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Technical Data Sheet



CLEAR GUARD

Windshield

PROVIDING INVISIBLE PROTECTION

Product Description

- ◆ **CLEARGUARD** is specialized for protecting the windshield of automobiles by using the **TPU (Thermoplastic polyurethane)** material developed by itself with excellent technology.
- ◆ **Most of the windshields** were made of PET material, which was inconvenient to install and remove, and lacked scratch resistance and **Anti-chipping** properties.
- ◆ **But** this film is to **protect the windshield and sunroof from stone chips** very well. It is a film that protects automobile glass from physical damage caused by small falling objects such as stone chips when driving on the road.
- ◆ **Also** used main sheet with TPU, **easy to install and remove** compared any other windshield films.
 - ✓ **Excellent Anti-chipping** : Perfect glass protection against damage from stone chips.
 - ✓ **Comfortable workability** : Easy to install / Easy to remove / No thermoforming
 - ✓ **Top Coating**: Water repellency / Self healing performance
 - ✓ **Visibility** : It provides **clear vision** without blurring with **94% transmittance**.
 - ✓ **Versatility** : It can also be used for PPF on painted surfaces with little curvature.

Composition



Item	Materials/Thickness
Protective Film	PET/38 μ m
Top coating	Functional agent/7 \pm 2 μ m
Main Sheet	Aliphatic TPU /150 \pm 5 μ m
Adhesive	Solvent based acryl adhesive/15 \pm 2 μ m
Release liner	PET/50 μ m

※Technical Data

TEST	UNIT	TPU W.S	TEST CONDITION
Anti-chipping		★★★★★	SAE J400
Self-healing	°C	>120(Direct)	Heat gun & Hot Water
Hydrophobic	°	>95	Angle contact
Working time		★★★★★	

※Notice : deep scratches may not self-heal, mechanical properties,

Mechanical property	UNIT	TPU W.S	TEST CONDITION
100% Modulus	kg/cm ²	<110	ASTM D412
Tensile Strength	kg/cm ²	>200	ASTM D412
Elongation	%	>250	ASTM D412
Peel Adhesion	g/in	>500	ASTM D3654
Transparency	%	>94	Haze meter

Precautions for installation

- Apply on **wet surface condition**
- The peel of the film **may not be as clean as PET film** due to the nature of the raw material.
- **The peel** of the film may vary **depending on the installation**.
Apply with enough suds.
- If you use a hard squeeze or apply pressure to the squeeze, it will affect the peel of the film, so **use a soft squeezes softly**.
- When installation, **without stretching** as much as possible.
(it can occur distorted vision)
- There may be problems such as blurred vision immediately after installation. However, it takes about **1 ~ 3 days to stabilize the surface visibility**.
- In order to maintain the surface function of the film for a long time, it is helpful to use a **glass ceramic coating**.



Notice



- LAMIN8 recommends **CLEARGUARD** to be stored at +10°C ~+32°C, and 40%~60% RH. The film should be used after purchase
- **LAMIN8** gives a **warranty to be free** of any manufacturing or workmanship defects for **1 years** from the date of purchase. This warranty does not cover damage caused by misuse, accidents, misapplication, normal wear and tear, dents from road debris impact, collisions, and/or intentional damage of any kind.
- The warranty is void if the product has been subjected to abuse, improper care, or uncontrollable circumstances. **LAMIN8** is not liable for any losses, damages, or expenses resulting from any one or more of the following:
 1. Sandstorms, hail, tornadoes, hurricanes, or any other weather condition; or
 2. Product abuse, normal wear, accident, collision, negligence, misuse, abuse, neglect, mishandling, alteration, maladjustment, modification, customization, alteration or vandalism; or
 3. Chemicals and caustic materials (including cleaners with solvents, such as IPA, or other corrosive materials) or cleaning or scrubbing the product on the windshield with abrasive material; or
 4. Products not supplied by us, service by anyone other than us or an installer approved by us, misapplication, faulty installation, or any installer action or inaction; or
 5. Any other acts, occurrences, defects, faults, damages not caused by **LAMIN8** or if the product is altered or has any labels damaged or tampered.

The product is to be used in compliance with all applicable local laws, statutes, rules, regulations, and ordinances ("Laws") of the applicable country, state, province, or local jurisdiction

Notice

- **CLEARGUARD** films may require a drying time. This period may lengthen in cold or non-sunny weather, and shorten in warm weather or with direct sun exposure.
- As the film will dry completely in due course, a **slow drying time** is not a cause for concern.
- After installation, do not release the car during **rain conditions**.
- Do not Operate your windshield wipers until the film is **completely dry**.

Contact

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