	Specification	N/A
Markings		N/A

Test Results - LIB-00793-01/ECOLINE Clear Lens and Black Temples
ANSI Z87.1-2020 Optional Claim (+)
7.1.3 Lateral (Side) Coverage

Test	Specification	Pass
Lateral (Side) Coverage		Pass

7.1.4.2 High Mass Impact

Test	Specification	Pass
Left Eye Sample 1		Pass
Left Eye Sample 2		Pass
Right Eye Sample 3		Pass
Right Eye Sample 4		Pass

7.1.4.3 High Velocity Impact (Spectacle)

Test	Specification	Pass
Left Eye Center	Min: 150.0	156 (fps)
Left Eye Center		Pass
Left Eye 30°	Min: 150.0	153 (fps)
Left Eye 30°		Pass
Right Eye Center	Min: 150.0	155 (fps)
Right Eye Center		Pass
Right Eye 30°	Min: 150.0	154 (fps)
Right Eye 30°		Pass
One Side 90° at 10mm Above (H - 8mm)	Min: 150.0	153 (fps)
One Side 90° at 10mm Above (H - 8mm)		Pass
Opposite Side 90° at 10mm Below (H - 8mm)	Min: 150.0	154 (fps)
Opposite Side 90° at 10mm Below (H - 8mm)		Pass

7.1.4.4 Penetration Test (lenses only)

Test	Specification	Pass
Left Eye Sample 1		Pass
Left Eye Sample 2		Pass
Right Eye Sample 3		Pass
Right Eye Sample 4		Pass

Test Results - LIB-00793-01/ECOLINE Clear Lens and Black Temples**Observations:**

Test Name		Observation
5.3.2 Placement of Markings	Markings	Not assessed per customer request

Report Summary

Product Description: ECOLINE: Smoke Lens and Black Temples

Date Received: October 02, 2023

Date(s) Tested: October 18, 2023 to October 19, 2023

Standard: ANSI Z87.1-2020

Laboratory Conditions: 21°C, 52% RH

Final Conclusion:

The Spectacle Sample: ECOLINE (Smoke Lens and Black Temples) **does** comply with ANSI Z87.1-2020 for the test(s) included in this report.

Test Name	Result
ANSI Z87.1-2020 Variant General Requirements	
5.1.1 Optical Quality	Pass
5.1.4 Prism/Prism Imbalance (Spectacle)	Pass
5.1.4 Refractive/Resolving Power, Astigmatism	Pass
5.2 Physical Requirements	Pass
5.2.2 Ignition	Pass
5.2.3 Corrosion Resistance of Metal Components	Pass
5.2.4 Minimum Coverage Area	Pass
5.3.2 Placement of Markings	N/A
7.2.2.1.1 Special Purpose Filter Lenses - Transmission Requirements	Pass
ANSI Z87.1-2020 Optional Claim (+)	
7.1.3 Lateral (Side) Coverage	Pass
7.1.4.2 High Mass Impact	Pass
7.1.4.3 High Velocity Impact (Spectacle)	Pass
7.1.4.4 Penetration Test (lenses only)	Pass



Test Results - LIB-00793-02/ECOLINE Smoke Lens and Black Temples
ANSI Z87.1-2020 Variant General Requirements
5.1.1 Optical Quality

Test	Specification	Pass
Free of visible defects that impair vision		Pass

5.1.4 Prism/Prism Imbalance (Spectacle)

Test	Specification	Pass
Complete Prism		Pass
Left Eye	Max: 0.50	0.180 (Diopters)
Right Eye	Max: 0.50	0.112 (Diopters)
Prismatic Imbalance		Pass
Vertical	Max: 0.25	0.00 (Diopters)
Horizontal Base In	Max: 0.25	0.10 (Diopters)

5.1.4 Refractive/Resolving Power, Astigmatism

Test	Specification	Pass
Refractive Power		Pass
Left Eye	-0.06/0.06	0.02 (Diopters)
Right Eye	-0.06/0.06	0.02 (Diopters)
Astigmatism		Pass
Left Eye	-0.06/0.06	0.06 (Diopters)
Right Eye	-0.06/0.06	0.06 (Diopters)
Resolving Power		Pass
Left Eye		Pass
Right Eye		Pass

5.2 Physical Requirements

Test	Specification	Pass
Free of defects which may cause discomfort or injury		Pass

5.2.2 Ignition

Test	Specification	Pass
Lens		Pass
Front		N/A
Temple		Pass
Other		N/A

5.2.3 Corrosion Resistance of Metal Components

Test	Specification	Pass
Function of protector not impaired		Pass

Test Results - LIB-00793-02/ECOLINE Smoke Lens and Black Temples

5.2.4 Minimum Coverage Area

Test	Specification	Pass
40 x 33 mm (34 x 28 mm - H)		Pass

5.3.2 Placement of Markings

Test	Specification	N/A
Markings		N/A

7.2.2.1.1 Special Purpose Filter Lenses - Transmission Requirements

Test	Specification	Pass
Tinted Lenses		Pass
Left Eye	8.00/99.99	17.1 (%)
Right Eye	8.00/99.99	17.8 (%)
Ratio	0.900/1.100	0.961

Test Results - LIB-00793-02/ECOLINE Smoke Lens and Black Temples
ANSI Z87.1-2020 Optional Claim (+)
7.1.3 Lateral (Side) Coverage

Test	Specification	Pass
Lateral (Side) Coverage		Pass

7.1.4.2 High Mass Impact

Test	Specification	Pass
Left Eye Sample 1		Pass
Left Eye Sample 2		Pass
Right Eye Sample 3		Pass
Right Eye Sample 4		Pass

7.1.4.3 High Velocity Impact (Spectacle)

Test	Specification	Pass
Left Eye Center	Min: 150.0	153 (fps)
Left Eye Center		Pass
Left Eye 30°	Min: 150.0	156 (fps)
Left Eye 30°		Pass
Right Eye Center	Min: 150.0	154 (fps)
Right Eye Center		Pass
Right Eye 30°	Min: 150.0	154 (fps)
Right Eye 30°		Pass
One Side 90° at 10mm Above (H - 8mm)	Min: 150.0	153 (fps)
One Side 90° at 10mm Above (H - 8mm)		Pass
Opposite Side 90° at 10mm Below (H - 8mm)	Min: 150.0	154 (fps)
Opposite Side 90° at 10mm Below (H - 8mm)		Pass

7.1.4.4 Penetration Test (lenses only)

Test	Specification	Pass
Left Eye Sample 1		Pass
Left Eye Sample 2		Pass
Right Eye Sample 3		Pass
Right Eye Sample 4		Pass

Test Results - LIB-00793-02/ECOLINE Smoke Lens and Black Temples**Observations:**

Test Name		Observation
5.3.2 Placement of Markings	Markings	Not assessed per customer request

Report Summary

Product Description: ECOLINE: Outdoor/Indoor Lens and Black Temples
Date Received: October 02, 2023
Date(s) Tested: October 18, 2023 to October 19, 2023
Standard: ANSI Z87.1-2020
Laboratory Conditions: 21°C, 52% RH

Final Conclusion:

The Spectacle Sample: ECOLINE (Outdoor/Indoor Lens and Black Temples) **does** comply with ANSI Z87.1-2020 for the test(s) included in this report.

Test Name	Result
ANSI Z87.1-2020 Variant General Requirements	
5.1.1 Optical Quality	Pass
5.1.4 Prism/Prism Imbalance (Spectacle)	Pass
5.1.4 Refractive/Resolving Power, Astigmatism	Pass
5.2 Physical Requirements	Pass
5.2.2 Ignition	Pass
5.2.3 Corrosion Resistance of Metal Components	Pass
5.2.4 Minimum Coverage Area	Pass
5.3.2 Placement of Markings	N/A
7.2.2.1.1 Special Purpose Filter Lenses - Transmission Requirements	Pass
ANSI Z87.1-2020 Optional Claim (+)	
7.1.3 Lateral (Side) Coverage	Pass
7.1.4.2 High Mass Impact	Pass
7.1.4.3 High Velocity Impact (Spectacle)	Pass
7.1.4.4 Penetration Test (lenses only)	Pass



Test Results - LIB-00793-03/ECOLINE Outdoor/Indoor Lens and Black Temples
ANSI Z87.1-2020 Variant General Requirements
5.1.1 Optical Quality

Test	Specification	Pass
Free of visible defects that impair vision		Pass

5.1.4 Prism/Prism Imbalance (Spectacle)

Test	Specification	Pass
Complete Prism		Pass
Left Eye	Max: 0.50	0.158 (Diopters)
Right Eye	Max: 0.50	0.100 (Diopters)
Prismatic Imbalance		Pass
Vertical	Max: 0.25	0.05 (Diopters)
Horizontal Base Out	Max: 0.50	0.05 (Diopters)

5.1.4 Refractive/Resolving Power, Astigmatism

Test	Specification	Pass
Refractive Power		Pass
Left Eye	-0.06/0.06	0.01 (Diopters)
Right Eye	-0.06/0.06	0.02 (Diopters)
Astigmatism		Pass
Left Eye	-0.06/0.06	0.06 (Diopters)
Right Eye	-0.06/0.06	0.06 (Diopters)
Resolving Power		Pass
Left Eye		Pass
Right Eye		Pass

5.2 Physical Requirements

Test	Specification	Pass
Free of defects which may cause discomfort or injury		Pass

5.2.2 Ignition

Test	Specification	Pass
Lens		Pass
Front		N/A
Temple		Pass
Other		N/A

5.2.3 Corrosion Resistance of Metal Components

Test	Specification	Pass
Function of protector not impaired		Pass

Test Results - LIB-00793-03/ECOLINE Outdoor/Indoor Lens and Black Temples

5.2.4 Minimum Coverage Area

Test	Specification	Pass
40 x 33 mm (34 x 28 mm - H)		Pass

5.3.2 Placement of Markings

Test	Specification	N/A
Markings		N/A

7.2.2.1.1 Special Purpose Filter Lenses - Transmission Requirements

Test	Specification	Pass
Tinted Lenses		Pass
Left Eye	8.00/99.99	41.8 (%)
Right Eye	8.00/99.99	44.9 (%)
Ratio	0.900/1.100	0.931

Test Results - LIB-00793-03/ECOLINE Outdoor/Indoor Lens and Black Temples
ANSI Z87.1-2020 Optional Claim (+)
7.1.3 Lateral (Side) Coverage

Test	Specification	Pass
Lateral (Side) Coverage		Pass

7.1.4.2 High Mass Impact

Test	Specification	Pass
Left Eye Sample 1		Pass
Left Eye Sample 2		Pass
Right Eye Sample 3		Pass
Right Eye Sample 4		Pass

7.1.4.3 High Velocity Impact (Spectacle)

Test	Specification	Pass
Left Eye Center	Min: 150.0	156 (fps)
Left Eye Center		Pass
Left Eye 30°	Min: 150.0	154 (fps)
Left Eye 30°		Pass
Right Eye Center	Min: 150.0	155 (fps)
Right Eye Center		Pass
Right Eye 30°	Min: 150.0	155 (fps)
Right Eye 30°		Pass
One Side 90° at 10mm Above (H - 8mm)	Min: 150.0	153 (fps)
One Side 90° at 10mm Above (H - 8mm)		Pass
Opposite Side 90° at 10mm Below (H - 8mm)	Min: 150.0	153 (fps)
Opposite Side 90° at 10mm Below (H - 8mm)		Pass

7.1.4.4 Penetration Test (lenses only)

Test	Specification	Pass
Left Eye Sample 1		Pass
Left Eye Sample 2		Pass
Right Eye Sample 3		Pass
Right Eye Sample 4		Pass

Test Results - LIB-00793-03/ECOLINE Outdoor/Indoor Lens and Black Temples**Observations:**

Test Name		Observation
5.3.2 Placement of Markings	Markings	Not assessed per customer request



APPENDIX 1

ANSI Z87.1 - 2020 Measurement Uncertainty Values

Section	Requirement	Uncertainty
5.1.2	Luminous Transmittance	0.19%
5.1.3	Haze	0.08%
5.1.4	Refractive Power	0.018D
	Astigmatism	0.018D
	Prism	0.048Δ
5.4.5	Minimum Lens Thickness	0.012 mm
5.5.1	Replaceable Lenses – Goggles	0.17 mm
5.5.2	Replaceable Lenses – Welding Helmets and Handshields	0.17 mm
6.1	Relaxed Optics Level	See 5.1.4
6.2	Anti-Fog Properties	1.79%
7.2.1	Optical Radiation - Clear Lenses	See 5.1.2
7.2.2.1.1	Transmission Requirements	
	Table 7 (Welding Filters)	
	W1.3 – W3.0	See 5.1.2
	W4	0.0018287%
	W5	0.0003283%
	W6	0.0003605%
	W7	0.0000961%
	W8	0.0001944%
	W9	0.0000459%
	W10	0.0000707%
	W11	0.0000163%
	W12	0.0000055%
	W13	0.0000029%
	W14	0.0000017%
	EFUV	0.0000551%
	NUV	0.0000576%
	IR	0.010395%
	Table 8 (UV Filters)	
	EFUV	0.0000551%
	NUV	0.0000576%
	Table 9 (IR Filters)	0.010395%
	Table 10 (VIS Filters)	See 7.2.2.1.1 W1.3 – W10
	Table 11 Tinted	See 5.1.2
	Extra Dark	See 5.1.2
7.2.2.1.2	Visible Light Filters	
	Visible Light (L1.3 - L3)	See 5.1.2
	UVA	See Table 7 NUV
	UVB	See Table 7 EFUV
7.2.2.2	Transmittance of Non-lens Components	See 7.2.2.1.1 Table 7, 8 & 9
7.2.3.1	Automatic Darkening Welding Filter Lenses - Luminous Transmittance	See 7.2.2.1.1 Table 7
7.2.3.2	Automatic Darkening Welding Filter Lenses - UV/IR Transmittance	See 7.2.2.1.1 Table 7
7.2.3.3	Switching Index	0.0192 mSec
7.2.3.5	Angular dependence of luminous transmittance	See 7.2.2.1.1 Table 7