

Light Purple Grey Headlight Film Product Sheet

1.Product composition structure

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| Protective Film |
| Hard Coating |
| TPU Base Film |
| Acrylic Pressure Sensitive Adhesive |
| PET Liner |

2. Technical Standards

2.1.Appearance performance

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| Product Name | Light Purple Grey Headlight Film | |
| Use | Car headlight protection | |
| Model | / | Standard |
| Point defects | 0mm < Diameter≤0.6mm | Uncountable |
| | 0.6mm < Diameter < 3.0mm | Allowed number: ≤20.0×S |
| | Diameter ≥3.0mm | Allowed number: ≤1.0×S |
| Linear defects | 0.2 mm < Width≤0.5 mm, and the length is ≤80 mm | Number of entries allowed: ≤2.0×S, and the line spacing ≥100 mm |
| | Width > 0.5 mm or length > 80 mm | Not allowed |
| Scratching | Length ≤80 mm, and 0.2 mm < Width≤0.5 mm | Number of entries allowed: ≤5.0×S, and the scratch spacing ≥100 mm |
| | Length > 80 mm, and 0.2 mm < Width≤0.5 mm | Number of entries allowed: ≤1.0×S |
| | Width > 0.5 mm | Not allowed |
| Arch&Uneven membrane surface | 177°≤Bending radius≤183° | Allowed |
| | Bending arc < 177° Or bending radius > 183° | Not allowed |
| Protective film with air bubbles | Visible | Allowed number: ≤2.0×S |
| Foreign body | Visible | Not allowed |
| Cracking | Visible | Not allowed |

Test method description:

1. S is the film area in square meters, with two decimal places reserved
2. Coating dumb strips, after removing the HC protective film, naturally visually inspect the sample surface; 3. All appearance abnormalities are measured in the area with the most concentrated sampling abnormalities;
4. Point defects include crystal points, concave and convex points, shrinkage holes, fisheye points, etc.;
5. Linear defects include adhesive surface lines, bubble lines, stop marks, indentations, rib patterns, horizontal lines, etc.;
6. Foreign objects include mosquitoes, dry glue, dirty spots, etc.

2.2. Specification

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|------------------------------|----------------------------------|
| Product Name | Light Purple Grey Headlight Film |
| model | / |
| Thickness (finished product) | 315±15 (μm) |
| Thickness (protective film) | 50 (μm) |
| thickness(TPU&HC&glue) | 190±10 (μm) |
| thickness(PETRelease film) | 75 (μm) |

2.3.1 Physical performance indicators

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| Product Name | Light Purple Grey Headlight Film | |
| Model | / | Test Method |
| Light transmittance | 35±3 (%) | LS182(FULL) |
| Glossiness (60°) | ≥90 (%) | GB 8807 |
| Coating elongation at break | 90~115 (%) | GB/T 1040.1 |
| Elongation at break of finished product | ≥250 (%) | GB/T 1040.1 |
| Finished product tensile strength at break | ≥15 (N/25mm) | GB/T 1040.1 |
| Finished product release force | ≤0.35 (N/25mm) | GB/T 2792 |
| Initial adhesion | ≥6 (N/25mm) | FTM 9 |
| 24h,180°Peel force | ≥12 (N/25mm) | GB/T 2792 |

Note: The above data are laboratory test data

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Test method description:The elongation at break of the coating is in accordance with the provisions of GB/T 1040.1 Determination of tensile properties of plastics Part 1 General Principles. During the tensile test, the elongation at break of the finished product is recorded when the HC coating breaks during tensile testing.

2.3.2Characteristics

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| Product Name | Light Purple Grey Headlight Film | |
| Model | / | Test Method |
| Scratch repair ability | Instant Self-repair | (0.1mm) Copper brush&Drying gun |
| Water contact angle | ≤95(°) | refer to DL/T864appendixA |
| Acid and alkali resistance | No visually visible coating disadvantages | Experimental method |
| Yellowing ΔE | ≤2 | GB/T 16422.1-2006 |
| Stain Resistant | No visible water spots | GB/T 16422.2 |
| Heat and humidity aging resistance | No visible bubbles, cracks, or discoloration | Constant temperature and humidity,168h |
| Puncture resistance | ≥130 (N) | QC/T 1171-2022 |

Test method description:

1. Scratch repair ability: use a copper brush with a copper wire size of less than 0.1mm, brush the coating surface in a circular manner for 10 times, then heat it with a baking gun or 100°C boiling water, and visually inspect the disappearance of fine scratches;
2. Acid and alkali resistance: 10% hydrochloric acid and 0.1mol/L sodium hydroxide solution are applied to the surface of the sample and left naturally for 24 hours, and the appearance of the sample is evaluated for visually visible bubbles, cracks and other coating defects;
3. Anti-stain: use equipment with UV radiation, heating and spraying functions to destroy the sample. The parameter setting refers to the corresponding provisions of GB/T 16422.2, and the spray water uses general industrial water.
4. Resistance to wet and hot aging: keep the temperature constant at 80°C±2°C and the relative humidity constant at 85%±2% during the test, and compare the gloss and 180° peel strength of the sample before wet and hot aging.

3.Packaging

3.1Packaging material characteristics

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| Product Name | Light Purple Grey Headlight Film | |
| Model | 3inch Plastic inner core tube/Double-sided tape/Red tape | |
| | PE plastic bag/Warranty Card/Packaging Carton(White cover&Black cover) | |
| | Wooden Pallets/Packing bag/Stretch Film/Product Information Sheet | |

3.2Packing Specifications

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|---------------|----------------------------------|--|
| Product Name | Light Purple Grey Headlight Film | |
| Model | / | |
| Volume length | 15 (m) | |
| Width | 1.515~1.525 (m) | |
| Packaging | Carton& Pallet | |

Note: Packaging methods and corresponding materials are only common specifications. Special or new methods are subject to actual delivery.

4.Storage Conditions

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| Product Name | Light Purple Grey Headlight Film | |
| Model | / | |
| Temperature | 15~25(°C) | |
| Humidity | 40~60 (%) | |

Note:

1. All headlight film products must be stored in the original packaging and protected by raw material materials; 2. It is recommended to use sealed storage and vertical placement as the best storage solution to avoid direct sunlight and direct contact with heat sources;
3. The silicone protective film layer must be removed from the remaining parts after the packaging is removed to prevent adverse changes such as arching and fogging on the surface during storage;
4. Strict implementation of storage temperature and humidity control requirements is a necessary guarantee for maintaining product performance and can effectively prevent the external environment from damaging product performance.

5.Production and Construction Specifications

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|--------------|----------------------------------|--|
| Product Name | Light Purple Grey Headlight Film | |
| model | / | |
| Temperature | 15~25(°C) | |

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| Humidity | 40~80 (%) |
| Cleanliness | Clean, no visible dust and suspended particles |

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| <p>Note:</p> <p>1. All headlight film products should be cut and engraved in the appropriate environment during use to avoid the adverse environmental conditions of temperature and static electricity affecting the product appearance and performance;</p> <p>2. The car paint surface must be cleaned and pre-treated before construction to avoid residual particles and oil stains on the paint surface causing abnormal quality;</p> <p>3. Avoid car washing within one week of construction to avoid continuous soaking by rain to ensure that the adhesive and the paint surface are fully moistened to achieve the best adhesion effect.</p> | |
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| Product Name | Light Purple Grey Headlight Film |
| model | / |
| Outdoor weathering period | Three years |
| Warranty coverage | Base material cracking, coating peeling, adhesive layer bubbling |

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| <p>Note:</p> <p>1. The weather resistance of all lamp film products must meet the specified storage conditions and standardized construction procedures;</p> <p>2. All items within the warranty scope of lamp film products must strictly comply with product use and maintenance specifications. For detailed instructions, please refer to the identification card and corresponding official statement provided with the product packaging.</p> | |
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