Advanced combat goggles for ballistic, sun, wind, dust and laser eye protection

**THE NEW GENERATION IN EYE PROTECTION**

CHEMICAL INDUSTRIES LTD.

**OPTICAL PERFORMANCE SPECIFICATIONS**

**Refractive properties**
- **Ballistic visor**
  - Power
    - ≤ ±0.125D
  - Prism imbalance
    - Horizontal ≤ ±0.18D B.I
    - Vertical ≤ ±0.18D
  - Astigmatism
    - ≤ ±0.0625D
  - Optical distortion
    - No visible distortion

**Transmission/Absorption properties**
- **Haze**
  - ≤ 2%
- **Visible L.T (380-740nm)**
  - ≥ 85%
- **Photopic L.T**
  - ≥ 99%
- **Scotopic L.T**
  - ≥ 99%

**Test method**
- Per ANSI Z87.1-1989
- Per MIL-S-44366A

* Figures provided for 1064nm NEO-Y AG Laser filter.

**MECHANICAL AND ENVIRONMENTAL PERFORMANCE SPECIFICATIONS**

**Property**
- Abrasion resistance of hard coating on ballistic and frontsert visors.
- Chemical resistance to oils, kerosene, gasoline and other hydraulic fluids.
- Resistance of laser filter to simulated solar exposure for 96 hrs.
- Resistance of laser filter to temperature extremes (-50˚C to +70˚C) for 72 hrs.
- Resistance of laser filter to elevated temperature and humidity conditions for 240 hrs.

**Test method**
- Per - ASTM D1044-90
- Per MIL-S-44366A
- Per MIL-STD-810E method 505.3 procedure I.
- Per MIL-S-44366A
- Per MIL-STD-810E method 507 cycles 4&5.

**MAIN DESIGN FEATURES**

- Wrap-around design
  - Wind and frontal protection.
  - Undisturbed field of view.
  - Attractive appearance.
- Flexible plastic frame
  - One size fits all.
- Ergonomically contained elastic frame with integral seal between primary and secondary lens
  - Good fit to user’s face.
  - No dust penetration.
  - High durability (no frame).
  - Maximum comfort.
  - Improved interface with optical sighting equipment.
- “Labyrinth” design of ventilation ports
  - No dust filtration elements.
  - Simple maintenance.
  - Good ventilation preventing fog accumulation on lens.
- Soft looking headband retainer
  - Simple, quick and safe securing of goggle to head.
  - Enables to put on and remove the goggles while wearing a helmet.
- Snap-on attachment of a secondary lens
  - Always protection against solar or laser radiation only when required.
- Integral adapter for prescription lens frame
  - Some goggle can be used with or without prescription lenses.
  - No interference of temples with goggle frame.

**BENEFITS**

- Peripheral and frontal protection.
- Unobstructed field of view.
- Attractive appearance.
- One size fits all.
- Good fit to user’s face.
- No dust penetration.
- High durability (no frame).
- Maximum comfort.
- No dust filtration elements.
- Simple maintenance.
- Good ventilation preventing fog accumulation on lens.
- Simple, quick and safe securing of goggle to head.
- Enables to put on and remove the goggle while wearing a helmet.
- Always protection against solar or laser radiation only when required.
- No interference of temples with goggle frame.

**SHALON CHEMICAL INDUSTRIES LTD.**

Head Office: 29 Nahmani St. Tel-Aviv 65794 Israel, Tel. 972-3-6291225, Fax. 972-3-6291615

Plant: Kiryat Gat 82000, Tel. 972-7-811095, Fax. 972-7-811115

Ajustable head band strap
Corrective lenses frame adapter
Lense securing S.S. screws
Ballistic lens
Foldable attachment prong
Laser filter / Sunshield frontsert

**CHANGES & IMPROVEMENTS**

- Improvements in optical performance.
- New materials used in the construction of the goggle.
- Enhanced durability and functionality.

**MECHANICAL AND ENVIRONMENTAL PERFORMANCE SPECIFICATIONS**

**Property**
- **Power**
  - ≤ ±0.125D
  - Prism imbalance
  - Horizontal ≤ ±0.18D B.I
  - Vertical ≤ ±0.18D
  - Astigmatism
  - ≤ ±0.0625D
  - Optical distortion
  - No visible distortion

**Test method**
- Per MIL-V-43511C
- Per ANSI Z87-1.1-1989

**Transmission/Absorption properties**
- **Haze**
  - ≤ 2%
- **Visible L.T (380-740nm)**
  - ≥ 85%
- **Photopic L.T**
  - ≥ 99%
- **Scotopic L.T**
  - ≥ 99%

**Test method**
- Per ANSI Z87.1-1989
- Per ANSI Z87-1.1-1989

**Mechanical and environmental performance specifications**

**Property**
- Abrasion resistance of hard coating on ballistic and frontsert visors.
- Chemical resistance to oils, kerosene, gasoline and other hydraulic fluids.
- Resistance of laser filter to simulated solar exposure for 96 hrs.
- Resistance of laser filter to temperature extremes (-50˚C to +70˚C) for 72 hrs.
- Resistance of laser filter to elevated temperature and humidity conditions for 240 hrs.

**Test method**
- Per - ASTM D1044-90
- Per MIL-S-44366A
- Per MIL-STD-810E method 505.3 procedure I.
- Per MIL-S-44366A
- Per MIL-STD-810E method 507 cycles 4&5.
PROTECTION MEANS

4mm hard-coated polycarbonate lens.

Ergonomically designed elastomeric frame.

2mm hard-coated polycarbonate frontsert filter with molded-in dye.

Color shades adjusted to customer requirements.

2mm hard-coated polycarbonate frontsert filter with molded-in dye for 1064nm NEO-Y AG laser (standard filter).

Other wavelength filters can be offered per customer requirements.

PERFORMANCE SPECIFICATIONS

V50 ≥ 1200 ft/sec, when tested according to MIL-STD-662E with a grain RCC projectile.

Minimal dust penetration as evidenced by field testing.

Optical density Photopic L.T Scotopic L.T

For neutral gray filter.

Optical density Photopic L.T Scotopic L.T

For 1064nm NEO-Y AG filter.

HAZARD

Shrapnel & other ballistic hazards

Dust / Wind

Solar radiation

Laser radiation

PROTECTION FEATURES

BACKGROUND EPS-21 - HIGHLIGHTS

Enhanced ballistic protection achieved through 4mm thick hard-coated Polycarbonate lens.

Reduced eye-to-lens clearance yielding improved interface with optical sighting equipment.

Spherical injection-molded lens designed to meet stringent optical specifications.

A dust-proof snap-on connection of a frontsert visor serving as a sun shield and/or a laser filter; sealing between the primary (ballistic) and secondary (filter) visors is provided by a peripheral seal.

A special-purpose frame for prescription lenses snugly fitted into an integral adapter above the nose bridge.

Even a slight eye injury may incapacitate a solider, requiring the immediate transfer, and additional personnel caring for him since he cannot be left alone. Military and legislators now realize that high incidence of eye injury has a devastating effect on the ability of an army to conduct modern warfare.

A study of the Israel Ministry of Defense concluded that eye injury often occurred when soldiers were not wearing the protective eyewear that they had been issued, due to poor interface with sighting equipment, comfort and availability. We began to develop a goggle that was designed to incorporate the latest technologies, to achieve a very high level of protection while maintaining the attractiveness of a sport goggle.

In early 1995 the Israel Ministry of Defense placed a contract with Shalon Chemical Industries for what has now become known worldwide as the EPS-21, Eye Protective System for the 21st Century.

EPS-21 is now being offered to protect military and police personnel against sun, wind, dust, ballistic fragmentation and laser radiation.

The system consists of a goggle frame with a clear ballistic lens and a wide range of easily installed outsert lenses. A lightweight frame for corrective lenses can readily be inserted, eliminating the problem of fitting military goggle over spectacles.

Originally designed to meet stringent requirements of the Israeli Defense Force, EPS-21 offers unique features never before available in military protective eyewear. It is an elegant, comfortable, stable, low profile frame that is undoubtedly the highest ????????
Enhanced ballistic protection achieved through 4mm thick hard-coated Polycarbonate lens.

A dust-proof snap-on connection of a frontsert visor serving as a sun shield and/or a laser filter, sealing between the primary (ballistic) and secondary (filter) lens is provided by a peripheral seal.

Ventilation ports comprising a labyrinth design within the plastic frame thus avoiding dust penetration without need for special filter elements.

A special-purpose frame for prescription lenses snugly fitted into an integral adapter above the nose bridge.

Spherical injection-molded lens designed to meet stringent optical specifications.

The goggle frame is constructed of two elements:
1. A rigid plastic frame with flexible ends incorporating strap retainers.
2. A pliable elastomeric frame with corrugated temple zones to fit different facial contours.

Even a slight eye injury may incapacitate a soldier, requiring the immediate transfer, and additional personal care for him since he cannot be left alone. Military and legislators now realize that high incidence of eye injury has a devestating effect on the ability of an army to conduct modern warfare.

Current types of NATO and US goggle are generally cumbersome, uncomfortable, and offer limited protection against high speed, high fragmentation ammunition, explosives and laser irradiation.

A study of the Israel Ministry of Defense concluded that eye injury often occurred when soldiers were not wearing the protective eyewear that they had been issued, due mainly to poor interface with sighting equipment, comfort and aesthetics. We began to develop a goggle that was designed to incorporate the latest technologies, to achieve a very high level of protection while maintaining the attractiveness of a sport goggle.

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Originally designed to meet stringent requirements of the Israeli Defense Force, EPS-21 offers unique features never before available in military protective eyewear. It is an elegant, comfortable, stable, low profile platform for what is undoubtedly the highest ****.

EPS-21 - HIGHLIGHTS

1. Unique headband and strap retainer design. Headband suspended over the head and under the helmet. Strap retainer allows soldier to put on and remove goggles freely while wearing a helmet.

2. A dust-proof snap-on connection of a frontsert visor serving as a sun shield and/or a laser filter, sealing between the primary (ballistic) and secondary (filter) lens is provided by a peripheral seal.

3. A special-purpose frame for prescription lenses snugly fitted into an integral adapter above the nose bridge.

BACKGROUND

PROTECTION MEANS

4mm hard-coated Polycarbonate lens.

Ergonomically designed elastomeric frame.

2mm hard-coated polycarbonate frontsert filter with molded-in dye.

Color shades adjusted to customer requirements.

2mm hard-coated polycarbonate frontsert filter with molded-in dye for 1064nm NEO-Y AG laser (standard filter).

Other wavelength filters can be offered per customer requirements.

PERFORMANCE SPECIFICATIONS

V50

≥ 1200 ft/sec, when tested according to MIL-STD-662E with a grain RCC projectile.

Minimal dust penetration as evidenced by field testing.

Optical density Photopic L.T
Scotopic L.T

For neutral gray filter.

Optical density Photopic L.T
Scotopic L.T

For 1064nm NEO-Y AG filter.

HAZARD

Shrapnel & other ballistic hazards

Dust / Wind

Solar radiation

Laser radiation

PROTECTION FEATURES

BACKGROUND EPS-21 - HIGHLIGHTS

Enhanced ballistic protection achieved through 4mm thick hard-coated Polycarbonate lens.

Reduced eye-to-lens clearance yielding improved interface with optical sighting equipment.

Spherical injection-molded lens designed to meet stringent optical specifications.

The goggle frame is constructed of two elements:
1. A rigid plastic frame with flexible ends incorporating strap retainers.
2. A pliable elastomeric frame with corrugated temple zones to fit different facial contours.

A dust-proof snap-on connection of a frontsert visor serving as a sun shield and/or a laser filter, sealing between the primary (ballistic) and secondary (filter) lens is provided by a peripheral seal.

Ventilation ports comprising a labyrinth design within the plastic frame thus avoiding dust penetration without need for special filter elements.

Enhanced ballistic protection achieved through 4mm thick hard-coated Polycarbonate lens.

Ergonomically designed elastomeric frame.

2mm hard-coated polycarbonate frontsert filter with molded-in dye.

Color shades adjusted to customer requirements.

2mm hard-coated polycarbonate frontsert filter with molded-in dye for 1064nm NEO-Y AG laser (standard filter).

Other wavelength filters can be offered per customer requirements.
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Current types of NATO and US goggle are generally cumbersome, uncomfortable, and offer limited protection against high-fragmentation ammunition, explosives and laser irradiation. A study of the Israel Ministry of Defense concluded that eye injury often occurred when soldiers were not wearing the protective eyewear that they had been issued, due mainly to poor interface with sighting equipment, comfort and aesthetics. We began to develop a goggle that was designed to incorporate the latest technologies, to achieve a very high level of protection while maintaining the attractiveness of a sport goggle.

In early 1995 the Israel Ministry of Defense placed a contract with Shalon Chemical Industries for what has now become known worldwide as the EPS-21, Eye Protective System for the 21st Century.

EPS-21 is now being offered to protect military and police personnel against sun, wind, dust, ballistic fragmentation and laser radiation. The system consists of a goggle frame with a clear ballistic lens and a wide range of easily installed outsert lenses. A lightweight frame for corrective lenses can readily be inserted, eliminating the problem of fitting military goggles over spectacles.

Originally designed to meet stringent requirements of the Israeli Defense Force, EPS-21 offers unique features never before available in military protective eyewear. It is an elegant, comfortable, stable, low profile platform for what is undoubtedly the highest protection.

PROTECTION MEANS
4mm hard-coated polycarbonate lens.
Ergonomically designed elastomeric frame.
2mm hard-coated polycarbonate frontsert filter with molded-in dye.
Color shades adjusted to customer requirements.
2mm hard-coated polycarbonate frontsert filter with molded-in dye for 1064nm NEO-Y AG laser (standard filter).
Other wavelength filters can be offered per customer requirements.

PERFORMANCE SPECIFICATIONS

<table>
<thead>
<tr>
<th>HAZARD</th>
<th>PROTECTION MEANS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shrapnel &amp; other ballistic hazards</td>
<td>4mm hard-coated polycarbonate lens.</td>
</tr>
<tr>
<td>Dust / wind</td>
<td>Appropriately designed elastomeric frame.</td>
</tr>
<tr>
<td>Solar radiation</td>
<td>2mm hard-coated polycarbonate frontsert filter with molded-in dye offered per customer requirements.</td>
</tr>
<tr>
<td>Laser radiation</td>
<td>2mm hard-coated polycarbonate frontsert filter with molded-in dye for 1064nm NEO-Y AG laser (standard filter). Other filters can be offered per customer requirements.</td>
</tr>
</tbody>
</table>

The goggles frame is constructed of two elements: 1. A rigid plastic frame with flexible ends incorporating strap mountings; 2. A pliable elastomeric frame with corrugated temple zones to fit different facial contours.

A dust-proof snap-on connection of a frontsert visor serving as a sun shield and a laser filter sealing between the primary (ballistic) and secondary (filter) visors is provided by a peripheral seal.

A special purpose frame for prescription lenses snugly fitted into an integral adapter above the nose bridge.

A unique headband and strap retainer design. Headband suspended over the head and under the helmet. Strap retainer allows soldier to put on and remove goggles freely while wearing a helmet.

A spherical injection molded lens designed to meet stringent optical specifications.

Enhanced ballistic protection achieved through a 4mm thick hard-coated Polycarbonate lens.

Reduced eye-to-lens clearance yielding improved interface with optical sighting equipment.

A dust-proof snap-on connection of a frontsert visor serving as a sun shield and a laser filter sealing between the primary (ballistic) and secondary (filter) visors is provided by a peripheral seal.

Ventilation ports comprising a labyrinth design within the plastic frame thus avoiding dust penetration without need for special filter elements.

A special purpose frame for prescription lenses snugly fitted into an integral adapter above the nose bridge.

Unique headband and strap retainer design. Headband suspended over the head and under the helmet. Strap retainer allows soldier to put on and remove goggles freely while wearing a helmet.
### OPTICAL PERFORMANCE SPECIFICATIONS

<table>
<thead>
<tr>
<th>Property</th>
<th>Ballistic visor</th>
<th>Frontsert visor</th>
<th>Test method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power</td>
<td>≤ 0.125D</td>
<td>≤ 0.125D</td>
<td>Per MIL-V-43511C &quot;As worn&quot;</td>
</tr>
<tr>
<td>Prism imbalance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Horizontal</td>
<td>≤ 0.18 D</td>
<td>≤ 0.18 D</td>
<td>Per MIL-V-43511C &quot;As worn&quot;</td>
</tr>
<tr>
<td>Vertical</td>
<td>≤ 0.50 D</td>
<td>≤ 0.50 D</td>
<td>Per ANSI 287.1-1989</td>
</tr>
<tr>
<td>Astigmatism</td>
<td>≤ 0.18 D</td>
<td>≤ 0.18 D</td>
<td>Per ANSI 287.1-1989</td>
</tr>
<tr>
<td>Optical distortion</td>
<td>No visible</td>
<td>No visible</td>
<td>Per ANSI 287.1-1989</td>
</tr>
</tbody>
</table>

#### Transmission/Absorption properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Ballistic lens</th>
<th>Frontsert lens</th>
<th>Test method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Haze</td>
<td>≤ 2%</td>
<td>≤ 2%</td>
<td>Per ANSI 287.1-1989</td>
</tr>
<tr>
<td>Visible L. T (380-740nm)</td>
<td>≥ 85%</td>
<td>≥ 85%</td>
<td>Per ANSI 287.1-1989</td>
</tr>
<tr>
<td>Photopic L. T</td>
<td>≥ 99%</td>
<td>≥ 99%</td>
<td>Per ANSI 287.1-1989</td>
</tr>
<tr>
<td>Scotopic L. T</td>
<td>≥ 99%</td>
<td>≥ 99%</td>
<td>Per ANSI 283.3-1986</td>
</tr>
<tr>
<td>Optical density Photopic L. T</td>
<td>≤ 4.0</td>
<td>≤ 4.0</td>
<td>Per MIL-S-44366A</td>
</tr>
<tr>
<td>Optical density Scotopic L. T</td>
<td>≥ 45%</td>
<td>≥ 45%</td>
<td>Per MIL-S-44366A</td>
</tr>
</tbody>
</table>

* Figures provided for 1064nm NEO-YAG Laser filter.

### MECHANICAL AND ENVIRONMENTAL PERFORMANCE SPECIFICATIONS

<table>
<thead>
<tr>
<th>Property</th>
<th>Performance specification</th>
<th>Test method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abrasion resistance of hard coating on ballistic and frontsert visors</td>
<td>≤ 6% haze gain after 50 cycles of Taber abrader with CS10 wheel, 500 grams load</td>
<td>Per ASTM C1044-90</td>
</tr>
<tr>
<td>Chemical resistance to solvents, hydraulic fluids, and other hydraulic fluids</td>
<td>No deterioration in mechanical and optical performance of system components less retaining strap</td>
<td>Per MIL-S-44366A</td>
</tr>
<tr>
<td>Resistance of laser filter to simulated solar exposure for 96 hrs.</td>
<td>Optical density &gt; 4</td>
<td>Per MIL-STD-810E method 509.3 procedure I.</td>
</tr>
<tr>
<td>Resistance of laser filter to temperature extremes</td>
<td>Optical density &gt; 4</td>
<td>Per MIL-STD-810E method 509.3 procedure I.</td>
</tr>
<tr>
<td>Resistance of laser filter to elevated temperature and humidity conditions for 240 hrs.</td>
<td>Optical density &gt; 4</td>
<td>Per MIL-STD-810E method 509.3 procedure I.</td>
</tr>
</tbody>
</table>

### MAIN DESIGN FEATURES

- **Wrap-around design**
  - Provides head and facial protection.
  - Unobstructed field of view.
  - Aesthetically appealing.
- **Flexible plastic frame**
  - One size fits all.
- **Ergonomically contoured elastic frame with integral seal between primary and secondary lens**
  - Good fit to user's face.
  - No dust penetration.
  - High durability (no frame).
- **Minimal clearance between lens and eye**
  - Improved interface with optical lightweight requirement.
- **"Labyrinth" design of ventilation ports**
  - No dust filtration elements.
  - Single maintenance.
  - Good ventilation removing fog accumulation on lens.
- **Soft locking headband retainers**
  - Quick, easy and secure securing of goggle to face.
  - Enables to put on and remove the goggle while wearing a helmet.
- **Elastic strap attachment to a stabilizing strap**
  - Allows protection against solar or laser radiation only when required.
- **Integral adapter for prescription lens frame**
  - Same goggles can be used by soldiers wearing prescription lenses.
  - No interference of temples with goggle frame.

### BENEFITS

- Peripheral and frontal protection.
- Unobstructed field of view.
- Attractive appearance.
- One size fits all.
- Ergonomically contoured elastic frame with integral seal between primary and secondary lens.
- Minimal clearance between lens and eye.
- Soft locking headband retainers.
- Elastic strap attachment to a stabilizing strap.
- Integral adapter for prescription lens frame.
- Adjustable head band strap.
- Corrective lenses frame adapter.
- Lens securing stainless steel screws.
- Foldable attachment prong.
- Laser filter / Sunshield frontsert.

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**Optical performance**

- **Power**
  - ≤ 0.125D
  - ≤ 0.125D
- **Prism imbalance**
  - Horizontal: ≤ 0.18 D
  - Vertical: ≤ 0.50 D
- **Astigmatism**
  - ≤ 0.18 D
  - ≤ 0.18 D
- **Optical distortion**
  - No visible
  - No visible
- **Transmission/Absorption properties**
  - **Haze**
    - ≤ 6% haze gain after 50 cycles of Taber abrader with CS10 wheel, 500 grams load.
  - **Visible L. T (380-740nm)**
    - ≥ 85%
  - **Photopic L. T**
    - ≥ 99%
  - **Scotopic L. T**
    - ≥ 99%
  - **U.V absorption (280-380nm)**
    - ≥ 99%
  - **Optical density Photopic L. T**
    - ≤ 4.0
  - **Optical density Scotopic L. T**
    - ≥ 45%

**Mechanical and environmental performance**

- **Abrasion resistance of hard coating on ballistic and frontsert visors**
  - ≤ 6% haze gain after 50 cycles of Taber abrader with CS10 wheel, 500 grams load.
- **Chemical resistance to solvents, hydraulic fluids, and other hydraulic fluids**
  - No deterioration in mechanical and optical performance of system components less retaining strap.
- **Resistance of laser filter to simulated solar exposure for 96 hrs.**
  - Optical density > 4
- **Resistance of laser filter to temperature extremes**
  - Optical density > 4
- **Resistance of laser filter to elevated temperature and humidity conditions for 240 hrs.**
  - Optical density > 4

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**EPS-21**

**The New Generation in Eye Protection**

Advanced combat goggles for ballistic, sun, wind, dust and laser eye protection.
Advanced combat goggles for ballistic, sun, wind, dust and laser eye protection

THE NEW GENERATION IN EYE PROTECTION

CHEMICAL INDUSTRIES LTD.

OPTICAL PERFORMANCE SPECIFICATIONS

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<tr>
<td>Power</td>
<td>≤ 0.125D</td>
<td>≤ 0.125D</td>
<td>Per MIL-V-43511C “As worn”</td>
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<tr>
<td>Prone imbalance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Horizontal</td>
<td>≤ 0.18D B I</td>
<td>≤ 0.18D B I</td>
<td>Per MIL-V-43511C “As worn”</td>
</tr>
<tr>
<td>Vertical</td>
<td>≤ 0.18D</td>
<td>≤ 0.18D</td>
<td></td>
</tr>
<tr>
<td>Astigmatism</td>
<td>≤ 0.0625D</td>
<td>≤ 0.0625D</td>
<td>Per ANSI 287.1-1989</td>
</tr>
<tr>
<td>Optical distortion</td>
<td>No visible</td>
<td>No visible</td>
<td>Per ANSI 287-1-1987</td>
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Transmission/Absorption properties

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<td>Visible L.T (380-740nm)</td>
<td>≥ 85%</td>
<td>≥ 60%*</td>
<td>Per ANSI 287-1-1989</td>
</tr>
<tr>
<td>P-43 spectral emission</td>
<td>≥ 99%</td>
<td>≥ 50%*</td>
<td>Per ANSI 287-1-1989</td>
</tr>
<tr>
<td>Scotopic L.T</td>
<td>≥ 99%</td>
<td>≥ 99%</td>
<td>Per ANSI 287-1-1989</td>
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<tr>
<td>Illuminant ‘C’</td>
<td></td>
<td></td>
<td>Per ANSI Z80.3-1986</td>
</tr>
<tr>
<td>U.V absorption (280-380nm)</td>
<td></td>
<td></td>
<td>Per MIL-S-44366A</td>
</tr>
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* Figures provided for 1064nm NEO-YAG Laser filter.

REFRACTIVE PROPERTIES

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<td>Per MIL-V-43511C “As worn”</td>
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<td>Vertical</td>
<td>≤ 0.18D</td>
<td>≤ 0.18D</td>
<td></td>
</tr>
<tr>
<td>Astigmatism</td>
<td>≤ 0.0625D</td>
<td>≤ 0.0625D</td>
<td>Per ANSI 287.1-1989</td>
</tr>
<tr>
<td>Optical distortion</td>
<td>No visible</td>
<td>No visible</td>
<td>Per ANSI 287-1-1987</td>
</tr>
</tbody>
</table>

MECHANICAL AND ENVIRONMENTAL PERFORMANCE SPECIFICATIONS

<table>
<thead>
<tr>
<th>Property</th>
<th>Performance specification</th>
<th>Test method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abrasion resistance of hard coating on ballistic and frontsert visors</td>
<td>≤ 6% haze gain after 50 cycles of taber abrader with CS10 wheel, 900 gram load.</td>
<td>Per - ASTM C1044-90</td>
</tr>
<tr>
<td>Chemical resistance to obs., kerosene, gasoline and other hydraulic fluids</td>
<td>No deterioration in mechanical and optical performance of system components less retaining strap.</td>
<td>Per MIL-S-44366A</td>
</tr>
<tr>
<td>Resistance to simulated solar exposure for 96 hrs.</td>
<td>Optical density = 4</td>
<td>Per MIL-STD-810E method 509.3 procedure I.</td>
</tr>
<tr>
<td>Resistance of laser filter to elevated temperature extremes 1: 70C (5) to 70C (5) for 72 hrs.</td>
<td>Optical density = 4</td>
<td>Per MIL-STD-810E method 509.3 procedure I.</td>
</tr>
<tr>
<td>Resistance of laser filter to elevated temperature and humidity conditions for 240 hrs.</td>
<td>Optical density = 4</td>
<td>Per MIL-STD-810E method 509.3 procedure I.</td>
</tr>
</tbody>
</table>

BENEFITS

Peripher and frontal protection. | Unobstructed field of view. | Attractive appearance.

Wrap-around design | One size fits all.

Flexible plastic frame | Good fit to user’s face. | No dust penetration.

Ergonomically contoured plastic frame with integral seal between primary and secondary lens | High durability (no frame). | Maximum comfort.

Minimal clearance between lens and eyes | Improved optical performance. | No optical distortions.

“Labyrinth” design of ventilation ports | No dust filtration elements. | Simple ventilation.

Soft locking headband retainers | Simple, quick and safe securing of goggle to head. | Good ventilation-maximizing fog accumulation on lens.

Snap-on attachment of secondary lens | Simple, quick and safe securing of goggle to head. | Able to put on and remove the goggle while wearing a helmet.

Integrally adapted for prescription lenses frame | Allows protection against solar and laser radiation only when required. | Enables to put on and remove the goggle while wearing a helmet.

Integrally adapted for prescription lenses frame | Some goggles can be used by soldiers wearing prescription lenses. | No interference of temples with goggle frame.

NO PANEL